DRAFT ENVIRONMENTAL IMPACT REPORT

FOR THE

WEST AREA NEIGHBORHOODS SPECIFIC PLAN

(SCH # 2019069117)

FEBRUARY 2022

Prepared for:

City of Fresno
Planning and Development Department
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INTRODUCTION

The City of Fresno (City) has determined that a program-level environmental impact report (EIR) is required for the proposed West Area Neighborhoods Specific Plan (herein the "Specific Plan") Project (proposed project) pursuant to the requirements of the California Environmental Quality Act (CEQA).

This EIR examines the planning, construction and operation of the project. The program-level approach is appropriate for the proposed project because it allows comprehensive consideration of the reasonably anticipated scope of the Specific Plan and associated full buildout scenario. Subsequent individual development that requires further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. A program-level analysis considers the broad environmental effects of the Specific Plan. This EIR will also function as a "first tier" EIR, as explained below.

CEQA Guidelines Section 15168 states that a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically;
2) As logical parts in the chain of contemplated actions;
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The program-level analysis considers the broad environmental effects of the proposed Specific Plan. The EIR examines all phases of the project including planning, construction and operation. The program-level approach is appropriate for the Specific Plan because it allows comprehensive consideration of the reasonably anticipated scope of development plan; however, not all aspects of the future development are known at this stage in the planning process. Individual development projects within the Plan Area that require further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

According to CEQA Guidelines section 15168, subdivision (c)(5), "[a] program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible." Later environmental documents (EIRs, mitigated negative declarations, or negative declarations) can incorporate by reference materials from the program EIR regarding regional influences, secondary impacts, cumulative impacts, broad alternatives, and other factors (CEQA Guidelines Section 15168[d][2]). These later documents need only focus on new impacts that have not been considered before (CEQA Guidelines Section 15168[d][3]).

Section 15168(c), entitled "Use with Later Activities," provides, in pertinent part, as follows:

> Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared:
>
> (1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
> (2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activities as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
> (3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
> (4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

Here, the City anticipates preparing a written checklist or similar device whenever landowners within the Plan Area submit applications for site-specific approvals (i.e. small-lot tentative maps, conditional use permits, or other discretionary entitlements). The checklist would serve, in part, as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures. It would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. are there new environmental effects that were not covered by the program EIR). In some cases, a site-specific application (i.e. commercial use) may have specific issues associated with the project, or business, that this program EIR could not anticipate given the information that was available at the time. In those situations, the detailed site-specific information from that application could have site-specific effects not wholly anticipated in this EIR and would require some additional environmental review. (See also CEQA Guidelines section 15063, subd. (b)(1)(C).)

Future site-specific approvals may also be narrowed pursuant to the rules for tiering set forth in CEQA Guidelines Section 15152. "'[T]iering is a process by which agencies can adopt programs, plans, policies, or ordinances with EIRs focusing on 'the big picture,' and can then use streamlined CEQA review for individual projects that are consistent with such…[first tier decisions] and are…consistent with local agencies' governing general plans and zoning.'" (*Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29, 36.) Section 15152 provides that, where a first-tier EIR has "adequately addressed" the subject of cumulative impacts, such impacts need not be revisited in second- and third-tier documents. Furthermore, second- and third-tier documents may limit the examination of impacts to those that "were not examined as significant effects" in the prior EIR or "[a]re susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means." In general, significant environmental effects have been "adequately addressed" if the lead agency determines that:

(A) they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental impact report; or

(B) they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.

Here, as noted above, the City anticipates preparing a written checklist(s) or similar device whenever landowners within the Specific Plan area submit applications for site-specific approvals (i.e. tentative maps, conditional use permits, or other discretionary entitlements). The checklist would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. have all significant environmental impacts identified been "adequately addressed" in the program EIR). Thus, if a new analysis is required for these site-specific actions, it would focus on impacts that cannot be "avoided or mitigated" by mitigation measures that either (i) were adopted in connection with the Specific Plan or (ii) were formulated based on information in this EIR.

In addition, for purely residential projects consistent with the Specific Plan, the City intends to preserve its ability to treat such projects as exempt from CEQA pursuant to Government Code section 65457. Subdivision (a) of that statute provides that "[any residential development project, including any subdivision, or any zoning change that is undertaken to implement and is consistent with a specific plan for which an [EIR] has been certified after January 1, 1980, is exempt from the requirements of [CEQA]." The statutes go on to say, moreover, that "if after adoption of the specific plan, an event as specified in Section 21166 of the Public Resources Code occurs, the exemption provided by this subdivision does not apply unless and until a supplemental [SEIR] for the specific plan is prepared and certified in accordance with the provisions of [CEQA]. After a supplemental [SEIR] is certified, the exemption … applies to projects undertaken pursuant to the specific plan." (See also CEQA Guidelines section 15182.)

When purely residential projects are proposed, the City will consider whether they qualify for this exemption or whether the West Area Neighborhoods Specific Plan EIR must be updated through a supplement to this EIR or a subsequent EIR as required by Public Resources Code section 21166 and CEQA Guidelines sections 15162 and 15163.

PROJECT DESCRIPTION

The following provides a brief summary and overview of the proposed project. Chapter 2.0 of this EIR includes a detailed description of the proposed project, including maps and graphics. The reader is referred to Chapter 2.0 for a more complete and thorough description of the components of the proposed project.

The proposed Specific Plan will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre Plan Area. The Specific Plan will serve as a bridge between the Fresno General Plan and individual development applications in the Plan Area.

The proposed Specific Plan refines the General Plan's land use vision for the Plan Area. The draft land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The West Area Neighborhoods Specific Plan land use plan utilizes the City's existing General Plan land use designations to maintain or re-designate some parcels in the Plan Area. See Table 2.0-1 for a summary of the existing and proposed land uses within the city limits, growth area, and Plan Area. See Figure 2.0-6 for the proposed General Plan land use designations.

The parcels that are currently within the County will not be rezoned. Instead, upon a proposal to annex unincorporated land into the city limits, the City of Fresno would pre-zone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would no longer apply to the parcel.

The Specific Plan land use plan that was recommended by the Steering Committee would allow for the future development of up to 54,953 dwelling units (DU) (including 67 DU in the commercial category, 47,072 DU in the residential category and 7,814 DU in the mixed use category), and 60,621,006 square feet (SF) of non-residential uses. The proposed land use plan also designates public facility uses that are currently existing within the Plan Area, including schools and churches. In the northern portion of the Plan Area, Fire Station No. 18 is temporarily located off of West Bullard Avenue at 5938 North La Ventana Avenue. Fire Station 18 will be relocated to a permanent location on the south side of the 6000 block of West Shaw Avenue to maximize the department's response time goal. Additionally, the proposed land use plan would allow for approximately 248 acres of park, open space, and ponding basin uses. The Specific Plan also includes circulation and utility improvements, some of which are planned in the City's current program for capital improvements.

Refer to Chapter 2.0, Project Description, for a more complete description of the project details.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed West Area Neighborhoods Specific Plan that are known to the City of Fresno, were raised during the Notice of Preparation (NOP) process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics, agricultural resources, air quality, biological resources, cultural and tribal resources, geology, soils and seismicity (including mineral resources), greenhouse gases, climate change, and energy, hazards and hazardous materials (including wildfire), hydrology and water quality, land use, noise, population and housing, public services and recreation, transportation and circulation, and utilities.

The City received thirteen written comments on the NOP for the proposed West Area Neighborhoods Specific Plan Draft EIR. Two comments were also received during the Scoping Meeting. A copy of each letter is provided in **Appendix A** of this Draft EIR. The comments covered the following aspects of the proposed Specific Plan, each of which is considered a public concern:

- Conversion of undeveloped land to urban use
- Light, glare, and skyglow
- Traffic congestion from automobiles and large trucks, ensuring safe routes to schools, and provision of alternative transportation infrastructure
- Annexation of county properties into the city
- Parkland, trail, and ball field impacts
- Need for aesthetics improvements, including tree planting
- Air quality and pollution concerns, including dust from construction and agricultural uses, and air pollution along Highway 99
- Project impact on regional stormwater, drainage, and flood control

ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126.6 of the CEQA Guidelines requires an EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid any of the significant impacts of the project, and which could feasibly attain most of the basic objectives of the proposed project. The alternatives analyzed in this EIR include the following four alternatives in addition to the proposed Specific Plan:

- No Project (Existing General Plan) Alternative;
- Additional Annexation Alternative;
- Regional Park Alternative;
- Lower Density Alternative.

Alternatives are described in detail in Section 5.0, Alternatives to the Proposed Project. A comparative analysis of the proposed project and each of the project alternatives is provided in Table ES-1. As shown in the Table, the Lower Density Alternative is the environmentally superior alternative because it results in the least adverse environmental impacts when compared to the proposed project. The Lower Density Alternative would decrease or slightly decrease impacts to 13 of the 15 environmental issues. This is mostly due to the preservation of the existing farmland and rural residential areas along the southern and western boundaries of the Plan Area, and the decrease in development associated with the reduced densities. It is noted that none of the project alternatives would fully eliminate any of the significant and unavoidable impacts that would occur under the proposed Specific Plan; however, the significant and unavoidable impacts that would result under the proposed Specific Plan would occur to a lesser extent under the Lower Density Alternative. The Regional Park Alternative is the next best alternative as it would decrease or slightly decrease impacts to five of the 15 environmental issues.

TABLE ES-1: COMPARISON OF ALTERNATIVE IMPACTS TO THE PROPOSED SPECIFIC PLAN

ENVIRONMENTAL ISSUE	*NO PROJECT (EXISTING GENERAL PLAN) ALTERNATIVE*	*ADDITIONAL ANNEXATION ALTERNATIVE*	*REGIONAL PARK ALTERNATIVE*	*LOWER DENSITY ALTERNATIVE*
Aesthetics and Visual Resources	Equal	Equal	Equal	Less
Agricultural Resources	Equal	More	Equal	Less
Air Quality	More	Slightly More	Slightly Less	Less
Biological Resources	Equal	Slightly More	Equal	Less
Cultural and Tribal Resources	Equal	Slightly More	Equal	Less
Geology, Soils and Seismicity	Slightly More	Slightly More	Slightly Less	Slightly Less
Greenhouse Gas, Climate Change, and Energy	More	Slightly More	Slightly Less	Slightly Less
Hazards and Hazardous Materials	Equal	Slightly More	Equal	Less
Hydrology and Water Quality	Equal	Slightly More	Equal	Less
Land Use	Slightly More	Equal	Equal	Equal
Noise	More	More	Equal	Less
Population and Housing	More	Slightly More	Equal	Equal
Public Services and Recreation	More	Slightly More	Slightly Less	Less
Transportation and Circulation	More	Slightly More	Equal	Slightly Less
Utilities	Slightly More	Slightly More	Slightly Less	Slightly Less

SUMMARY OF IMPACTS AND MITIGATION MEASURES

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: WEST AREA NEIGHBORHOODS SPECIFIC PLAN IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS			
Impact 3.1-1: Specific Plan implementation would not result in substantial adverse effects on scenic vistas.	LS	*None required.*	--
Impact 3.1-2: Project implementation would not substantially damage scenic resources within a State Scenic Highway.	LS	*None required.*	--
Impact 3.1-3: Specific Plan implementation would result in substantial adverse effects or degradation of visual character or quality of the site and its surroundings.	PS	*None feasible.*	SU
Impact 3.1-4: Specific Plan implementation has the potential to result in light and glare impacts.	PS	***Mitigation Measure 3.1-1:*** *In order to reduce the potential for glare from buildings and structures within the project area, the Preliminary and Final Design Review plan(s) for all future projects in the Plan Area shall show that the use of reflective building materials that have the potential to result in glare that would be visible from sensitive receptors located in the vicinity of the project sites shall be prohibited. The City of Fresno Planning and Development Department shall ensure that the approved project uses appropriate building materials with low reflectivity to minimize potential glare nuisance to off-site receptors. These requirements shall be included in future project improvement plans, subject to review and approval by the City of Fresno.* ***Mitigation Measure 3.1-2****: A lighting plan for all future projects in the Plan Area subject to section 15-2508 and section 15-2015 of the City of Fresno Municipal Code shall be prepared prior to the approval of the design review for each project site. The lighting plan shall demonstrate that the lighting systems and other exterior lighting throughout the project area have been designed to minimize light spillage onto adjacent properties to the greatest extent feasible, consistent with section 15-2508. – Lighting and Glare and section 15-2015 – Outdoor Lighting and Illumination of the City of Fresno Municipal Code. Use of LED lighting or other proven energy efficient lighting shall be required for facilities to be dedicated*	LS

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		to the City of Fresno for maintenance. These requirements shall be included in future project improvement plans, subject to review and approval by the City of Fresno.	
AGRICULTURAL RESOURCES			
Impact 3.2-1: Specific Plan implementation would convert Important Farmlands to non-agricultural land uses.	PS	***Mitigation Measure 3.2-1:*** *Prior to initiation of grading activities, the project proponent shall implement the following measure to mitigate impacts on Important Farmland located on the site: The project proponent shall mitigate the loss of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance within the Plan Area at a 1:1 ratio. The acreage of lost farmland shall be determined using the Land Evaluation and Site Assessment (LESA) Model. The LESA Model evaluates measures of soil resource quality, a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Once the acreage of farmland converted is determined, one of the following mitigation options shall be utilized to mitigate the loss: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, or Land Use Regulation. Should the City develop a Farmland Preservation Program before future construction within the Plan Area begins, the project proponent shall mitigate for Farmland pursuant to the Program.* *The mitigation shall be verified by the City of Fresno for each phase of the project during improvement plan review.*	SU
Impact 3.2-2: Specific Plan implementation would conflict with existing zoning for agricultural use, or a Williamson Act Contract.	PS	***Mitigation Measure 3.2-2:*** *Prior to initiation of grading activities, the project proponent shall implement the following measure to mitigate impacts related to agriculturally-zoned land located on the site: The project proponent shall mitigate the loss of land zoned for agricultural use within the Plan Area at a 1:1 ratio. Once the acreage of land zoned for agricultural use which would be converted by the project is determined, one of the following mitigation options shall be utilized to mitigate the loss: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, or Land Use Regulation.* *The mitigation shall be verified by the City of Fresno for each phase of the project during improvement plan review.*	SU

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Impact 3.2-3: Specific Plan implementation would not conflict with existing zoning, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production or result in the loss of forest land or conversion of forest land to non-forest use.	LS	*None required.*	--
Impact 3.2-4: Future development of the Plan Area would not result in other changes in the existing environment that would lead to the abandonment of agricultural operations and conversion of farmland or forest land to non-agricultural or forest land use.	LS	*None required.*	--
AIR QUALITY			
Impact 3.3-1: Specific Plan implementation would conflict with or obstruct implementation of the applicable air quality plan.	PS	***Mitigation Measure 3.3-1:*** *Prior to the issuance of building permits for new development projects within the Plan Area, the project applicant(s) shall show on the building plans that all major appliances (dishwashers, refrigerators, clothes washers, and dryers) to be provided/installed are Energy Star-certified appliances or appliances of equivalent energy efficiency. Installation of Energy Star-certified or equivalent appliances shall be verified by the City of Fresno Planning and Development Department prior to the issuance of a certificate of occupancy.*	SU
Impact 3.3-2: Specific Plan implementation during project construction would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.	PS	***Mitigation Measure 3.3-2:*** *In order to contribute in minimizing exhaust emission from construction equipment, prior to issuance of grading or building permits, whichever occurs first, the property owner(s)/developer(s) shall provide a list of all construction equipment proposed to be used in the Plan Area for projects that are subject to the California Environmental Quality Act (i.e., non-exempt projects). This list may be provided on the building plans. The construction equipment list shall state the make, model, and equipment identification number of all the equipment. The property owner(s)/developer(s) shall consult with the City of Fresno Planning and Development Department on the feasibility of utilizing cleaner (e.g. higher engine tier) construction equipment than proposed. The property owner(s)/developer(s) shall implement recommendations for the use of cleaner construction*	SU

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		equipment, as determined by the City of Fresno Planning and Development Department. Compliance will be verified by the City of Fresno Planning and Development Department. ***Mitigation Measure 3.3-3:*** *During construction activities, the construction contractors shall ensure that the equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations; and, that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.* ***Mitigation Measure 3.3-4:*** *In order to reduce ROG emissions from construction activities, prior to issuance of a building permit for projects that are subject to the California Environmental Quality Act (i.e., non-exempt projects), the property owner/developer shall require the construction contractor provide a note on the construction plans indicating that:* • *All coatings and solvents will have a volatile organic compound (ROG) content lower than required under Rule 4601 (i.e., super compliant paints).* • *All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency.* *The construction contractor may also use precoated/natural colored building materials.* ***Mitigation Measure 3.3-5:*** *During all construction activities, the project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).* *a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.* *b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.* *c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.*	

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		d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. *e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.* *f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.* *g. Limit traffic speeds on unpaved roads to 5 mph; and* *h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.* ***Mitigation Measure 3.3-6:** Asphalt paving shall be applied in accordance with SJVAPCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*	
Impact 3.3-3: Specific Plan implementation during project operation would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.	PS	***Mitigation Measure 3.3-7.** The property owner(s)/developer(s) shall incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the Project Conditions of Approval. Possible mitigation measures to reduce long-term emissions include but are not limited to:* • *For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plugging in the anticipated number of refrigerated trailers to reduce idling time and emissions.* • *Applicants for manufacturing and light industrial uses shall consider energy storage (i.e., battery) and combined heat and power (CHP, also known as cogeneration) in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.* • *Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with CARB Rule 2845 (13 California Code of Regulations*	SU

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		[CCR] Chapter 10, Section 2485). • *Require that 240-volt electrical outlets or Level 3 chargers be installed in parking lots that would enable charging of neighborhood electric vehicles (NEVs) and/or battery powered vehicles.* • *Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on building roofs throughout the city to generate solar energy.* • *Maximize the planting of trees in landscaping and parking lots.* • *Use light-colored paving and roofing materials.* • *Require use of electric or alternatively fueled street-sweepers with HEPA filters.* • *Require use of electric lawn mowers and leaf blowers.* • *Utilize only Energy Star heating, cooling, and lighting devices, and appliances.* • *Use of water-based or low volatile organic compound (VOC) cleaning products.*	
Impact 3.3-4: Specific Plan implementation has the potential to result in other emissions (such as those leading to odors) affecting a substantial number of people.	PS	***Mitigation Measure 3.3-8****: The project applicant(s) shall require developers of projects within the Specific Plan Area with the potential to generate significant odor impacts as determined through review of SJVAPCD odor complaint history for similar facilities and consultation with the SJVAPCD, to prepare an odor impact assessment and to implement odor control measures recommended by the SJVAPCD or the City as needed to reduce the impact to a level deemed acceptable by the SJVAPCD. The City's Planning and Development Department shall verify that all odor control measures have been incorporated into the project design specifications prior to issuing a permit to operate.* ***Mitigation Measure 3.3-9:*** *Prior to future discretionary approval for individual projects within the Specific Plan Area that require environmental evaluation under CEQA, the City of Fresno shall evaluate new development proposals for new industrial or warehousing land uses that: (1) have the potential to generate 100 or more truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Planning and Development Department. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the SJVAPCD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the Applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs), including appropriate*	LS

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		enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to: • *Restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter;* • *Requiring use of newer equipment and/or vehicles;* • *Provide charging infrastructure for: electric forklifts, electric yard trucks, local drayage trucks, last mile delivery trucks, electric and fuel-cell heavy duty trucks; and/or* • *Install solar panels, zero-emission backup electricity generators, and energy storage to minimize emissions associated with electricity generation at the project site.* *T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.* ***Mitigation Measure 3.3-10**: Locate sensitive land uses (e.g., residences, schools, and daycare centers) to avoid incompatibilities with recommended buffer distances identified in the most current version of the CARB Air Quality and Land Use Handbook: A Community Health Perspective (CARB Handbook). Sensitive land uses that are within the recommended buffer distances listed in the CARB Handbook shall provide enhanced filtration units or submit a Health Risk Assessment (HRA) to the City. If the HRA shows that the project would exceed the applicable SJVAPCD thresholds, mitigation measures capable of reducing potential impacts to an acceptable level must be identified and approved by the City.*	
Impact 3.3-5: Specific Plan implementation has the potential to cause substantial adverse effects on human beings, either directly or indirectly.	PS	*Implement **Mitigation Measure 3.3-1** through **Mitigation Measure 3.3-10***	LS
BIOLOGICAL RESOURCES			
Impact 3.4-1: Specific Plan implementation could directly or indirectly have a substantial adverse effect through habitat modifications or reductions, cause populations to drop below self-sustaining levels, substantially eliminate a community,	PS	***Mitigation Measure 3.4-1:** Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts on special-status invertebrate species:* • *Preconstruction surveys/habitat assessments for valley elderberry longhorn beetle (Desmocerus californicus dimorphus), California linderiella (Linderiella occidentalis),*	LS

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or substantially reduce the number of, or restrict the range of, an endangered, rare or threatened species, including those considered candidate, sensitive, or special status in local or regional plans, policies, regulations, or by the CDFW or USFWS.		*midvalley fairy shrimp (Branchinecta mesovallensis), and vernal pool fairy shrimp (Branchinecta lynchi) shall be conducted by a qualified biologist in all areas of suitable habitat within the project disturbance area.* • *If valley elderberry longhorn beetle (Desmocerus californicus dimorphus), California linderiella (Linderiella occidentalis), midvalley fairy shrimp (Branchinecta mesovallensis), or vernal pool fairy shrimp (Branchinecta lynchi), or their suitable habitat, is found during preconstruction surveys/habitat assessments within the disturbance area, activities within 200 feet of the find shall cease until appropriate measures have been completed, which may include an application for incidental take, or it is determined by the qualified biologist and City staff, in coordination with USFWS and CDFW, that the species will not be harmed by the activities. Any sightings or incidental take shall be reported to USFWS and CDFW immediately.* • *Construction personnel performing activities within aquatic habitats and other suitable habitats (i.e., elderberry shrubs) to be disturbed by project activities shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize the species, their habitats, and measures being implemented for its protection.* ***Mitigation Measure 3.4-2:*** *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts on special-status amphibian and reptile species:* • *Preconstruction surveys/habitat assessments for California tiger salamander (CTS) (Ambystoma californiense), western spadefoot (Spea hammondii), blunt-nosed leopard lizard (Gambelia sila), California glossy snake (Arizona elegans occidentalis), coast horned lizard (Phrynosoma blainvillii), northern California legless lizard (Anniella pulchra), and western pond turtle (Emys marmorata) shall be conducted by a qualified biologist in all areas of suitable habitat within the project disturbance area.* • *If California tiger salamander (CTS) (Ambystoma californiense), western spadefoot (Spea hammondii), blunt-nosed leopard lizard (Gambelia sila), California glossy snake (Arizona elegans occidentalis), coast horned lizard (Phrynosoma blainvillii), northern California legless lizard (Anniella pulchra), or western pond turtle (Emys marmorata), or their suitable habitat, is found during preconstruction surveys/habitat assessments within the disturbance area, activities within 200 feet of the find shall cease until appropriate measures have been completed, which may include an application for incidental take, or it is determined by the qualified biologist and City staff, in coordination with USFWS and CDFW, that the species will*	

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		not be harmed by the activities. Any sightings or incidental take shall be reported to USFWS and CDFW immediately. • *If western pond turtles are found during preconstruction surveys, a qualified biologist, with approval from CDFW, shall move the turtles to the nearest suitable habitat outside the area subject to project disturbance. The construction area shall be reinspected whenever a lapse in construction activity of 2 weeks or more has occurred.* • *Construction personnel performing activities within aquatic habitats and adjacent suitable uplands to be disturbed by project activities shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize western pond turtle, their habitats, and measures being implemented for its protection.* • *Construction personnel shall observe a 15-miles-per-hour speed limit on unpaved roads.* ***Mitigation Measure 3.4-3:*** *Prior to any ground disturbance in areas which may support suitable breeding or nesting habitat for burrowing owl, a preconstruction survey of the parcel(s) to be developed shall be completed for burrowing owl in accordance with CDFW survey guidelines (California Department of Fish and Game 1995). On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership need not be surveyed. Surveys shall take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls shall be identified and mapped. Surveys shall take place no earlier than 30 days prior to construction. During the breeding season (February 1 to August 31), surveys shall document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1 to January 31), surveys shall document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results shall be valid only for the season (breeding or nonbreeding) during which the survey is conducted. If burrowing owls and/or suitable burrows are not discovered, then further mitigation is not necessary.* *If burrowing owls are found during the breeding season (February 1 to August 31), the project proponent(s) shall avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance shall include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 to January 31), the project proponent(s) shall avoid the*	

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		owls and the burrows they are using, if possible. Avoidance shall include the establishment of a buffer zone (described below). During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur shall be established around each occupied burrow (nest site). Buffer zones of 160 feet shall be established around each burrow being used during the nonbreeding season. The buffers shall be delineated by highly visible, temporary construction fencing. *If occupied burrows for burrowing owls cannot be avoided, passive relocation shall be implemented. Owls may be excluded from burrows in the immediate impact zone under an authorization from the CDFW. Such exclusion would be anticipated to include the installation of one-way doors in burrow entrances. These doors would be in place for 48 hours prior to excavation and monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows must be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow. CDFW has the authority to authorize a variation to the above described exclusion method.* ***Mitigation Measure 3.4-4:** Prior to any ground disturbance conducted during the Swainson's hawk nesting season (March 15 to September 15) in areas which may support suitable habitat for Swainson Hawk, a USFWS/CDFW-approved biologist shall conduct a preconstruction survey for Swainson's hawk no earlier than 30 days prior to construction in order to determine whether occupied Swainson's hawk nests are located within 1,000 feet of the parcel(s) to be developed. If any potentially-occupied nests within 1,000 feet are off the project site, then their occupancy shall be determined by observation from public roads or by observations of Swainson's hawk activity (e.g. foraging) near the project site. A written summary of the survey results shall be submitted to the City of Fresno.* *During the Swainson's hawk nesting season (March 15 to September 15), construction activities within 1,000 feet of occupied nests or nests under construction shall be prohibited to prevent nest abandonment. If site-specific conditions, or the nature of the covered activity (e.g., steep topography, dense vegetation, and limited activities) indicate that a smaller buffer could be used, the City of Fresno may coordinate with CDFW/USFWS to determine the appropriate buffer size. If young fledge prior to September 15, construction activities could proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project proponent(s) can apply to the City of Fresno for a waiver of this avoidance measure. Any waiver must*	

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		also be approved by USFWS and CDFW. While nest is occupied, activities outside the buffer can take place. *All active nest trees shall be preserved on site, if feasible.* ***Mitigation Measure 3.4-5:*** *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts to the black-crowned night heron (Nycticorax nycticorax), California horned lark (Eremophila alpestris actia), double-crested cormorant (Phalacrocorax auratus), great egret (Ardea alba), Least Bell's vireo (Vireo bellii pusillus), snowy egret (Egretta thula), tricolored blackbird (Agelaius tricolor), and western yellow-billed cuckoo (Coccyzus americanus occidentalis) that may occur on the site:* • *Preconstruction surveys for active nests of black-crowned night heron (Nycticorax nycticorax), California horned lark (Eremophila alpestris actia), double-crested cormorant (Phalacrocorax auratus), great egret (Ardea alba), Least Bell's vireo (Vireo bellii pusillus), snowy egret (Egretta thula), tricolored blackbird (Agelaius tricolor), and western yellow-billed cuckoo (Coccyzus americanus occidentalis) shall be conducted by a qualified biologist in all areas of suitable habitat within 500 feet of project disturbance. Surveys shall be conducted within 14 days before commencement of any construction activities that occur during the nesting season (February 15 to August 31) in a given area.* • *If any active nests, or behaviors indicating that active nests are present, are observed, appropriate buffers around the nest sites shall be determined by a qualified biologist to avoid nest failure resulting from project activities. The size of the buffer shall depend on the species, nest location, nest stage, and specific construction activities to be performed while the nest is active. The buffers may be adjusted if a qualified biologist determines it would not be likely to adversely affect the nest. If buffers are adjusted, monitoring will be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.* ***Mitigation Measure 3.4-6:*** *Prior to any ground disturbance related to construction activities, a biologist shall conduct a preconstruction survey in areas which may support suitable breeding or denning habitat for San Joaquin kit fox. The survey shall establish the presence or absence of San Joaquin kit fox and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (USFWS, 1999). Preconstruction surveys shall be conducted not earlier than 30 days from commencing ground*	

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		disturbance. On the parcel where activity is proposed, the biologist shall survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit fox and/or suitable dens. Adjacent parcels under different land ownership need not be surveyed. The status of all dens shall be determined and mapped. Written result of preconstruction surveys shall be submitted to the USFWS within 5 working days after survey completion and before start of ground disturbance. Concurrence by the USFWS is not required prior to initiation of construction activities. If San Joaquin kit fox and/or suitable dens are not discovered, then further mitigation is not necessary. If San Joaquin kit fox and/or suitable dens are identified in the survey area, the following measure shall be implemented. *If a San Joaquin kit fox den is discovered in the proposed development footprint, the den shall be monitored for 3 days by a CDFW/USFWS-approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. Unoccupied dens shall be destroyed immediately to prevent subsequent use. If a natal or pupping den is found, the USFWS and CDFW shall be notified immediately. The den shall not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFW. If kit fox activity is observed at the den during the initial monitoring period, the den shall be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied, it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgement of a biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).* ***Mitigation Measure 3.4-7:** Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measures to avoid or minimize impacts on bats:* • *If removal of suitable roosting areas (i.e. buildings, trees, shrubs, bridges, etc.) must occur during the bat pupping season (April 1 through July 31), surveys for active maternity roosts shall be conducted by a qualified biologist. The surveys shall be conducted from dusk until dark.* • *If a special-status bat maternity roost is located, appropriate buffers around the roost sites shall be determined by a qualified biologist and implemented to avoid destruction or abandonment of the roost resulting from habitat removal or other project activities. The size*	

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		of the buffer shall depend on the species, roost location, and specific construction activities to be performed in the vicinity. No project activity shall commence within the buffer areas until the end of the pupping season (August 1) or until a qualified biologist confirms the maternity roost is no longer active. ***Mitigation Measure 3.4-8:*** *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts to the American badger (Taxidea taxus), Fresno kangaroo rat (Dipodomys nitratoides exilis), and San Joaquin pocket mouse (Perognathus inornatus) that may occur on the site:* • *Preconstruction surveys for indications of American badger (Taxidea taxus), Fresno kangaroo rat (Dipodomys nitratoides exilis), and San Joaquin pocket mouse (Perognathus inornatus) shall be conducted by a qualified biologist in all areas of suitable habitat within 500 feet of project disturbance. Surveys shall be conducted within 14 days before commencement of any construction activities that occur in a given area.* • *If any active habitat areas, or behaviors indicating that active habitat is present, are observed, appropriate avoidance and mitigation measures, including but not limited to buffer areas, shall be required. The avoidance and mitigation measures shall be determined by the qualified biologist and implemented by the project proponent(s).* ***Mitigation Measure 3.4-9:*** *Prior to construction in undisturbed areas, future project proponent(s) shall retain a biologist to perform plant surveys. The surveys shall be performed during the floristic season. If any of these plants are found during the surveys, the project proponent(s) shall contact the CNPS to obtain the appropriate avoidance and minimization measures. The project proponent(s) shall also implement the avoidance and minimization measures.*	
Impact 3.4-2: Specific Plan implementation has the potential to have substantial adverse effect on federally- or state-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	PS	***Mitigation Measure 3.4-10:*** *If a proposed project will result in the significant alteration or fill of a federally protected wetland, a formal wetland delineation conducted according to USACE accepted methodology would be required for each project to determine the extent of wetlands on a project site. The delineation shall be used to determine if federal permitting and mitigation strategy are required to reduce project impacts. Acquisition of permits from USACE for the fill of wetlands and USACE approval of a wetland mitigation plan would ensure a "no net loss" of wetland habitat within the Planning Area. Appropriate wetland mitigation/creation shall be implemented in a ratio according to the size of the impacted wetland.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		Mitigation Measure 3.4-11: *In addition to regulatory agency permitting, Best Management Practices identified from a list provided by the USACE shall be incorporated into the design and construction phase of the project to ensure that no pollutants or siltation drain into a federally protected wetland. Project design features such as fencing, appropriate drainage and incorporating detention basins shall assist in ensuring project-related impacts to wetland habitat are minimized to the greatest extent feasible.*	
Impact 3.4-3: Specific Plan implementation would not have substantial adverse effects on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	PS	***Mitigation Measure 3.4-12:*** *A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in the removal or impact to any riparian habitat and/or a special-status natural community with potential to occur in the Specific Plan Area, compensatory habitat-based mitigation shall be required to reduce project impacts. Compensatory mitigation must involve the preservation or restoration or the purchase of off-site mitigation credits for impacts to riparian habitat and/or a special-status natural community. Mitigation must be conducted in-kind or within an approved mitigation bank in the region. The specific mitigation ratio for habitat-based mitigation shall be determined through consultation with the appropriate agency (i.e., CDFW or USFWS) on a case-by-case basis. The project applicant/developer for a proposed project shall develop and implement appropriate mitigation regarding impacts on their respective jurisdictions.* ***Mitigation Measure 3.4-13:*** *A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in significant impacts to streambeds or waterways protected under Section 1600 of Fish and Wildlife Code and Section 404 of the CWA. The project applicant/developer for a proposed project shall consult with partner agencies such as CDFW and/or USACE to develop and implement appropriate mitigation regarding impacts on their respective jurisdictions, determination of mitigation strategy, and regulatory permitting to reduce impacts, as required for projects that remove riparian habitat and/or alter a streambed or waterway. The project applicant/developer shall implement mitigation as directed by the agency with jurisdiction over the particular impact identified.* ***Mitigation Measure 3.4-14:*** *Prior to project approval, a pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in project-related impacts to riparian habitat or a special-status natural community or if it may result in direct or incidental impacts to special-status species associated with riparian or wetland habitats. The project applicant/developer for a proposed project shall be obligated to address project-specific impacts to*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		special-status species associated with riparian habitat through agency consultation, development of a mitigation strategy, and/or issuing incidental take permits for the specific special-status species, as determined by the CDFW and/or USFWS.	
Impact 3.4-4: Specific Plan implementation would not interfere substantially with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites.	LS	*None required.*	--
Impact 3.4-5: Specific Plan implementation would not conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan.	LS	*None required.*	--
Impact 3.4-6: Specific Plan implementation would not conflict with local policies or ordinances protecting biological resources.	LS	*None required.*	--
CULTURAL AND TRIBAL RESOURCES			
Impact 3.5-1: Specific Plan implementation may cause a substantial adverse change to a significant historical or archaeological resource, as defined in CEQA Guidelines §15064.5, or a significant tribal cultural resource, as defined in Public Resources Code §21074.	PS	***Mitigation Measure 3.5-1:*** *The City shall require project applicants for future projects with intact extant building(s) more than 45 years old to provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations shall be included as part of the technical study. All work shall be performed by a qualified architectural historian meeting Secretary of the Interior Standards. The historic resource technical study shall be submitted to the City for review prior to any site disturbance within the vicinity of the building(s).* ***Mitigation Measure 3.5-2:*** *If cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features) are discovered during the course of construction within the Specific Plan Area, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Fresno shall be notified, and a qualified archaeologist that meets the Secretary of the Interior's Professional Qualifications*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery. *The City of Fresno shall consider mitigation recommendations presented by the qualified archaeologist for any unanticipated discoveries and future project proponents shall carry out the measures deemed feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project proponent shall be required to implement any mitigation necessary for the protection of cultural resources.*	
Impact 3.5-2: Specific Plan implementation may disturb human remains, including those interred outside of formal cemeteries.	PS	***Mitigation Measure 3.5-3:*** *If human remains are found during ground disturbance activities associated with implementation of the Specific Plan, there shall be no further excavation or disturbance within 50 feet of the discovery and a qualified archeological monitor and the coroner of Fresno County shall be contacted as stated in Health and Safety Code Section 7050.5. If it is determined that the remains are Native American, the coroner shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD may then make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in Public Resources Code section 5097.98. The landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance if:* *a) the Native American Heritage Commission is unable to identify a MLD or the MLD failed to make a recommendation within 24 hours after being notified by the commission;* *b) the descendent identified fails to make a recommendation; or* *c) the landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*	LS
GEOLOGY, SOILS AND SEISMICITY			
Impact 3.6-1: Specific Plan implementation would not directly or indirectly cause potential substantial adverse effects	LS	*None required.*	--

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involving strong seismic ground shaking or seismic related ground failure.			
Impact 3.6-2: Specific Plan construction and implementation has the potential to result in substantial soil erosion or the loss of topsoil.	PS	***Mitigation Measure 3.6-1:*** *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation for each phase of the Project, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Fresno and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*	LS
Impact 3.6-3: Specific Plan implementation has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Specific Plan implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse.	PS	***Mitigation Measure 3.6-2:*** *Prior to earthmoving activities associated with future development activities within the Plan Area, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*	LS
Impact 3.6-4: The Specific Plan would not be located on expansive soil creating substantial risks to life or property.	PS	*Implement* ***Mitigation Measure 3.6-2***	LS

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Impact 3.6-5: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource.	PS	***Mitigation Measure 3.6-3****: If any paleontological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find.* *Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating within the Plan Area, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology.*	LS
Impact 3.6-6: Specific Plan implementation would not have the potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	LS	*None required.*	--
GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY			
Impact 3.7-1: Specific Plan implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LS	***Mitigation Measure 3.7-1****: Prior to the City's approval of the project (i.e. the Specific Plan) as well as individual development projects within the Specific Plan Area, the Director of the City Planning and Development Department, or designee, shall confirm that the Specific Plan and each individual development project is consistent with the final version of the GHG Reduction Plan Update, and shall implement all measures deemed applicable to the Specific Plan and each individual development project through the GHG Reduction Plan Update-Project Consistency Checklist (Appendix B of the GHG Reduction Plan Update).*	--
Impact 3.7-2: Specific Plan implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources.	LS	*None required.*	--

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Impact 3.7-3: Specific Plan implementation would not generate a cumulative impact on climate change from increased project-related greenhouse gas emissions.	LS/LCC	*Implement **Mitigation Measure 3.7-1**.*	--
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: Specific Plan implementation has the potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	PS	***Mitigation Measure 3.8-1:** Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to Fresno County Environmental Health Division (CUPA) for review and approval. If during the construction process the applicant or their subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).* ***Mitigation Measure 3.8-2:** Prior to initiation of any ground disturbance activities within 50 feet of a well, the applicant shall hire a licensed well contractor to obtain a well abandonment permit from Fresno County Environmental Health Department, and properly abandon the on-site wells, pursuant to review and approval of the City Engineer and the Fresno County Environmental Health Department.* ***Mitigation Measure 3.8-3:** Prior to the issuance of a grading permit, the property owners and/or developers of properties shall ensure that a Phase I ESA (performed in accordance with the current ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process [E 1527]) shall be conducted for each individual property prior to development or redevelopment to ascertain the presence or absence of Recognized Environmental Conditions (RECs), Historical Recognized Environmental Condition (HRECs), and Potential Environmental Concerns (PECs) relevant to the property under consideration. The findings and conclusions of the Phase I ESA shall become the basis for potential recommendations for follow-up investigation, if found to be warranted.* ***Mitigation Measure 3.8-4:** In the event that the findings and conclusions of the Phase I ESA for a property result in evidence of RECs, HRECs and/or PECs warranting further investigation, the property owners and/or developers of properties shall ensure that a Phase II ESA shall be conducted to determine the presence or absence of a significant impact to the subject site from hazardous materials.* *The Phase II ESA may include but may not be limited to the following: (1) Collection and laboratory analysis of soils and/or groundwater samples to ascertain the presence or absence of significant*	LS

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		concentrations of constituents of concern; (2) Collection and laboratory analysis of soil vapors and/or indoor air to ascertain the presence or absence of significant concentrations of volatile constituents of concern; and/or (3) Geophysical surveys to ascertain the presence or absence of subsurface features of concern such as USTs, drywells, drains, plumbing, and septic systems. The findings and conclusions of the Phase II ESA shall become the basis for potential recommendations for follow-up investigation, site characterization, and/or remedial activities, if found to be warranted. ***Mitigation Measure 3.8-5:*** *In the event the findings and conclusions of the Phase II ESA reveal the presence of significant concentrations of hazardous materials warranting further investigation, the property owners and/or developers of properties shall ensure that site characterization shall be conducted in the form of additional Phase II ESAs in order to characterize the source and maximum extent of impacts from constituents of concern. The findings and conclusions of the site characterization shall become the basis for formation of a remedial action plan and/or risk assessment.* ***Mitigation Measure 3.8-6:*** *If the findings and conclusions of the Phase II ESA(s), site characterization and/or risk assessment demonstrate the presence of concentrations of hazardous materials exceeding regulatory threshold levels, prior to the issuance of a grading permit, property owners and/or developers of properties shall complete site remediation and potential risk assessment with oversight from the applicable regulatory agency including, but not limited to, the CalEPA Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB), and Fresno County Environmental Health Division (FCEHD). Potential remediation could include the removal or treatment of water and/or soil. If removal occurs, hazardous materials shall be transported and disposed at a hazardous materials permitted facility.* ***Mitigation Measure 3.8-7:*** *Prior to the issuance of a building permit for an individual property within the Plan Area with residual environmental contamination, the agency with primary regulatory oversight of environmental conditions at such property ("Oversight Agency") shall have determined that the proposed land use for that property, including proposed development features and design, does not present an unacceptable risk to human health, if applicable, through the use of an Environmental Site Management Plan (ESMP) that could include institutional controls, site-specific mitigation measures, a risk management plan, and deed restrictions based upon applicable risk-based cleanup standards. Remedial action plans, risk management plans and health and safety plans shall be required as determined by the Oversight Agency for a given property under applicable environmental laws, if not already completed, to prevent an unacceptable risk to human health, including workers during and after*	

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		construction, from exposure to residual contamination in soil and groundwater in connection with remediation and site development activities and the proposed land use. ***Mitigation Measure 3.8-8:*** *For those sites with potential residual volatile organic compounds (VOCs) in soil, soil gas, or groundwater that are planned for redevelopment with an overlying occupied building, a vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into the proposed building, the project design shall include vapor controls or source removal, as appropriate, in accordance with Regional Water Quality Control Board (RWQCB), the Department of Toxic Substances Control (DTSC) or the Fresno County Environmental Health Division (FCEHD) requirements. Soil vapor mitigations or controls could include passive venting and/or active venting. The vapor intrusion assessment as associated vapor controls or source removal can be incorporated into the ESMP.* ***Mitigation Measure 3.8-9****: In the event of planned renovation or demolition of residential and/or commercial structures on the subject site, prior to the issuance of demolition permits, asbestos and lead based paint (LBP) surveys shall be conducted in order to determine the presence or absence of asbestos-containing materials (ACM) and/or LBP. Removal of friable ACM, and non-friable ACMs that have the potential to become friable, during demolition and/or renovation shall conform to the standards set forth by the National Emissions Standards for Hazardous Air Pollutants (NESHAPs).* *The San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) is the responsible agency on the local level to enforce the National Emission Standards for Hazardous Air Pollutants (NESHAPs) and shall be notified by the property owners and/or developers of properties (or their designee(s)) prior to any demolition and/or renovation activities. If asbestos-containing materials are left in place, an Operations and Maintenance Program (O&M Program) shall be developed for the management of asbestos containing materials.* ***Mitigation Measure 3.8-10:*** *Prior to the import of a soil to a particular property within the Plan Area as part of that property's site development, such soils shall be sampled for toxic or hazardous materials to determine if concentrations exceed applicable Environmental Screening Levels for the proposed land use at such a property, in accordance with Regional Water Quality Control Board (RWQCB), the Department of Toxic Substances Control (DTSC) or the Fresno County Environmental Health Division (FCEHD) requirements.*	

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Impact 3.8-2: Specific Plan implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LS	*None required.*	--
Impact 3.8-3: Specific Plan implementation would not result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	LS	*None required.*	--
Impact 3.8-4: Specific Plan implementation would not result in safety hazards for people residing or working in the Plan Area as a result of public airport or public use airport.	LS	*None required.*	--
Impact 3.8-5: Specific Plan implementation would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	*None required.*	--
Impact 3.8-6: Specific Plan implementation would not have the potential to expose people or structures to a risk of loss, injury or death from wildland fires, or result in any other wildfire impact.	LS	*None required.*	--

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HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: The Specific Plan would not violate water quality standards or waste discharge requirements during construction.	LS	*None required.*	--
Impact 3.9-2: The Specific Plan would not violate water quality standards or waste discharge requirements during operation.	LS	*None required.*	--
Impact 3.9-3: The Specific Plan would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	LS	*None required.*	--
Impact 3.9-4: The Specific Plan would not alter the existing drainage pattern in a manner which would result in substantial erosion or siltation on- or off-site, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LS	*None required.*	--

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Impact 3.9-5: The Specific Plan would not release pollutants due to Plan Area inundation by flood hazard, tsunami, or seiche.	LS	*None required.*	--
Impact 3.9-6: The Specific Plan would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LS	*None required.*	--
LAND USE			
Impact 3.10-1: The proposed Specific Plan would not physically divide an established community.	LS	*None required.*	--
Impact 3.10-2: The proposed Specific Plan would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	LS	*None required.*	--
NOISE			
Impact 3.11-1: Specific Plan implementation could potentially substantially increase mobile noise levels at existing and proposed receptors.	PS	***Mitigation Measure 3.11-1:*** *Future project proponent(s) for development projects in the Plan Area which involve residential or other noise sensitive uses shall implement performance standards for noise reduction for new residential and noise sensitive uses exposed to exterior community noise levels from transportation sources above 65 dB Ldn or CNEL, as shown on Exhibit G: Existing Plus Project Plus Cumulative Noise Contours of the West Area Specific Plan Noise Impact Study prepared by MD Acoustics (dated September 30, 2020), or as identified by a project-specific acoustical analysis based on the target acceptable noise levels set in Table 9-2 of the Fresno General Plan Noise Element (Table 3.11-5 of this EIR).*	LS

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		If future exterior noise levels are expected to exceed the applicable standards presented in Table 9-2 of the Fresno General Plan Noise Element (Table 3.11-5 of this EIR), the mitigation measure presented below shall be implemented, as applicable. A qualified Acoustical Consultant shall provide information demonstrating that site specific mitigation will be effective at reaching the applicable noise standard. • *Install noise walls, berms and/or a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor. The City of Fresno has established a maximum allowable height for noise walls of 15 feet. As such, the noise walls, berms and/or a combination of a landscaped berm with wall shall not exceed 15 feet.* *The aforementioned measure is not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas.*	
Impact 3.11-2: Specific Plan implementation would not substantially increase noise levels associated with construction and demolition activities.	PS	***Mitigation Measure 3.11-2:*** *Construction within the Plan Area must follow the City's Municipal Noise Code Section 10-109 which exempts construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the City or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.* ***Mitigation Measure 3.11-3:*** *The project proponent(s) and/or construction contractor(s) shall demonstrate, to the satisfaction of the City of Fresno Planning and Development Department, that buildout of the Specific Plan complies with the following:* • *Truck traffic associated with project construction shall be limited to within the permitted construction hours, as listed in the City's Municipal Code above.* • *Stationary construction noise sources such as generators or pumps shall be located at least 300 feet from sensitive land uses, as feasible.* • *Construction staging areas shall be located as far from noise sensitive land uses as feasible.* • *During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices. The use of manufacturer certified mufflers would generally reduce the construction equipment noise by 8 to 10 dBA.* • *Idling equipment shall be turned off when not in use.*	LS

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		• *Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.*	
Impact 3.11-3: Specific Plan implementation would not substantially increase noise vibration association with construction activities.	PS	***Mitigation Measure 3.11-4:*** *For future projects which would require the use of highly vibratory equipment in the Plan Area, an additional site- and project-specific analysis shall be conducted by a noise and vibration specialist prior to project approval. The analysis shall evaluate potential ground-borne vibration impacts to existing structures and sensitive receptors, and shall also recommend additional mitigation measures, as necessary. The recommendations of the site- and project-specific analysis shall be implemented by the project proponent(s), to the satisfaction of the City of Fresno Planning and Development Department.*	LS
Impact 3.11-4: Specific Plan implementation would not substantially increase stationary noise at sensitive receptors.	PS	***Mitigation Measure 3.11-5****: In order to reduce the potential for stationary noise impacts, development projects in the Plan Area shall implement the following measures:* • *Avoid the placement of new noise producing uses in proximity to noise-sensitive land uses;* • *Apply noise level performance standards provided in Table 9-2 of the City of Fresno General Plan Noise Element (Table 3.11-5 of this EIR) to proposed new noise producing uses; and* • *Require new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards in Table 9-2 of the City of Fresno General Plan Noise Element (Table 3.11-5 of this EIR).*	LS
Impact 3.11-5: Specific Plan implementation would not substantially increase ambient interior noise at future sensitive receptors.	PS	***Mitigation Measure 3.11-6:*** *Prior to approval, site- and project-specific noise analyses development projects under the proposed Specific Plan shall be completed and submitted to the City in order to fine-tune and finalize noise reduction features. The site-specific noise analyses must demonstrate the interior noise level will not exceed the City's 45 dBA CNEL noise limit.* *A qualified Acoustical Consultant shall provide information demonstrating that site specific mitigation will be effective at reaching the applicable noise standard, which includes:* • *Install noise walls, berms and/or a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor. The City of Fresno has established a maximum allowable height of 15 feet. As such, the noise walls, berms and/or a combination of a landscaped berm with wall shall not exceed 15 feet.*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		• *Utilize façades with substantial weight and insulation.* • *Install sound-rated windows for primary sleeping and activity areas.* • *Install sound-rated doors for all exterior entries at primary sleeping and activity areas.* • *Install acoustic baffling of vents for chimneys, attic and gable ends.* • *Install mechanical ventilation systems that provide fresh air under closed window conditions.* *The aforementioned measures are not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas and interior spaces.*	
Impact 3.11-6: Specific Plan implementation would not expose people residing or working in the project area to excessive airport or aircraft noise.	LS	*None required.*	--
POPULATION AND HOUSING			
Impact 3.12-1: Implementation of the Specific Plan would not induce unplanned substantial population growth.	LS	*None required.*	--
Impact 3.12-2: Implementation of the Specific Plan would not displace substantial numbers of people or existing housing.	LS	*None required.*	--
PUBLIC SERVICES AND RECREATION			
Impact 3.13-1: The proposed Specific Plan may require the construction of fire department facilities which may cause substantial adverse physical environmental impacts.	PS	***Mitigation Measure 3.13-1:*** *Prior to the issuance of a Certificate of Occupancy for each future dwelling unit to be developed within the Plan Area (and prior to issuance of building permits for non-residential uses), the applicant shall pay all applicable project impact fees per the impact fee schedule.*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.13-2: The proposed Specific Plan may result in, or have the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts.	LS	*None required.*	--
Impact 3.13-3: The proposed Specific Plan may result in, or have the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts.	PS	***Mitigation Measure 3.13-2:*** *Prior to the issuance of future building permits for each dwelling unit to be constructed in the West Area Neighborhoods Specific Plan, the applicant shall pay applicable school fees mandated by SB 50 to the Central Unified School District (CUSD) and provide documentation of said payment to the City.*	SU
Impact 3.13-4: The proposed Specific Plan may result in, or have the potential to require the construction of park facilities which may cause substantial adverse physical environmental impacts.	PS	***Mitigation Measure 3.13-3:*** *As detailed plans for future parks and recreational facilities in the Plan Area are submitted to the City, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from park facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.*	SU
Impact 3.13-5: The proposed Specific Plan may result in, or have the potential to require the construction of other public facilities which may cause substantial adverse physical environmental impacts.	PS	***Mitigation Measure 3.13-4:*** *As detailed plans for future libraries and other public facilities in the Plan Area are submitted to the City, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from park facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.*	SU
TRANSPORTATION AND CIRCULATION			
Impact 3.14-1: Implementation of the Specific Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LS	*None required.*	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.14-2: Implementation of the Specific Plan would not conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).	LS	*None required.*	--
Impact 3.14-3: Implementation of the Specific Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LS	*None required.*	--
Impact 3.14-4: Implementation of the Specific Plan would not result in inadequate emergency access.	LS	*None required.*	--
UTILITIES			
Impact 3.15-1: The proposed Specific Plan would not require or result in the relocation or construction of new or expanded wastewater facilities, the construction of which could cause significant environmental effects.	PS	*None feasible.*	SU
Impact 3.15-2: The proposed Specific Plan would not result in a determination by the wastewater treatment provider which serves or may serve the Plan Area that it does not have adequate capacity to serve the Specific Plan's projected demand in addition to the provider's existing commitments.	LS	*None required.*	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.15-3: The proposed Specific Plan would not require or result in construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.	PS	*None feasible.*	SU
Impact 3.15-4: The proposed Specific Plan would not have insufficient water supplies available to serve the Plan Area and reasonably foreseeable future development during normal, dry and multiple dry years.	LS	*None required.*	--
Impact 3.15-5: The proposed Specific Plan would not require or result in the construction of new or expanded stormwater drainage facilities, the construction of which could cause significant environmental effects.	PS	*None feasible.*	SU
Impact 3.15-6: The proposed Specific Plan would be served by a landfill with sufficient permitted capacity to accommodate the Plan Area's solid waste disposal needs, and would comply with federal, State, and local statutes and regulations related to solid waste.	LS	*None required.*	--
OTHER CEQA-REQUIRED TOPICS			
Impact 4.1: Specific Plan implementation will contribute to the cumulative degradation of the existing visual character of the region.	LS/LCC	*None required.*	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.2: Specific Plan implementation may contribute to the cumulative impact on agricultural land and uses.	CC/SU	*None feasible.*	--
Impact 4.3: Specific Plan implementation would contribute to cumulative impacts on the region's air quality.	CC/SU	*None feasible.*	--
Impact 4.4: Specific Plan implementation would not contribute to the cumulative loss of biological resources including habitats and special status species.	LS/LCC	*None required.*	--
Impact 4.5: Specific Plan implementation would not contribute to the cumulative loss of cultural and tribal resources.	LS/LCC	*None required.*	--
Impact 4.6: Specific Plan implementation may contribute to cumulative impacts on geologic and soils characteristics.	LS/LCC	*None required.*	--
Impact 4.7: Cumulative impact on climate change from increased project-related greenhouse gas emissions.	LS/LCC	*None required.*	--
Impact 4.8: Specific Plan implementation may contribute to cumulative impacts related to hazards and hazardous materials.	LS/LCC	*None required.*	--
Impact 4.9: Cumulative impacts related to hydrology and water quality.	LS/LCC	*None required.*	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.10: Specific Plan implementation may contribute to cumulative impacts on communities and local land uses.	LS/LCC	*None required.*	--
Impact 4.11: Specific Plan implementation may contribute to the cumulative exposure of existing and future noise-sensitive land uses or to increased noise resulting from cumulative development.	LS/LCC	*None required.*	--
Impact 4.12: Specific Plan implementation may contribute to cumulative impacts on population growth and displace substantial numbers of people or existing housing.	LS/LCC	*None required.*	--
Impact 4.13: Specific Plan implementation may contribute to cumulative impacts on public services.	CC/SU	*None required.*	--
Impact 4.14: Specific Plan implementation may contribute to cumulative impacts to the regional transportation network.	LS/LCC	*None required.*	--
Impact 4.15: Specific Plan implementation may contribute to cumulative impacts on utilities.	LS/LCC	*None required.*	--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

This section summarizes the purpose of the Environmental Impact Report (EIR) for the West Area Neighborhoods Specific Plan "project" or "proposed project." The following discussion addresses the environmental procedures that are to be followed according to State law, the intended uses of the EIR, the project's relationship to the City's General Plan, the EIR scope and organization, and a summary of the agency and public comments received during the public review period for the Notice of Preparation (NOP).

1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Fresno, as lead agency, determined that the proposed Specific Plan is a "project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development. CEQA further requires public agencies to balance a variety of public objectives, including economic, environmental, and social factors in making a decision to approve a development project with significant and unavoidable environmental impacts.

The City of Fresno, as the Lead Agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from construction and operation of the Specific Plan Project. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used by the City to determine whether to approve, modify, or deny the proposed project and associated approvals in light of the project's environmental effects. The EIR will be used as the primary environmental document to evaluate full project development, along with all associated infrastructure improvements, and permitting actions associated with the Project. All of the actions and components of the proposed project are described in detail in Chapter 2.0 of this Draft EIR.

1.2 TYPE OF EIR

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the proposed project as a whole.

It is noted that the Specific Plan provides a very high level of design detail for certain components of the project. To the extent that sufficient detail is available in the Specific Plan, a full project-level analysis is provided in this EIR. Examples of a full project level analysis would include topics that are related to the physical acreage affected (i.e. the project footprint), as opposed to the number of units, land uses/zoning, or other design parameters. Topics such as Biological Resources, Cultural Resources, and Hydrology/Water Quality are analyzed at a project-level analysis in this EIR given that these are physical environmental resources, and the area of impact is fully defined. Additionally, the Specific Plan includes a substantial level of detailed information that allows for a project-level analysis of topics such as Air Quality, Greenhouse Gases and Climate Change, Noise, Population and Housing, Transportation and Circulation, and Utilities. The analysis for these topics is driven by the number of units and square footage of development, which is detailed in the land use design and development projections. In some cases, there may be specific commercial uses that have design details developed at a later date that cannot reasonably be analyzed at a project-level at this time. Additionally, the design of the school facilities and other public facilities are not known at this time, so they are not able to be analyzed at a project-level.

This EIR examines the planning, construction and operation of the project. The program-level approach, with some project-level analysis, is appropriate for the proposed project because it allows comprehensive consideration of the reasonably anticipated scope of the development plan; however, as discussed above, not all design aspects of the future development phases are known at this stage in the planning process. Subsequent individual development that requires further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

CEQA Guidelines Section 15168 states that a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically,
2) As logical parts in the chain of contemplated actions,
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

According to CEQA Guidelines Section 15168, subdivision (c)(5), "[a] program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible." Later environmental documents (EIRs, mitigated negative

declarations, or negative declarations) can incorporate by reference materials from the program EIR regarding regional influences, secondary impacts, cumulative impacts, broad alternatives, and other factors (CEQA Guidelines Section 15168[d][2]). These later documents need only focus on new impacts that have not been considered before (CEQA Guidelines Section 15168[d][3]).

Section 15168(c), entitled "Use with Later Activities," provides, in pertinent part, as follows:

> Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared:
>
> (1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
> (2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activities as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
> (3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
> (4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

Here, the City anticipates preparing a written checklist or similar device whenever landowners within the Specific Plan area submit applications for site-specific approvals (i.e. tentative maps, conditional use permits, or other discretionary entitlements). The checklist would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. are there new environmental effects that were not covered by the program EIR). The City's expectation, at least at present, is that the checklist will conclude that most, or all, components of the Specific Plan can be developed with no new analysis of environmental effects given that there is a high level of resolution with regard to the project details that have been analyzed in this program EIR. In some cases, however, a site-specific application (i.e. commercial use) may have specific issues associated with the project, or business, that this program EIR could not anticipate given the information that was available at this time. In those situations, the detailed site-specific information from that application could have site-specific effects not wholly anticipated in this EIR and would require some additional environmental review. (See also CEQA Guidelines section 15063, subd. (b)(1)(C).)

Future site-specific approvals may also be narrowed pursuant to the rules for tiering set forth in CEQA Guidelines Section 15152. "'[T]iering is a process by which agencies can adopt programs, plans, policies, or ordinances with EIRs focusing on 'the big picture,' and can then use streamlined CEQA review for individual projects that are consistent with such…[first tier decisions] and are…consistent

with local agencies' governing general plans and zoning.'" (*Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29, 36.) Section 15152 provides that, where a first-tier EIR has "adequately addressed" the subject of cumulative impacts, such impacts need not be revisited in second- and third-tier documents. Furthermore, second- and third-tier documents may limit the examination of impacts to those that "were not examined as significant effects" in the prior EIR or "[a]re susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means." In general, significant environmental effects have been "adequately addressed" if the lead agency determines that:

a) they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental impact report; or
b) they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.

Here, as noted above, the City anticipates preparing a written checklist or similar device whenever landowners within the Specific Plan area submit applications for site-specific approvals (i.e. tentative maps, conditional use permits, or other discretionary entitlements). The checklist would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. have all significant environmental impacts identified been "adequately addressed" in the program EIR). Thus, if a new analysis is required for these site-specific actions, it would focus on impacts that cannot be "avoided or mitigated" by mitigation measures that either (i) were adopted in connection with the Specific Plan or (ii) were formulated based on information in this EIR.

In addition, for purely residential projects consistent with the Specific Plan, the City intends to preserve its ability to treat such projects as exempt from CEQA pursuant to Government Code section 65457. Subdivision (a) of that statute provides that "[a]ny residential development project, including any subdivision, or any zoning change that is undertaken to implement and is consistent with a specific plan for which an [EIR] has been certified after January 1, 1980, is exempt from the requirements of [CEQA]." The statutes go on to say, moreover, that "if after adoption of the specific plan, an event as specified in Section 21166 of the Public Resources Code occurs, the exemption provided by this subdivision does not apply unless and until a supplemental [EIR] for the specific plan is prepared and certified in accordance with the provisions of [CEQA]. After a supplemental [EIR] is certified, the exemption … applies to projects undertaken pursuant to the specific plan." (See also CEQA Guidelines section 15182.)

When purely residential projects are proposed, the City will consider whether they qualify for this exemption or whether the West Area Neighborhoods Specific Plan EIR must be updated through a supplement to this EIR or a subsequent EIR as required by Public Resources Code section 21166 and CEQA Guidelines sections 15162 and 15163.

1.3 RESPONSIBLE AND TRUSTEE AGENCIES

As required by CEQA, this EIR defines lead, responsible, and trustee agencies. The City of Fresno is the "Lead Agency" for the project because it holds principal responsibility for approving the project. The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California. CEQA Guidelines Section 15386 recognizes four particular trustee agencies: (a) the California Department of Fish and Wildlife with regard to the fish and wildlife of the State, to designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the department; (b) the State Lands Commission with regard to State owned "sovereign" lands such as the beds of navigable waters and State school lands; (c) the State Department of Parks and Recreation with regard to units of the State Park System; and (d) The University of California with regard to sites within the Natural Land and Water Reserves System.

The following agencies are considered Responsible Agencies for this project, and may be required to issue permits or approve certain aspects of the proposed project:

- California Department of Fish and Wildlife (CDFW);
- California Department of Transportation (Caltrans);
- Central Valley Regional Water Quality Control Board – Clean Water Act Section 401 Water Quality Certification, National Pollution Discharge Elimination System (NPDES) general construction permit;
- San Joaquin Valley Air Pollution Control District – Approval of construction-related air quality permits, authority to Construct, Permit to Operate for stationary sources of air pollution;
- Central Unified School District – Approval of school sites.

The California Department of Fish and Wildlife will also function as a trustee agency with respect to the proposed project. The City is unaware of any other trustee agency, as the proposed project would not affect any state owned "sovereign" lands, any units of the State Park System, or any sites within the University of California's Natural Land and Water Reserves System.

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION

The City circulated a Notice of Preparation (NOP) of an EIR for the proposed project on June 28, 2019 to responsible and trustee agencies, the State Clearinghouse, and the public. A public scoping meeting was held on July 24, 2019 at 6:00 p.m., at the Glacier Point Middle School Cafeteria in Fresno to present the project description to the public and interested agencies, and to receive comments

from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and responses to the NOP by interested parties are presented in **Appendix A** of this EIR.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City has filed the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City has provided a public notice of availability for the Draft EIR, and invites comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR or questions regarding the Draft EIR should be addressed to:

Casey Lauderdale
City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3065, Fresno, CA 93721
Casey.Lauderdale@Fresno.gov

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to significant environmental issues raised either in written comments received during the public review period or in oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

CEQA Guidelines Section 15090 requires lead agencies to certify the final EIR prior to approving a project. The lead agency decision-making body shall certify that (i) the final EIR has been completed in compliance with CEQA; (ii) that the final EIR was presented to the decision-making body, which reviewed and considered the information contained in the final EIR prior to approving the project; and (iii) that the final EIR reflects the lead agency's independent judgment and analysis.

For the proposed project, the City Council City shall be the City's ultimate decision-making body. The Council will therefore review and consider the Final EIR and make a determination regarding whether the document is "adequate and complete." In general, a Final EIR meets this standard if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and

2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

The level of detail contained throughout this EIR is consistent with Section 15151 of the CEQA Guidelines and recent court decisions, which provide the standard of adequacy on which this document is based. The Guidelines state as follows:

> *"An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of the environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."*

Following review and consideration of the Final EIR, the City may take action to approve, modify, or reject the project. As part of project approval, the City also is also required to adopt a Mitigation Monitoring and Reporting Program, as described below, prepared in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097. This Mitigation Monitoring and Reporting Program must include all of the mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment, and would be designed to ensure that these measures are actually carried out during project implementation.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include or address a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the project, environmental and planning documentation prepared for recent projects located within the City of Fresno, applicable local and regional planning documents, and responses to the NOP.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related infrastructure improvements, and a list of related agency action requirements.

CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of each environmental topic area as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the project.

Impacts and Mitigation Measures. Identification of the significance criteria (also referred to as "thresholds of significance" throughout this EIR) by which the significance of impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact after the incorporation of proposed mitigation measures.

The following environmental topics are addressed in this chapter:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Resources
- Geology, Soils, and Seismicity
- Greenhouse Gases, Climate Change, and Energy
- Hazards and Hazardous Materials

- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation and Circulation
- Utilities

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the CEQA required topics as follows: cumulative and significant and unavoidable environmental effects under cumulative conditions. Chapter 4.0 also evaluates and describes the CEQA required topics as follows: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, and significant and unavoidable environmental effects.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project, which could feasibly attain the basic objectives of the project and avoid and/or lessen any significant environmental effects of the project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the project and the selected alternatives.

CHAPTER 6.0 – REPORT PREPARERS

This chapter lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

CHAPTER 7.0 – REFERENCES

This chapter lists all references used in the preparation of the EIR.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis. The EIR appendices are available in electronic format. The appendices can be viewed online at: https://www.fresno.gov/westareaplan.

1.6 SIGNIFICANCE CRITERIA ("THRESHOLDS")

In general, CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial" adverse change in the physical environment. A potential impact is considered significant if a project would substantially degrade the environmental quality of land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance (CEQA Guidelines §§15360, 15382).

Definitions of significance vary with the physical condition affected and the setting in which the change occurs. The CEQA Guidelines set forth physical impacts that trigger the requirement to make "mandatory findings of significance" (CEQA Guidelines §15065).

This CEQA document relies on three levels of impact significance:

1. Less-than-significant impact, for which no mitigation measures are warranted;
2. Significant impact that can be mitigated to a level that is less than significant; and,
3. Significant impact that cannot be mitigated to a level that is less than significant. Such impacts are referred to as significant and unavoidable.

Each resource area uses a distinct set of significance criteria (also referred to as "thresholds of significance" throughout the EIR). The significance criteria are identified at the beginning of the impact discussion for each resource area. These significance criteria promote consistent evaluation of impacts for all alternatives considered, even though significance criteria are necessarily different for each resource considered. When criteria for significance determinations relative to a specific environmental resource are not identified in the CEQA Guidelines, specific criteria have been developed for this Draft EIR consistent with the past pattern and practice of the City of Fresno.

1.7 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City received thirteen written comment letters on the NOP for the proposed project Draft EIR. A copy of each letter is provided in **Appendix A** of this Draft EIR. A public scoping meeting was held on July 24, 2019 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR.

1. April Henry (August 1, 2019)
2. California Department of Water Resources, Division of Safety of Dams (July 19, 2019)
3. California Governor's Office of Planning and Research, State Clearinghouse and Planning Unit (June 28, 2019)
4. Carl & Lydia Franklin (August 2, 2019)
5. Cathy Caples (August 1, 2019)
6. Central Grizzlies Youth Football & Cheer (August 2, 2019)
7. City of Fresno Transportation Department, Fresno Area Express (July 29, 2019)
8. Forgotten Fresno (July 17, 2019)
9. Fresno Metropolitan Floor Control District (August 1, 2019)
10. Fresno County Public Library (July 8, 2019)
11. Jeff Roberts (July 24, 2019)
12. Patricia and Clifford Upton (July 24, 2019)
13. San Joaquin Valley Air Pollution Control District (July 15, 2019)

1.8 AREAS OF CONTROVERSY

The following are topics of public concern or potential controversy that have become known to the City staff based on public input, known regional issues, and staff observations:

- Conversion of undeveloped land to urban use
- Light, glare, and skyglow
- Traffic congestion from automobiles and large trucks, ensuring safe routes to schools, and provision of alternative transportation infrastructure
- Annexation of county properties into the city
- Parkland, trail, and ball field impacts
- Need for aesthetics improvements, including tree planting
- Air quality and pollution concerns, including dust from construction and agricultural uses, and air pollution along Highway 99
- Project impact on regional stormwater, drainage, and flood control

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2.1 PROJECT LOCATION AND SETTING

REGIONAL LOCATION AND SETTING

The West Area Neighborhoods Specific Plan (also-known-as "Specific Plan", "Plan Area") encompasses approximately 7,077 acres (or a little more than 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. The footprint of the Specific Plan is referred to as the "Plan Area." Of the eleven square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth.

The Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to State Route 99. See Figure 2.0-1 for the regional location map and Figure 2.0-2 for the Plan Area vicinity map.

SPECIFIC PLAN AREA PHYSICAL CHARACTERISTICS

The Plan Area is relatively flat with natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level. A large amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels.

The Plan Area has approximately eight different existing land uses which include the following:

- **Rural/Estate Residential**: Approximately 27 percent, or 1,911 acres, of the existing land uses within the Plan Area are currently used as rural/estate residential. Of the 6,109 acres of developable lands within the Plan Area, 1,640.68 acres are low-density single-family homes that are occupied lots with a size of two to nine acres per dwelling units.
- **Multiple Family Residential**: Approximately two percent, or 141 acres, of the Plan Area account for multi-family residential development. These uses are primarily located adjacent to arterial roads with easy access to State Route 99, and Fresno Area Express (FAX) service lines.
- **Single-Family Residential**: Approximately 21 percent of the existing uses within the Plan Area are currently developed with single-family residential uses. These uses are located primarily within the city limits.
- **Vacant Land**: Approximately 15 percent of the land in the Plan Area, or 911.34 acres, account for vacant lands. Vacant areas are located throughout the Plan Area, in both the city limits and SOI. Vacant areas represent infill opportunities within the Plan Area's densest neighborhoods.
- **Public/Government Facilities**: Approximately six percent, or 337.83 acres, of land within the Plan Area contain public or government facilities. These land uses include Central Unified School District facilities, churches, the Dante Club, and the Hacienda facility.

- **Open Space/Agricultural Land**: Approximately 25 percent or 1,554.06 acres, in the Plan Area contain open space or agricultural land. While there are some open space land uses within the City, most of these uses are primarily located in the SOI. These uses include parks and ponding basins.
- **Industrial Uses**: Approximately one percent, or 57.33 acres, of the Plan Area account for industrial uses. The largest industrial land use in the Plan Area contains an agricultural business located at the intersection of West Dakota Avenue and North Grantland Avenue.
- **Commercial Uses**: Approximately three percent, or 219.76 acres, of the Plan Area account for commercial uses. Commercial uses are spread throughout the eastern and southeastern portions of the Plan Area, closer to State Route 99.

The Plan Area has approximately 3,070.95 acres of land that is classified as Urban and Built-Up, according to the State Department of Conservation Farmland Mapping and Monitoring Program. Prime Farmland is principally located outside of the Plan Area. The Plan Area has 285.65 acres of Farmland of Statewide Importance which is located primarily in the western edge of the Plan Area. Approximately 509.39 acres of Unique Farmland is located within the Plan Area, most of which is within the southwest portion of the Plan Area. Farmland of Local Importance is located throughout the entire Plan Area, and totals approximately 1,562.82 acres. Vacant or Disturbed Land and Rural Residential Land account for approximately 1,650.17 acres within the growth area.

See Figure 2.0-3 for an aerial view of the Plan Area.

SURROUNDING LAND USES

Surrounding land uses include State Route 99; the historic communities of Herndon and Highway City; incorporated areas of the City of Fresno to the north; incorporated areas of the City of Fresno to the east (including mostly industrial uses); unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels); and unincorporated Fresno County to the west (including farmland and rural residential uses).

EXISTING GENERAL PLAN LAND USES AND ZONING

A portion of the Plan Area is located within the City of Fresno city limits, and a portion is within unincorporated Fresno County (within the City's SOI). The City of Fresno General Plan designates the Plan Area as: Low Density Residential; Medium Low Density Residential; Medium Density Residential; Urban Neighborhood Residential; High Density Residential; Community Commercial; General Commercial; Recreation Commercial; Office; Business Park; Light Industrial; Corridor/Center Mixed Use; Regional Mixed Use; Community Park; Open Space – Ponding Basin; Neighborhood Park; Open Space; Public/Quasi-Public Facility; Special School; Elementary School; Elementary, Middle & High School; and High School. See Figure 2.0-4 for the existing City General Plan land use designations.

The City of Fresno Zoning Map provides zoning for those portions of the Plan Area located within the city limits, but not for areas within the unincorporated County. Zoning designations are generally consistent with the existing General Plan land uses. The City zoning designations for the Plan Area

include: Residential Estate (RE), Residential Single-Family, Extremely Low Density (RS-1), Residential Single-Family, Very Low Density (RS-2), Residential Single-Family, Low Density (RS-3), Residential Single-Family, Medium Low Density (RS-4), Residential Single-Family, Medium Density (RS-5), Residential Multi-Family, Medium High Density (RM-1), Residential Multi-Family, Urban Neighborhood (RM-2), Residential Multi-Family, High Density (RM-3), Mobile Home Park (RM-MH), Commercial Community (CC), Commercial General (CG), Commercial Regional (CR), Commercial Recreation (CRC), Light Industrial (IL), Corridor/Center Mixed Use (CMX), Neighborhood Mixed Use (NMX), Regional Mixed Use (RMX), Business Park (BP), Office (O), Open Space (OS), and Park and Recreation (PR). See Figure 2.0-5 for the existing zoning designations.

In the unincorporated areas of the Plan Area, the Fresno County Zoning Map designates the portions of the Plan Area outside the city limits but within the SOI as: Rural Commercial Center (RCC), Central Trading (C4), General Commercial (C6), Light Industrial (M1), Exclusive Agricultural (AE20), Limited Agricultural (AL20), Rural Residential (RR), Single Family Residential Agricultural (RA), Single Family Residential (12,500) (R1B), and Trailer Park Residential (TP). Upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would no longer apply to the parcel.

2.2 PROJECT DESCRIPTION

INTRODUCTION

The proposed Specific Plan will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre Plan Area. The Specific Plan will serve as a bridge between the Fresno General Plan and individual development applications in the Plan Area.

The West Area Neighborhoods Specific Plan seeks to provide for the orderly and consistent development that promotes and establishes the Plan Area as a complete neighborhood with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and development of a diverse housing stock. The Plan Area does not currently have needed commercial amenities, causing residents to travel east of State Route 99 for retail services. The Plan Area also lacks a complete roadway network and parkland.

BACKGROUND

The proposed Specific Plan process officially started in September 2017 with the drafting of the existing conditions report. That document provides a detailed overview of the existing land uses within the Plan Area. Outreach to the Plan Area community started in early 2018 with individual meetings between City staff and community stakeholders, including residents, local agencies, institutional partners, elected officials, land owners, and developers. Public outreach included community stakeholder interviews, Steering Committee orientation sessions and meetings, community meetings and workshops, and an on-line survey.

The 11-member Steering Committee, established in March 2018 by the Fresno City Council, held regular public meetings to provide recommendations on the draft land use map and guiding principles based on input received from community members. Additionally, approximately 25 community stakeholders were interviewed from January 2018 to April 2018. Next, a kick-off survey regarding the Plan Area was released in April 2018. The survey covered topics such as quality of life, needed improvements, needed housing and commercial development, agritourism, and the overall future vision for the Plan Area. Two community conversations (i.e., workshops) were also held in order to receive feedback: Community Conversation No. 1 was held in May 2018, and Community Conversation No. 2 was held in June 2018. The Steering Committee then held meetings in June, July, August, November, and January 2018 in order to review and select the conceptual land use options. The draft land use map and guiding principles were released to the public on November 28, 2018. The draft land use map was then amended by the Steering Committee in January 2019. Lastly, an agritourism workshop was held in the spring of 2019.

RELATED PLANNING EFFORTS

The Specific Plan serves as the first major specific planning effort, environmental evaluation, and infrastructure analysis for the Plan Area. However, other past and in-progress planning efforts impacting the Plan Area have occurred and are described below.

The Highway City Neighborhood Specific Plan (1998)

The Highway City Neighborhood Specific Plan, which applies to about five percent of the Plan Area, was adopted on January 6, 1998 and was prepared to address problems, issues, and opportunities of the Highway City neighborhood. One of the guiding principles for the Highway City Neighborhood Specific Plan encouraged development of neighborhoods characterized by a diverse but compatible arrangement of residential, commercial, industrial, and public uses to be supported by existing single-family residential areas. The proposed Specific Plan will replace a portion of the Highway City Neighborhood Specific Plan, but will carry forward applicable area-specific policies.

The West Area Community Plan (2002)

The West Area Community Plan was adopted on February 1, 2002 as "Appendix W" of the 2025 General Plan and applies to the area encompassing the Plan Area and additional land to the east (to the railroad tracks east of Golden State Boulevard) and south (to Belmont Avenue and the railroad tracks south of Belmont Avenue). The core goals of the Community Plan were to develop the West Area as a planned community with a complete range of services, facilities, and public infrastructure development, and to minimize land use conflicts between agriculture and urban uses. The proposed Specific Plan would replace the Community Plan, updating and incorporating still-relevant policies.

The General Plan (2014)

The General Plan was adopted on December 18, 2014 and set a forward-looking course for the city focusing on infill development, Complete Neighborhoods, and multimodal transportation to achieve fiscally sustainable and environmentally responsible growth. It establishes the foundation for this Specific Plan, anticipating that this Plan will further refine the General Plan's vision for the Plan Area.

One of the primary goals of the General Plan is to support established neighborhoods in Fresno with safe, well maintained, and accessible streets; public utilities, education and job training; proximity to jobs, retail services, health care, affordable housing, youth development opportunities, open space and parks, transportation options; and opportunities for home grown businesses. Another key goal of the General Plan that is reiterated in the West Area Neighborhoods Specific Plan is to resolve existing public infrastructure and service deficiencies, make full use of existing infrastructure, and invest in improvements to increase connectivity, competitiveness, and to promote economic growth.

To achieve its goals while maintaining orderly development, the General Plan designates a sequencing of development that calls for roughly half to occur in infill areas (defined as within the city limits on December 31, 2012) and permits half to occur in greenfield areas. For greenfield areas, development must first occur in parts of the Sphere of Influence defined as Growth Area 1, which is deemed to be infrastructure-ready. Growth Area 2, on the other hand, is in need of significant infrastructure investment that the City has not planned for nor funded. Development within the city and Growth Area 1 is supported by and based on planned infrastructure expansion, public service capacity, and financial considerations undertaken during the General Plan process. The Plan Area is within Growth Area 1 and therefore has capacity to support growth.

The General Plan's vision for the Plan Area is to create opportunities for the development of Complete Neighborhoods. The concept of Complete Neighborhoods is to enable Fresnans to live in communities with convenient access to services, employment, and recreation within walking distance. It provides residents with amenities that make their neighborhood mostly self-sufficient and interconnected. Characteristics of a Complete Neighborhood, which can create an enhanced quality of life and increased property values, include:

a) A range of housing choices;
b) Neighborhood-serving retail;
c) Employment opportunities;
d) Public services, such as health clinics;
e) Entertainment and cultural assets;
f) Parks and public schools;
g) Community services, such as a library, recreation center, senior center, and/or community garden;
h) Sidewalks, bikeways, trails and other active transportation infrastructure;
i) Public plaza/civic space; and
j) Access to public transit.

Fresno Municipal Code Chapter 15: Citywide Development Code (2015)

The main purpose of the Development Code, which was adopted in 2015, is to implement the General Plan and other adopted plans. The Development Code is the City's zoning code, and it seeks to protect and promote the public health, safety, and general welfare of the residents of the city of Fresno. It classifies the city into districts, or "zones" that allow various land uses, including:

residential single-family, residential multi-family, mixed-use, commercial, public and semi-public, downtown, and employment districts.

ADA Transition Plan for the Right of Way (2016)

The 2016 Update to the ADA Transition Plan for the Right of Way (ROW Transition Plan) was adopted by Council on February 25, 2016. The goal of the ROW Transition Plan is to ensure that the City maintains accessible paths of travel in the ROW for people with disabilities. The ROW Transition Plan incorporates retrofitting Curb Ramps, Sidewalks, and Accessible Pedestrian Signals and replaces the 2003 Amended Curb Ramp Transition Plan.

The Active Transportation Plan (2017)

The Active Transportation Plan (ATP) was adopted on March 2, 2017 and serves as the City's comprehensive guide for active transportation. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serve as a means for people to safely get to their destinations while reducing roadway congestion and improving the air quality. This also results in replacing vehicle miles traveled with walking or biking. Additional Class II bike lanes are planned for the Plan Area and Class I bicycle and pedestrian trails are to be constructed with four connection points over State Route 99 at Herndon Avenue, Veterans Boulevard, Gettysburg Avenue, and the Herndon Canal which is located near West Shaw Avenue.

The Parks Master Plan (2017)

The Parks Master Plan was adopted on December 14, 2017 and serves as a community-based vision and road map for achieving a complete park system in the city of Fresno. Through a public outreach process, examination of existing conditions, and analysis of the General Plan's goals, the Parks Master Plan determined the amount of parkland needed for the city's existing and future population.

LAND USE MAP AND MAXIMUM BUILDOUT POTENTIAL

The proposed Specific Plan refines the General Plan's land use vision for the Plan Area. The draft land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The West Area Neighborhoods Specific Plan land use plan utilizes the City's existing General Plan land use designations to maintain or re-designate some parcels in the Plan Area. See Table 2.0-1 for a summary of the existing and proposed land uses within the city limits, growth area, and Plan Area. See Figure 2.0-6 for the proposed General Plan land use designations.

As indicated in Table 2.0-1, the Specific Plan would result in an increase in land designated for employment, mixed use, open space and public facilities uses and a decrease in land designated for residential and commercial uses compared to the existing General Plan.

TABLE 2.0-1: PARCEL ACREAGES BY LAND USE CLASSIFICATION FOR GENERAL PLAN AND PROPOSED SPECIFIC PLAN

GENERAL PLAN LAND USE DESIGNATIONS	CITY LIMITS			GROWTH AREA			PLAN AREA TOTAL		
	GENERAL PLAN ACRES	SPECIFIC PLAN ACRES	DIFFERENCE IN CITY	GENERAL PLAN ACRES	SPECIFIC PLAN ACRES	DIFFERENCE IN GROWTH AREA	GENERAL PLAN ACRES	SPECIFIC PLAN ACRES	OVERALL CHANGE
Low	146.20	95.82		671.59	420.76		817.79	516.57	
Medium Low	582.37	821.03		243.59	619.19		825.97	1,440.22	
Medium	1,460.88	1,316.66		896.13	801.34		2,357.00	2,118.00	
Medium High	261.09	229.03	- 104.93	88.33	51.24	- 183.73	349.42	280.27	- 288.66
Urban Neighborhood	214.65	79.11		213.96	75.11		428.61	154.21	
High	28.00	46.61		37.76	0.00		65.76	46.61	
Subtotal - Residential	*2,693.19*	*2,588.26*		*2,151.36*	*1,967.63*		*4,844.55*	*4,555.89*	
Community	81.87	51.14		56.79	6.60		138.66	57.74	
Recreation	41.34	41.34		0.00	0.00		41.34	41.34	
General	141.59	155.38	- 16.94	1.63	59.69	+ 12.10	143.21	215.07	- 4.82
Regional	0.00	0.00		0.00	4.24		0.00	4.24	
Subtotal - Commercial	*264.80*	*247.86*		*58.42*	*70.52*		*323.21*	*318.39*	
Office	7.51	36.38		0.00	45.87		7.51	82.25	
Business Park	22.71	20.57	+ 26.35	54.40	54.40	+ 45.87	77.11	74.97	+ 72.22
Light Industrial	33.13	32.75		0.00	0.00		33.13	32.75	
Subtotal - Employment	*63.35*	*89.70*		*54.40*	*100.27*		*117.75*	*189.97*	
Neighborhood	0.00	263.59		0.00	44.83		0.00	308.43	
Corridor/Center	106.19	71.78	+ 84.47	0.00	24.23	+ 69.06	106.19	96.00	+ 153.53
Regional	144.72	0.00		0.00	0.00		144.72	0.00	
Subtotal - Mixed Use	*250.90*	*335.37*		*0.00*	*69.06*		*250.90*	*404.43*	
Pocket Park	2.45	1.55		0.00	0.00		2.45	1.55	
Neighborhood Park	36.67	39.22		47.04	47.04		83.71	86.26	
Community Park	24.20	24.20		13.98	0.00		38.18	24.20	
Regional Park	0.00	0.00	+ 44.64	0.00	0.00	+ 34.55	0.00	0.00	+ 10.09
Open Space	5.03	5.03		1.76	1.76		6.79	6.79	
Ponding Basin	67.06	110.04		40.12	19.55		107.18	129.59	
Subtotal - Open Space	*135.41*	*180.05*		*102.90*	*68.35*		*238.31*	*248.40*	
Public Facility	4.98	12.64		16.81	14.78		21.78	27.42	
Church	9.93	21.20		1.66	34.60		11.59	55.80	
Special School	4.50	4.50		13.88	13.88		18.38	18.38	
Elem. School	56.18	66.17	+ 32.05	25.65	25.65	+ 25.59	81.82	91.82	+ 57.65
Elem./Middle/High School	145.37	145.37		0.00	0.00		145.37	145.37	
High School	46.95	46.95		0.00	0.00		46.95	46.95	
Fire Station	0.20	3.32		5.32	0.00		5.52	3.32	
Subtotal - Public Facilities	*268.10*	*300.15*		*63.32*	*88.91*		*331.41*	*389.06*	
Grand Total	***3,675.75***	***3,741.39***	**--**	***2,430.39***	***2,364.74***	**--**	***6,106.14***	***6,106.14***	**--**

As previously indicated, the City of Fresno Zoning Map designates the Plan Area as: RE, RS-1, RS-2, RS-3, RS-4, RS-5, RM-1, RM-2, RM-3, RM-MH, CC, CG, CR, CRC, IL, CMX, NMX, RMX, BP, O, OS, and PR. The Fresno County Zoning Map designates the portions of the Plan Area outside the city limits as: RCC, C4, C6, M1, AE20, AL20, RR, RA, R1B, and TP. In conjunction with the approval of the Specific Plan, the parcels in the City which would have a changed land use designation as a result of the Specific Plan would be rezoned to the corresponding City zoning designation.

The parcels that are currently within the County will not be rezoned. Instead, upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would no longer apply to the parcel and the zoning established in the prezoning would take effect.

Table 2.0-2 summarizes the existing General Plan land uses, the maximum number of units, and the maximum non-residential square footage that would be allowed under the existing General Plan. As shown, the existing General Plan land use designations for the Plan Area could result in up to 67,205 dwelling units (DU) and up to 44,419,656.60 square feet (SF) of non-residential uses within the Plan Area.

Table 2.0-3 summarizes the acreages of each land use, the maximum number of units, and the maximum non-residential square footage that would be allowed under the proposed Specific Plan. As shown in the table, the Specific Plan land use plan that was recommended by the Steering Committee would allow for the future development of up to 54,953 DU (including 67 DU in the commercial category, 47,072 DU in the residential category and 7,814 DU in the mixed use category), and 60,621,006.31 SF of non-residential uses. The proposed land use plan also designates public facility uses that are currently existing within the Plan Area, including schools and churches. In the northern portion of the Plan Area, Fire Station No. 18 is located off of West Bullard Avenue at 5938 North La Ventana Avenue. Fire Station 18 will be relocated to a permanent location on the south side of the 6000 block of West Shaw Avenue to maximize the department's response time goal. Additionally, the proposed land use plan would allow for approximately 248 acres of park, open space, and ponding basin uses. The Specific Plan also includes circulation and utility improvements, some of which are planned in the City's current program for capital improvements.

TABLE 2.0-2: MAXIMUM DEVELOPMENT POTENTIAL WITHIN WEST AREA NEIGHBORHOODS SPECIFIC PLAN AREA– EXISTING GENERAL PLAN

GENERAL PLAN LAND USE DESIGNATIONS (AND DENSITY/INTENSITY)	*SPECIFIC PLAN ACRES*	*MAXIMUM DEVELOPMENT POTENTIAL*	
		DWELLING UNITS	*NON-RESIDENTIAL SF*
Low (1-3.5 DU/AC)	817.79	2,862	--
Medium Low (3.5-6 DU/AC)	825.97	4,955	--
Medium (5-12 DU/AC)	2,357.00	28,284	--
Medium High (12-16 DU/AC)	349.42	5,590	--
Urban Neighborhood (16-30 DU/AC)	428.61	12,858	--
High (30-45 DU/AC)	65.76	2,959	--
Subtotal - Residential	*4,844.55*	*57,508*	--
Community (1.0 Max. FAR)	138.66	--	6,040,029.60
Recreation (0.5 Max. FAR)	41.34	--	900,385.20
General (2.0 Max. FAR)	143.21	--	12,476,455.20
Regional (1.0 Max. FAR)	0.00	0	0.00
Subtotal - Commercial	*323.21*	*0*	*19,416,870.00*
Office (2.0 Max. FAR)	7.51	--	654,271.20
Business Park (1.0 Max. FAR)	77.11	--	3,358,911.60
Light Industrial (1.0 Max. FAR)	33.13	--	1,443,142.80
Subtotal - Employment	*117.75*	--	*5,456,325.60*
Neighborhood (12-16 DU/AC; 1.5 Max. FAR)	0.00	0	0.00
Corridor/Center (16-30 UD/AC; 1.5 Max. FAR)	106.19	3,185	6,938,454.60
Regional (30-45 UD/AC; 2.0 Max. FAR)	144.72	6,512	12,608,006.40
Subtotal - Mixed Use	*250.90*	*9,697*	*19,546,461.00*
Pocket Park	2.45	--	--
Neighborhood Park	83.71	--	--
Community Park	38.18	--	--
Regional Park	0.00	--	--
Open Space	6.79	--	--
Ponding Basin	107.18	--	--
Subtotal - Open Space	*238.31*	--	--
Public Facility	21.78	--	--
Church	11.59	--	--
Special School	18.38	--	--
Elem. School	81.82	--	--
Elem./Middle/High School	145.37	--	--
High School	46.95	--	--
Fire Station	5.52	--	--
Subtotal - Public Facilities	*331.41*	--	--
Grand Total	***6,106.14***	***67,205***	***44,419,656.60***

TABLE 2.0-3: MAXIMUM DEVELOPMENT POTENTIAL WITHIN WEST AREA NEIGHBORHOODS SPECIFIC PLAN – PROPOSED WEST AREA NEIGHBORHOODS SPECIFIC PLAN

GENERAL PLAN LAND USE DESIGNATIONS (AND DENSITY/INTENSITY)	*SPECIFIC PLAN ACRES*	*MAXIMUM DEVELOPMENT POTENTIAL*	
		DWELLING UNITS	*NON-RESIDENTIAL SF*
Low (1-3.5 DU/AC)	516.57	1,808	--
Medium Low (3.5-6 DU/AC)	1,440.22	8,641	--
Medium (5-12 DU/AC)	2,118.00	25,416	--
Medium High (12-16 DU/AC)	280.27	4,484	--
Urban Neighborhood (16-30 DU/AC)	154.21	4,626	--
High (30-45 DU/AC)	46.61	2,097	--
Subtotal - Residential	*4,555.89*	*47,072*	--
Community (1.0 Max. FAR)	57.74	--	2,515,345.93
Recreation (0.5 Max. FAR)	41.34	--	900,316.07
General (2.0 Max. FAR)	215.07	--	18,737,081.61
Regional (1.0 Max. FAR)	4.24	67	184,521.12
Subtotal - Commercial	*318.39*	*67*	*22,337,264.74*
Office (2.0 Max. FAR)	82.25	--	7,166,022.23
Business Park (1.0 Max. FAR)	74.97	--	3,265,670.81
Light Industrial (1.0 Max. FAR)	32.75	--	1,426,584.42
Subtotal - Employment	*189.97*	--	*11,858,277.47*
Neighborhood (12-16 DU/AC; 1.5 Max. FAR)	308.43	4,934	20,152,641.61
Corridor/Center (16-30 UD/AC; 1.5 Max. FAR)	96.00	2,880	6,272,822.49
Regional (30-45 UD/AC; 2.0 Max. FAR)	0.00	0	0.00
Subtotal - Mixed Use	*404.43*	7,814	*26,425,464.11*
Pocket Park	1.55	--	--
Neighborhood Park	86.26	--	--
Community Park	24.20	--	--
Regional Park	0.00	--	--
Open Space	6.79	--	--
Ponding Basin	129.59	--	--
Subtotal - Open Space	*248.40*	--	--
Public Facility	27.42	--	--
Church	55.80	--	--
Special School	18.38	--	--
Elem. School	91.82	--	--
Elem./Middle/High School	145.37	--	--
High School	46.95	--	--
Fire Station	3.32	--	--
Subtotal - Public Facilities	*389.06*	--	--
Grand Total	***6,106.14***	***54,953 DU***	***60,621,006.31 SF***

The proposed Specific Plan land uses could result in a decrease in the number of residential units in the Plan Area and an increase in the amount of non-residential square footage. Specifically, the proposed Specific Plan could decrease the number of housing units by 12,252 DU (including a 10,436 DU reduction in the residential category, a 67 DU increase in the commercial category, and an 1,883 DU reduction in the mixed use category). The proposed Specific Plan could increase the amount of non-residential SF by 16,201,349.72 SF (including a 2,920,394.74 SF increase in the commercial category, a 6,401,951.87 SF increase in the employment category, and a 6,879,003.11 SF increase in the mixed use category).

The Specific Plan is designed to provide flexibility, so there are a number of variations/combinations for residential and non-residential development. However, the development potential identified within the table represents the maximum development that would be allowed based upon the

existing and proposed land uses and their associated densities and intensities without requiring a future amendment to the Specific Plan. In effect, this is very likely an overestimate of what will actually be developed, but for purposes of environmental analysis in the Environmental Impact Report (EIR) it represents the worst-case scenario.

It is noted that the proposed Specific Plan would amend the land uses for approximately half of the land within the Plan Area. The remaining parcels would maintain their existing land use and zoning designations. The parcels that are proposed for change by the proposed land use map are shown in Figure 2.0-7.

REVISIONS TO CORE GOALS

In addition to the proposed land use plan, the following are revisions to the core goals provided in the General Plan for the Plan Area:

1. West Shaw Avenue Town Center: The West Shaw Avenue Town Center (the Town Center) will extend from State Route 99 to the east side of Grantland Avenue and is envisioned to be comprised of mixed-use development supported by enhanced transit service. Land on the south side of West Shaw Avenue will provide additional neighborhood and commercial mixed-use opportunities.
2. Catalytic Corridors: The proposed Specific Plan designates higher density land uses along corridors for the purpose of providing easy access to major arterials and streets, retail centers, and community amenities. Catalytic corridors will include transit services. The corridors are designed to include neighborhood and pocket parks, commercial and retail uses, educational facilities, multi-family dwelling units, and professional offices. The corridors are located on the following streets:
    a) West Shaw Avenue, from State Route 99 to Grantland Avenue;
    b) West Ashlan Avenue, from State Route 99 to Grantland Avenue;
    c) North Blythe Avenue, from West Shields to West Ashlan Avenue;
    d) West Clinton Avenue from State Route 99 to North Brawley Avenue; and
    e) Veterans Boulevard, from West Gettysburg Avenue to West Barstow Avenue.

PLAN ADOPTION AND REGULATION

The Specific Plan will include certain development regulations and standards that are intended to be specific to the Specific Plan Area. Where there is a matter or issue not specifically covered by the Specific Plan development regulations and design standards, the Fresno Zoning Code would apply (as set forth in Section 15-204-B of the City Code). Where there is a conflict between the Specific Plan and the Zoning Code, the Zoning Code would prevail.

The Specific Plan is intended to be adopted by the City Council and to serve as a tool for the City of Fresno to implement the General Plan. The Specific Plan is to be used by designers, developers, builders, and planners, to guide development of the Plan Area. The land use standards and development standards are provided to ensure that all proposed developments remain consistent with the vision established by the Specific Plan as the Plan Area is built over time. The Specific Plan development concepts and standards are in accordance with the City's General Plan, Municipal

Ordinances, and City Specifications. The Specific Plan shall be used to review, process, and approve development proposals for the Plan Area including but not limited to site specific development applications and site improvement plans.

PROJECT ENTITLEMENTS

The City of Fresno will be the Lead Agency for the proposed Specific Plan, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Repeal of a portion of the Highway City Specific Plan that overlaps with the plan area boundaries;
- Repeal of the West Area Community Plan;
- Certification of the West Area Neighborhoods Specific Plan EIR and adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- Approval of the West Area Neighborhoods Specific Plan;
- Amendment of the General Plan land use map to incorporate the planned land uses of the Specific Plan; and
- Rezone of all parcels proposed for land use changes within city limits of the Specific Plan area to a zone district consistent with the planned land use.

2.3 PROJECT GOALS AND OBJECTIVES

The objectives of the proposed Specific Plan include future development of land for a wide variety of land uses including: Low Density Residential; Medium Low Density Residential; Medium Density Residential; Medium High Density Residential; Urban Neighborhood Residential; High Density Residential; Community Commercial; Recreation Commercial; General Commercial; Regional Commercial; Office; Business Park; Light Industrial; Corridor/Center Mixed Use; Regional Mixed Use; Pocket Park; Neighborhood Park; Community Park; Open Space; Ponding Basin; Public Facility; Church; Special School; Elementary School; Elementary, Middle & High School; High School; and Fire Station uses, as well as the required transportation and utility improvements.

QUANTIFIABLE OBJECTIVES

The quantifiable objective of the proposed Specific Plan includes the future development of up to 54,953 DU (including 67 DU in the commercial category, 47,072 DU in the residential category and 7,814 DU in the mixed use category) and 60,621,006 SF of non-residential uses.

SPECIFIC PLAN GUIDING PRINCIPLES

The Specific Plan's guiding principles are designed to form the direction of the Specific Plan, and how the Plan can best benefit the future of the Plan Area. The guiding principles incorporate input received from community members and formal recommendations of the Steering Committee. The guiding principles of the Specific Plan are summarized as follows:

Transportation

- Accommodate and improve roadway access, connectivity and mobility among all modes of transportation, and prioritize roadway widening where bottlenecking exists.
- Accommodate planned transit services in the Plan Area by locating routes near or adjacent to the community centers, schools, parks, and retail centers.
- Provide a complete, safe, and well-maintained sidewalk network from residential neighborhoods to commercial centers, schools, parks, and community centers.
- Provide a complete, safe, and well-maintained roadway network that allows for efficient and smooth access from the Plan Area to other sections of the City and region.

Parks and Trails

- Create parks that are within existing and planned neighborhoods that are easily accessed by community members using pedestrian and bicycle pathways, transit services, or motor vehicles, consistent with the City of Fresno's Parks Master Plan.
- Provide for the location of a flagship Regional Park in the Plan Area that has components of the Plan Area's agricultural history through the planting of drought-resistant vegetation or trees, and the creation of public art that exhibits the Plan Area's contribution to the agricultural industry.

Agriculture

- Incorporate elements of agriculture in future parks by planting a mixture of native drought tolerant vegetation, shrubs, and trees that can serve to provide shade and enhance the streetscape.
- Encourage and provide land use opportunities for agritourism ventures to occur in the Plan Area.
- Encourage the development of harvest – producing community gardens.

Retail

- Attract desired and needed local retail establishments to serve the needs of the Plan Area community. Such establishments include grocery stores, bakeries, restaurants other than fast food places, and boutiques.
- Discourage the expansion of undesirable retail establishments such as liquor stores, tobacco and vapor stores, short-term loan and pawn shops, and adult stores.
- Encourage the development of retail establishments along commercial corridors.
- Encourage the orderly and consistent development of civic, parkland, retail and commercial, mixed-use, and multi-family uses along West Shaw Avenue, West Ashlan Avenue, Veterans Boulevard, West Shields Avenue, West Clinton Avenue, and Blythe Avenue.

Housing

- Encourage a variety of housing types and styles.

- Encourage the development of housing to accommodate an aging population including, multi-generational houses and other elder housing options.
- Reaffirm the City's commitment and obligation to affirmatively furthering access to fair and affordable housing opportunities by strongly encouraging equitable and fair housing opportunities to be located in strategic proximity to employment, recreational facilities, schools, neighborhood commercial areas, and transportation routes.

Education

- Attract much needed educational opportunities for the residents of the Plan Area, especially for post-secondary education, and access to programs for life-long learners.

Public Safety

- Provide for safe routes to schools for children, with the City and County working together with residents, to provide sidewalks in neighborhoods that have sporadic access.
- Work to promote Neighborhood Watch in all neighborhoods, and further assess the need for the location of emergency response facilities west of State Route 99.

These Specific Plan guiding principles functionally represent project objectives as required by CEQA Guidelines section 15124, subdivision (b).

2.4 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

The City of Fresno will be the Lead Agency for the proposed Specific Plan, pursuant to the State Guidelines for Implementation of the CEQA, Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Repeal of a portion of the Highway City Specific Plan that overlaps with the plan area boundaries;
- Repeal of the West Area Community Plan;
- Certification of the West Area Neighborhoods Specific Plan EIR and adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- Approval of the West Area Neighborhoods Specific Plan;
- Amendment of the General Plan land use map to incorporate the planned land uses of the Specific Plan; and
- Rezone of all parcels proposed for land use changes within city limits of the Specific Plan area to a zone district consistent with the planned land use.
- Approval of the West Area Neighborhoods Specific Plan.

The following agencies are considered Responsible Agencies for this Specific Plan, and may be required to issue permits or approve certain aspects of the proposed Specific Plan:

- California Department of Fish and Wildlife (CDFW);
- California Department of Transportation (Caltrans);

- Central Valley Regional Water Quality Control Board – Clean Water Act Section 401 Water Quality Certification, National Pollution Discharge Elimination System (NPDES) general construction permit;
- Fresno Irrigation District (FID);
- San Joaquin Valley Air Pollution Control District – Approval of construction-related air quality permits, authority to Construct, Permit to Operate for stationary sources of air pollution;
- Central Unified School District – Approval of school sites.

The California Department of Fish and Wildlife will also function as a trustee agency with respect to the proposed Specific Plan. The City is unaware of any other trustee agency, as the proposed Specific Plan would not affect any state owned "sovereign" lands, any units of the State Park System, or any sites within the University of California's Natural Land and Water Reserves System.

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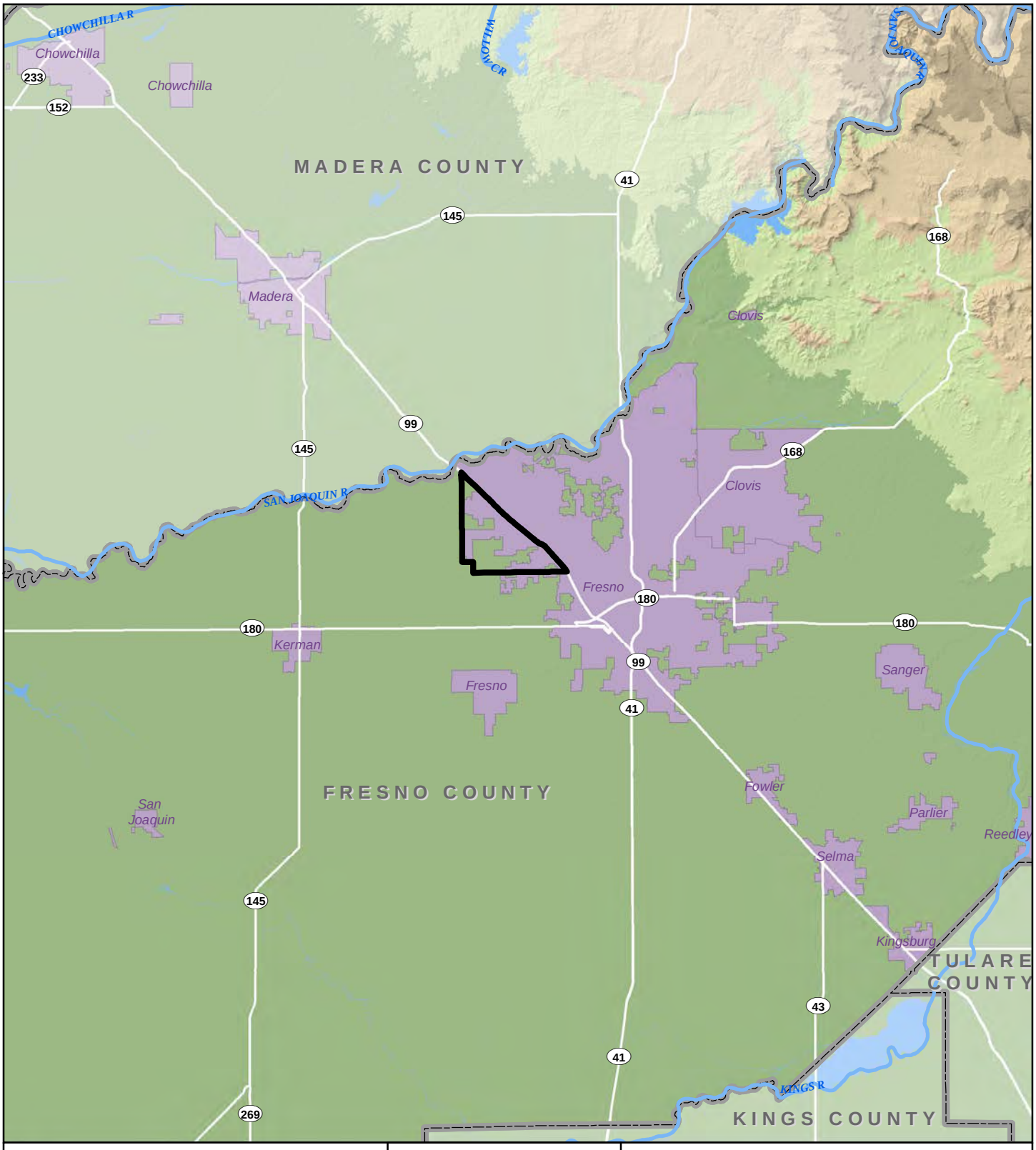

Legend

- Specific Plan of the West Area
- City Area
- County Boundary

N

0 2½ 5

Miles

Sources: CalAtlas; Madera County; Fresno County. Map date: May 8, 2019.

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 2.0-1. Regional Location Map

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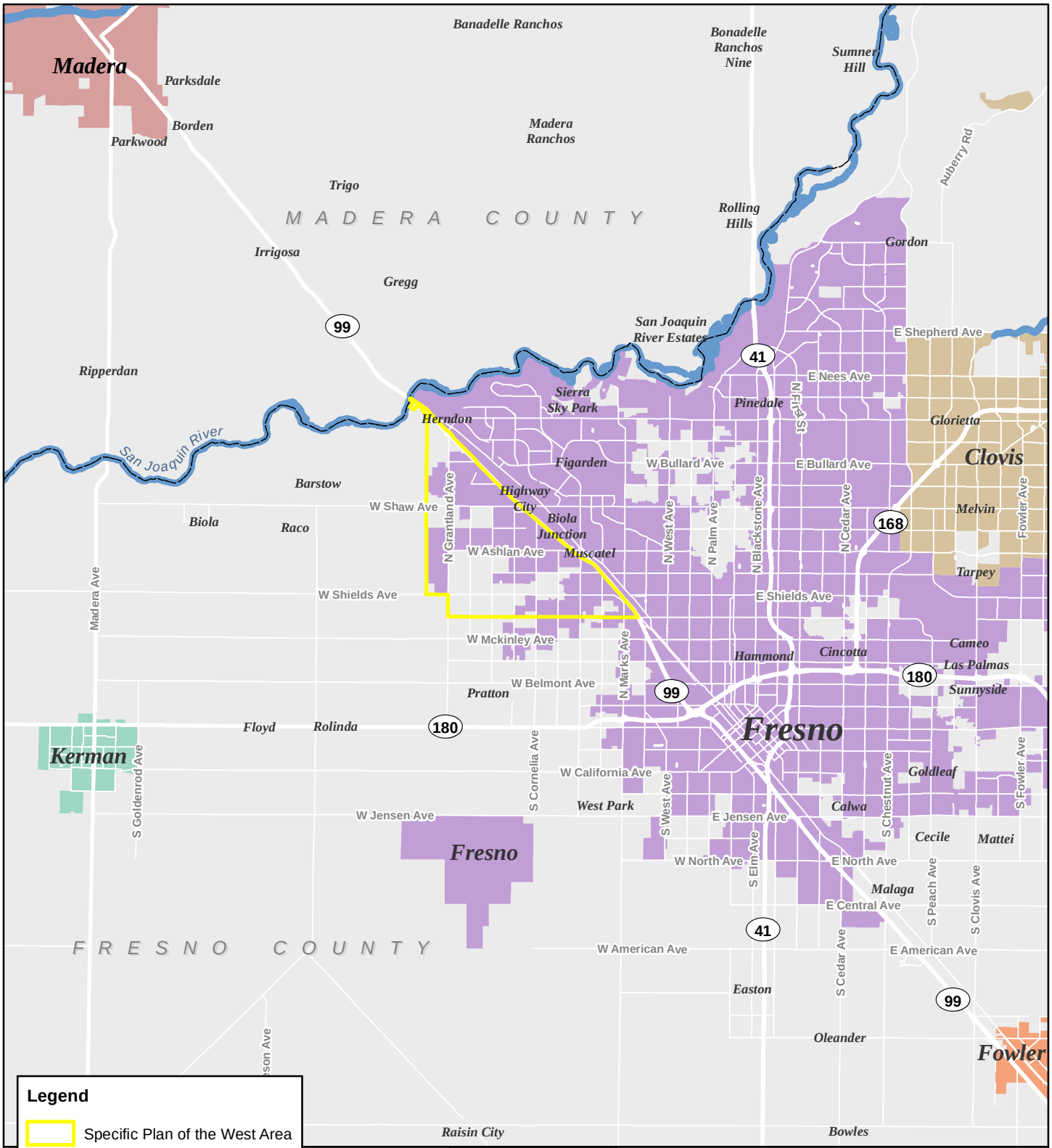
Madera
Parksdale
Borden
Parkwood
Banadelle Ranchos
Bonadelle Ranchos Nine
Sumner Hill
Madera Ranchos
Trigo
MADERA COUNTY
Rolling Hills
Irrigosa
Gregg
Gordon
Aubery Rd
99
San Joaquin River Estates
41
E Shepherd Ave
Ripperdan
E Nees Ave
Sierra Sky Park
Pinedale
N Fig St
Herndon
Glorietta
San Joaquin River
Figarden
W Bullard Ave
E Bullard Ave
Clovis
Barstow
Highway City
Biola
Raco
W Shaw Ave
N Grantland Ave
Biola Junction
N West Ave
N Palm Ave
N Blackstone Ave
N Cedar Ave
168
Melvin
Fowler Ave
W Ashlan Ave
Muscatel
Tarpey
Madera Ave
W Shields Ave
E Shields Ave
W Mckinley Ave
N Marks Ave
Cameo
Hammond
Cincotta
Las Palmas
180
W Belmont Ave
Pratton
99
Sunnyside
Floyd
Rolinda
180
Fresno
Kerman
S Goldenrod Ave
S Cornelia Ave
W California Ave
Goldleaf
S Chestnut Ave
S Fowler Ave
West Park
Calwa
S West Ave
W Jensen Ave
E Jensen Ave
Cecile
Mattei
Fresno
W North Ave
E North Ave
S Elm Ave
Malaga
S Peach Ave
S Clovis Ave
E Central Ave
41
FRESNO COUNTY
W American Ave
E American Ave
Easton
S Cedar Ave
99
Oleander
Fowler
Raisin City
Bowles
Legend
Specific Plan of the West Area
County Boundary
City Areas
Clovis
Fowler
Fresno
Kerman
Madera
0
1
2
Miles
Sources: Fresno County; Madera County, Cal Atlas.
Map date: May 7, 2019. Revised: May 29, 2020.
CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA
Figure 2.0-2. Vicinity Map
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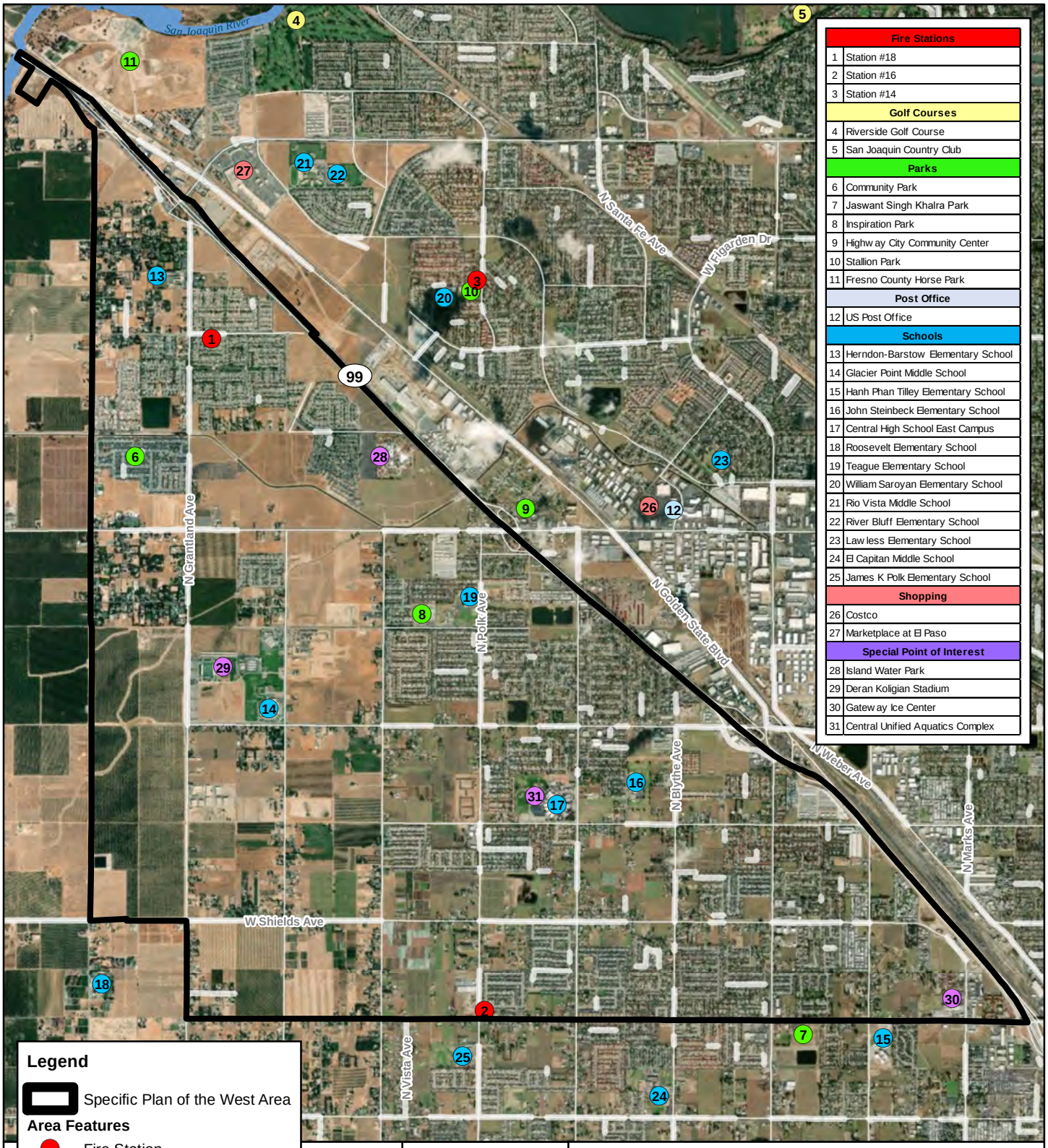

Fire Stations	
1	Station #18
2	Station #16
3	Station #14
Golf Courses	
4	Riverside Golf Course
5	San Joaquin Country Club
Parks	
6	Community Park
7	Jaswant Singh Khalra Park
8	Inspiration Park
9	Highway City Community Center
10	Stallion Park
11	Fresno County Horse Park
Post Office	
12	US Post Office
Schools	
13	Herndon-Barstow Elementary School
14	Glacier Point Middle School
15	Hanh Phan Tilley Elementary School
16	John Steinbeck Elementary School
17	Central High School East Campus
18	Roosevelt Elementary School
19	Teague Elementary School
20	William Saroyan Elementary School
21	Rio Vista Middle School
22	River Bluff Elementary School
23	Lawless Elementary School
24	El Capitan Middle School
25	James K Polk Elementary School
Shopping	
26	Costco
27	Marketplace at El Paso
Special Point of Interest	
28	Island Water Park
29	Deran Koligian Stadium
30	Gateway Ice Center
31	Central Unified Aquatics Complex

Legend

Specific Plan of the West Area

Area Features

- Fire Station
- Golf Course
- Park
- Post Office
- School
- Shopping
- Special Point of Interest

0 ¼ ½ Miles

Sources: Fresno County; Google Maps; ArcGIS Online World Imagery Map Service. Map date: May 8, 2019. Revised: May 29, 2020.

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 2.0-3. Aerial View of Project Site

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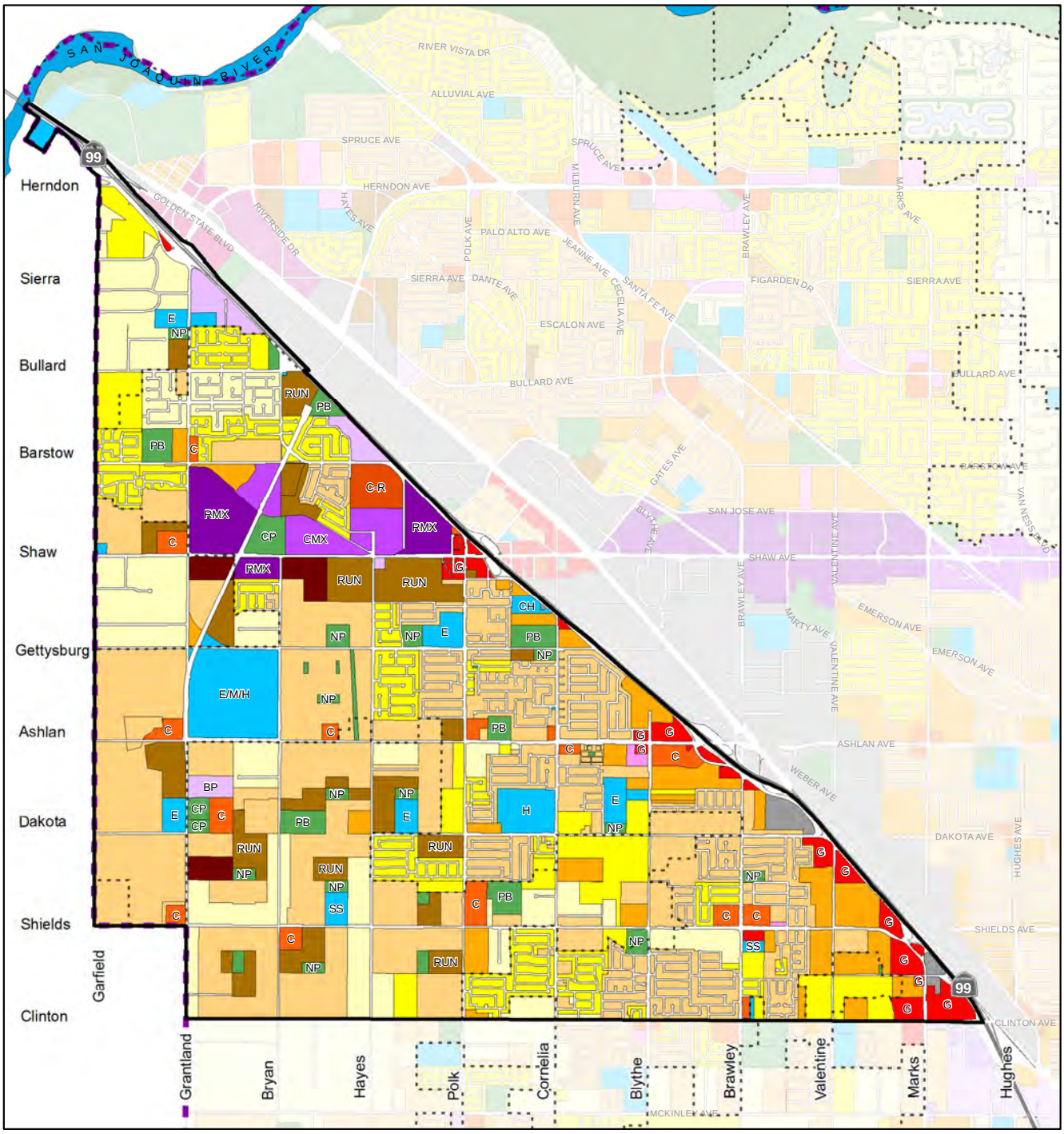

BOUNDARIES
- City Limits
- West Area Specific Plan Boundary
- Sphere Of Influence

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

PUBLIC FACILITIES
- Public/Quasi-public Facility
- SS Special School
- E Elementary School
- E/M/H Elementary, Middle & High School
- H High School
- CH Church
- FS Fire Station

EMPLOYMENT
- Office
- BP Business Park
- Light Industrial

MIXED USE
- CMX Corridor/Center Mixed Use
- RMX Regional Mixed Use

OPEN SPACE
- CP Community Park
- PB Open Space - Ponding Basin
- NP Neighborhood Park
- Open Space
- P Park

COMMERCIAL
- Community
- Recreation
- General

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 2.0-4. Existing General Plan Land Use Designations

N

0 0.25 0.5 Miles

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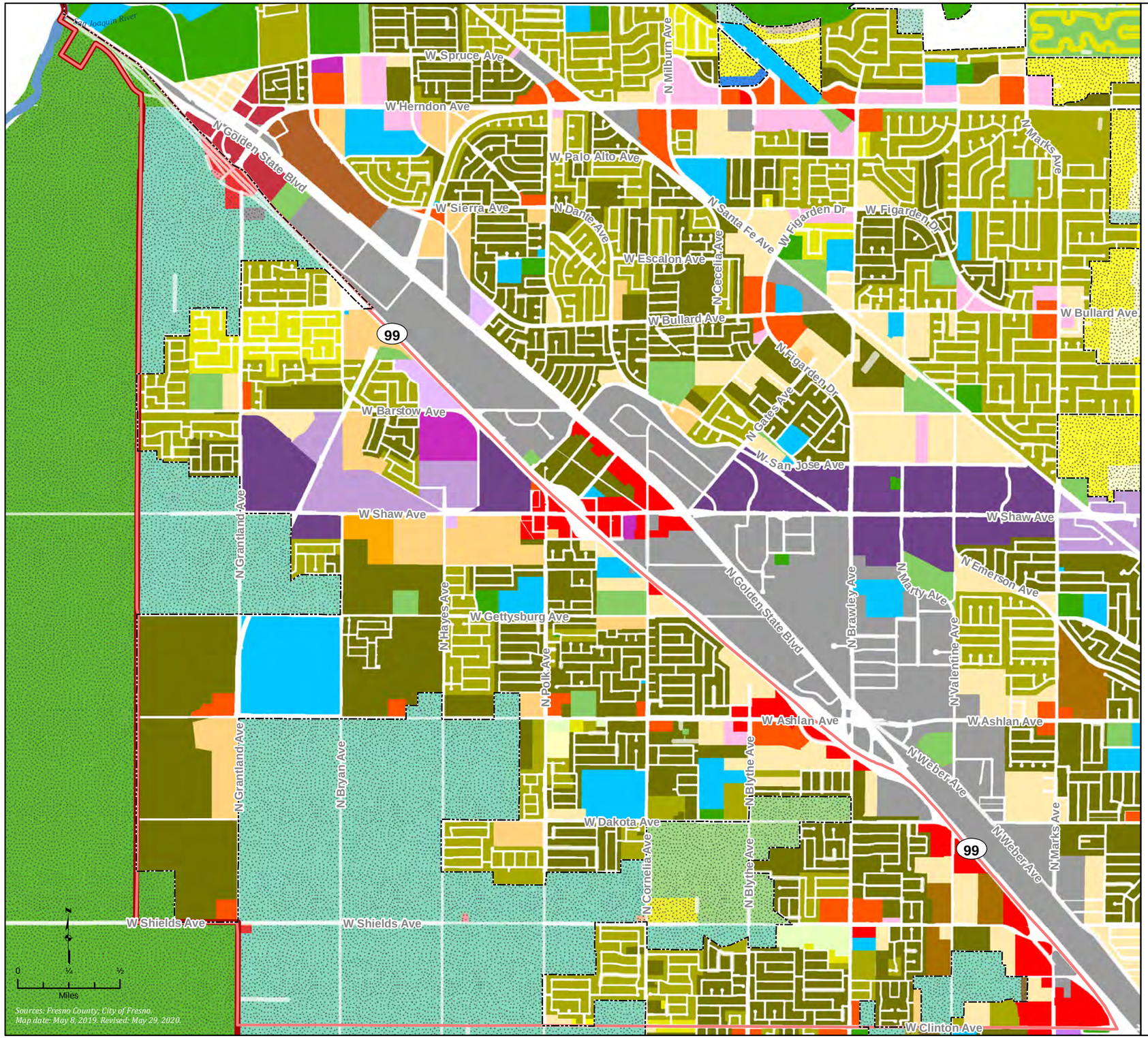
CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 2-0-5. Existing Zoning Designations



BOUNDARIES

- Specific Plan of the West Area
- Fresno City Limits
- Fresno Sphere of Influence

CITY OF FRESNO ZONING DESIGNATIONS

- CC:Commercial Community
- CG:Commercial General
- CH:Commercial Highway and Auto
- CR:Commercial Regional
- CRC:Commercial Recreation
- IL:Light Industrial
- CMX:Corridor/Center Mixed Use
- NMX:Neighborhood Mixed Use
- RMX:Regional Mixed Use
- BP:Business Park
- O:Office
- PI:Public and Institutional
- OS:Open Space
- PR:Park and Recreation
- RE:Residential Estate
- RS-1:Residential Single-Family, Extremely Low Density
- RS-2:Residential Single-Family, Very Low Density
- RS-3:Residential Single-Family, Low Density
- RS-4:Residential Single-Family, Medium Low Density
- RS-5:Residential Single-Family, Medium Density
- RM-1:Residential Multi-Family, Medium High Density
- RM-2:Residential Multi-Family, Urban Neighborhood
- RM-3:Residential Multi-Family, High Desnity
- RM-MH:Mobile Home Park

FRESNO COUNTY ZONING DESIGNATIONS

- County Overlay
- RCC - Rural Commercial Center
- C4 - Central Trading
- C6 - General Commercial
- M1 - Light Manufacturing
- CP - Administrative/Professional Office
- AE20 - Exclusive Agriculture
- AL20 - Limited Agriculture
- RA - Single Family Residential Agricultural
- RR - Rural Residential
- R1A/R1AH - Single Family Residential (20,000)
- R1B - Single Family Residential (12,500)
- R1C - Single Family Residential (9,000)
- R1 - Single Family Residential (6,000)
- TP - Trailer Park Residential
- O - Open Conservation Land Use

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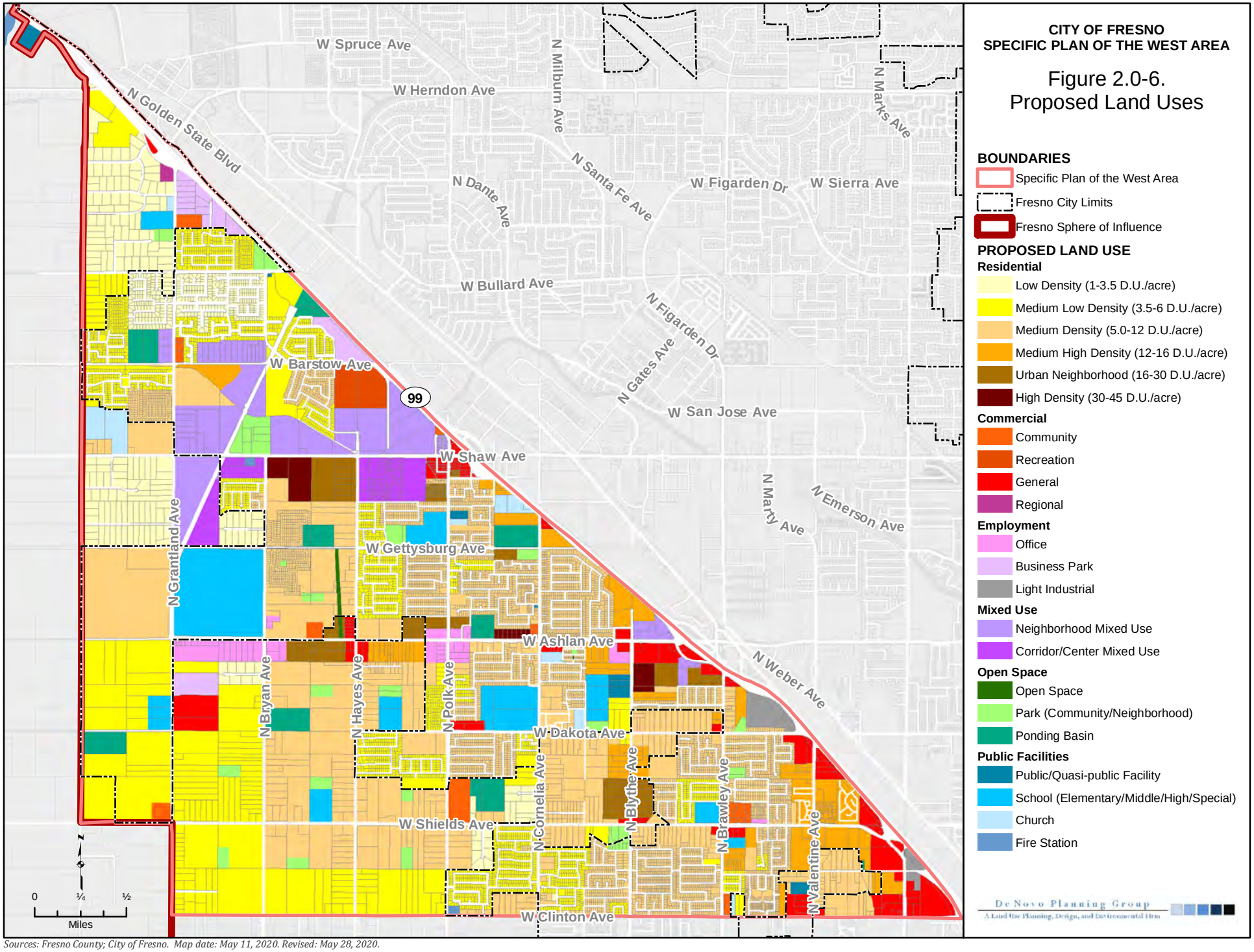

Sources: Fresno County; City of Fresno. Map date: May 11, 2020. Revised: May 28, 2020.

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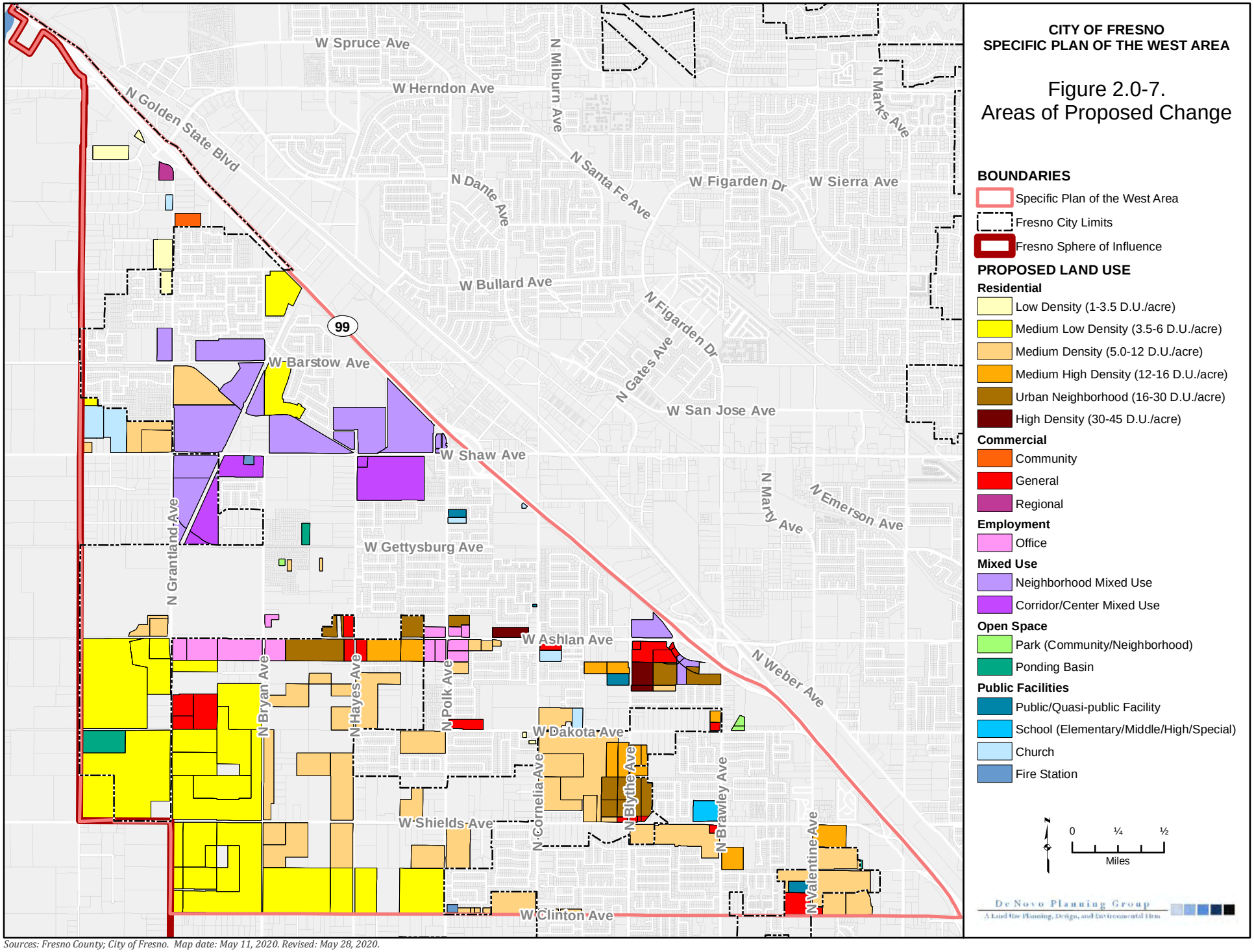

Sources: Fresno County; City of Fresno. Map date: May 11, 2020. Revised: May 28, 2020.

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This section provides an overview of the visual character, scenic resources, views, scenic highways, and sources of light and glare that are encountered in the Plan Area and the surrounding area. This section provides an evaluation of the potential impacts to aesthetic resources associated with implementation of the Specific Plan and recommendations for mitigating those impacts. Information in this section is derived primarily from the following:

- California Scenic Highway Mapping System (Caltrans, 2019);
- *City of Fresno General Plan* (City of Fresno, 2014);
- *City of Fresno Master Environmental Impact Report EIR* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- *City of Fresno Municipal Code, Chapter 13 Sidewalks, Streets, Parkways, and Underground Utility Districts Section 13-305 Tree Preservation* (City of Fresno, 2019).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Cathy Caples (August 1, 2019). The portion of this comment letter which relates to this topic is addressed within this section. Full comments received are included in **Appendix A**.

3.1.1 ENVIRONMENTAL SETTING

PROJECT SITE AND SURROUNDING AREA

The Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to State Route 99. The Plan Area encompasses approximately 7,077 acres (approximately 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. Of the eleven square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth.

The Plan Area is relatively flat with natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level. A large amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels.

The Plan Area has approximately eight different existing land uses which include the following:

- **Rural/Estate Residential**: Approximately 27 percent, or 1,911 acres, of the existing land uses within the Plan Area are currently used as rural/estate residential. Of the 6,109 acres of developable lands within the Plan Area, 1,640.68 acres are low-density single-family homes that are occupied lots with a size of two to nine acres per dwelling units.
- **Multiple Family Residential**: Approximately two percent, or 141 acres, of the Plan Area account for multi-family residential development. These uses are primarily located adjacent

to arterial roads with easy access to State Route 99, and Fresno Area Express (FAX) service lines.

- **Single-Family Residential**: Approximately 21 percent of the existing uses within the Plan Area are currently developed with single-family residential uses. These uses are located primarily within the city limits.
- **Vacant Land**: Approximately 15 percent of the land in the Plan Area, or 911.34 acres, account for vacant lands. Vacant areas are located throughout the Plan Area, in both the city limits and SOI. Vacant areas represent infill opportunities within the Plan Area's densest neighborhoods.
- **Public/Government Facilities**: Approximately six percent, or 337.83 acres, of land within the Plan Area contain public or government facilities. These land uses include Central Unified School District facilities, churches, the Dante Club, and the Hacienda facility.
- **Open Space/Agricultural Land**: Approximately 25 percent or 1,554.06 acres, in the Plan Area contain open space or agricultural land. While there are some open space land uses within the City, most of these uses are primarily located in the SOI. These uses include parks and ponding basins.
- **Industrial Uses**: Approximately one percent, or 57.33 acres, of the Plan Area account for industrial uses. The largest industrial land use in the Plan Area contains an agricultural business located at the intersection of West Dakota Avenue and North Grantland Avenue.
- **Commercial Uses**: Approximately three percent, or 219.76 acres, of the Plan Area account for commercial uses. Commercial uses are spread throughout the eastern and southeastern portions of the Plan Area, closer to State Route 99.

Surrounding land uses include State Route 99; the historic communities of Herndon and Highway City; incorporated areas of the City of Fresno to the north; incorporated areas of the City of Fresno to the east (including mostly industrial uses); unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels); and unincorporated Fresno County to the west (including farmland and rural residential uses).

REGIONAL SCENIC RESOURCES

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred. Aesthetically significant features occur in a diverse array

of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies.

SCENIC HIGHWAYS AND CORRIDORS

Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically-pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive one and, consequently, provides support for the tourist-related activities of the region's economy.

Scenic Highways

A scenic highway is generally defined by the California Department of Transportation (Caltrans) as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

There are no officially Designated Scenic Highways in Fresno County. Fresno County has four eligible State Scenic Highways, and the nearest eligible highways are east of the Plan Area along State Route 33 (approximately 27 miles west of the Plan Area), along State Route 168 east of the City of Clovis (approximately 19 miles east of the Plan Area), along State Route 180 (approximately 67 miles east of the Plan Area), and along State Route 198 (approximately 37 miles south of the Plan Area). The Plan Area is not visible from any of these eligible State Scenic Highways.

Scenic Corridors

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

The Fresno General Plan designates the following roadway segments as scenic corridors:

- Van Ness Boulevard – Weldon to Shaw Avenues

- Van Ness Extension - Shaw Avenue to the San Joaquin River Bluff
- Kearney Boulevard - Fresno Street to Polk Avenue
- Van Ness/Fulton couplet - Weldon Avenue to Divisadero
- Butler Avenue - Peach to Fowler Avenues
- Minnewawa Avenue - Belmont Avenue to Central Canal
- Huntington Boulevard - First Street to Cedar Avenue

The nearest scenic corridor to the Plan Area is Van Ness Boulevard, located approximately 5.34 miles east of the Plan Area. However, the Plan Area is not visible from Van Ness Boulevard or any of the above designated scenic corridors.

LIGHT AND GLARE

There are two typical types of light intrusion. First, light emanates from the interior of structures and passes out through windows. Secondly, light projects from exterior sources such as street lighting, security lighting, balcony lighting, and landscape lighting. “Light spill” is typically defined as the presence of unwanted and/or misdirected light on properties adjacent to the property being illuminated.

Glare is the sensation produced by luminance within the visual field that is significantly greater than the luminance to which the eyes are adapted, which causes annoyance, discomfort, or loss in visual performance and visibility.

The majority of the Plan Area is urbanized, with significant sources of light and glare, such as streetlights, parking lots, interior lights from buildings, lighted recreational facilities, and light emitted from residential and non-residential buildings throughout the Plan Area. Substantial lighting currently exists in the more developed portions of the Plan Area along SR 99 and the eastern portion of the Plan Area. Limited lighting currently exists in rural residential and agricultural areas that are located within the western and southwestern portions of the Plan Area. Buildings and structures made with glass, metal, and polished exterior or roofing materials exist throughout the Plan Area. These surfaces, as well as the natural and manmade light sources, could result in localized glare.

3.1.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the aesthetic resources of the state including the California Department of Transportation, Scenic Highway Program, and the California Energy Commission. These agencies are often responsible for preserving the economic, social and scenic values of aesthetic resources such as the California Highway System and combating light pollution of the night sky. The following is an overview of the State and local regulations that are applicable to the proposed Specific Plan.

STATE

California Scenic Highway Program

The intent of the California Scenic Highway Program is "to protect and enhance California's natural scenic beauty and to protect the social and economic values provided by the State's scenic resources." Caltrans administers the program, which was established in 1963 and is governed by the California Streets and Highways Code (§260 et seq.). The goal of the program is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of the adjacent land. Caltrans has compiled a list of state highways that are designated as scenic and county highways that are eligible for designation as scenic.

Scenic highway designation can provide several types of benefits to the region. Scenic areas are protected from encroachment of inappropriate land uses, free of billboards, and are generally required to maintain existing contours and preserve important vegetative features. Only low-density development is allowed on steep slopes and along ridgelines on scenic highways, and noise setbacks are required for residential development.

Nighttime Sky – Title 24 Outdoor Lighting Standards

The California legislature passed a bill in 2001 requiring the California Energy Commission (CEC) to adopt energy efficiency standards for outdoor lighting for both the public and private sectors. In addition to improved energy efficiency standards, Title 24 standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2010 Census. Areas can be designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass.

LOCAL

Fresno General Plan

The City of Fresno General Plan contains the following objectives and policies that are relevant to aesthetics and visual resources:

URBAN FORM, LAND USE, AND DESIGN ELEMENT

Objective D-1: Provide and maintain an urban image that creates a "sense of place" throughout Fresno.

> **Policy D-1-a: Direct Access to Units.** Require all new multi-family residential development along BRT and other transit or pedestrian-oriented streets (Collector and Local), including high-rise, townhomes or other units, to provide direct pedestrian street access and to promote walkable connectivity, individualization, family-friendly development, identity, and street safety to the maximum extent reasonably feasible.

Policy D-1-b: Active Ground Floor Frontage. Encourage all new development located within Activity Centers and/or along BRT corridors to incorporate active ground floor frontages that engage pedestrians to the maximum extent feasible. Establish pedestrian-oriented design standards in the Development Code for building frontages, transparency, fenestration, and entries to create active streetscapes.

Policy D-1-c: Privately Owned Public Spaces. Consider creating and adopting design standards and incentives for providing privately owned public open spaces and plazas for gathering to enhance the pedestrian realm and provide opportunities for social interaction.

Policy D-1-d: Public Art. Continue to promote a citywide public art program that contributes to an awareness of the City's history and culture.

Policy D-1-e: Graphic Identity. Continue the preservation, promotion, procurement and strategic location of landmarks, monuments and artwork that provide orientation and represent Fresno's cultural heritage and artistic values.

Policy D-1-f: Update Street Signs. Consider updating street sign regulations to create a way-finding system and graphic identity without dominating city and district appearance.

Policy D-1-g: Reducing Surface Parking. Consider adopting and implementing incentives to replace existing large surface parking lots in centers with parking structures, and to incorporate them into high-density mixed use developments.

Policy D-1-h: Screening of Parking. Consider requiring all new development with parking in Activity Centers and along corridors to be screened or concealed. Locate principal pedestrian entrances to new nonresidential buildings on the sidewalk; any entrances from parking areas should be incidental or emergency use only.

Policy D-1-i: Wrapping Parking Structures. Consider requiring new development of above-grade parking structures to be wrapped with and provide direct access to active uses, such as dwelling units, offices, and shopping spaces.

Policy D-1-j: Lighting Standards. Update lighting standards to reflect best practices and protect adjoining uses from glare and spillover light.

Objective D-2: Enhance the visual image of all "gateway" routes entering the Fresno Planning Area.

Policy D-2-a: Design Requirements for Gateways. Create unified design requirements for gateways to welcome travelers to the City's Activity Centers.

Policy D-2-b: Funding for Gateway Enhancements. Pursue funding to implement gateway enhancement plans and programs.

Policy D-2-c: Highway Beautification. Work with Caltrans, the Fresno Council of Governments, Tree Fresno, neighboring jurisdictions, and other organizations to obtain funding for highway beautification programs.

Objective D-3: Create unified plans for Green Streets, using distinctive features reflecting Fresno's landscape heritage.

Policy D-3-a: Green Street Tree Planting. Create a Green Street Tree Planting Program, with a well-balanced variety and spacing of trees to establish continuous shading and visual continuity for each streetscape. Strive to achieve coherent linkages between public and private spaces, prioritizing tree planting along tree-deficient Arterial Roadways in neighborhoods characterized by lower per capita rates of vehicle ownership.

Policy D-3-b: Funding for Green Street Tree Planting Program. Pursue funding for the Green Street Tree Planting Program, including landscaping of median islands.

Policy D-3-c: Local Streets as Urban Parkways. Develop local streets as "urban parkways," where appropriate, with landscaping and pedestrian space.

Policy D-3-d: Undergrounding Utilities. Partner with utility companies to continue to pursue the undergrounding of overhead utilities as feasible.

Objective D-4: Preserve and strengthen Fresno's overall image through design review and create a safe, walkable and attractive urban environment for the current and future generations of residents.

Policy D-4-a: Design Review for Large Buildings. Consider adopting and implementing a streamlined design review process for new construction and visible exterior alterations of large and significant multi-family, mixed-use and non-residential development.

Policy D-4-b: Incentives for Pedestrian-Oriented Anchor Retail. Consider adopting and implementing incentives for new pedestrian-friendly anchor retail at intersections within Activity Centers and along corridors to attract retail clientele and maximize foot traffic.

Policy D-4-c: Appropriate Day and Night Activity. Promote new residential, commercial and related forms of development that foster both day and appropriate night time activity; visual presence on the street level; appropriate lighting; and minimally obstructed view areas.

Policy D-4-d: Design for Safety. Continue to involve the City's Police Department in the development review process to ensure new buildings are designed with security and safety in mind.

Policy D-4-e: Flexibility through Overlay Districts. Allow innovative lot designs and patterns to enhance community livability in residential neighborhoods through new zoning provisions, with flexible development standards.

Policy D-4-f: Design Compatibility with Residential Uses. Strive to ensure that all new non-residential land uses are developed and maintained in a manner complementary to and compatible with adjacent residential land uses, to minimize interface problems with the surrounding environment and to be compatible with public facilities and service.

Policy D-4-g: Development Code Update for Design Concepts. Ensure that standards in the Development Code implement General Plan design concepts for each land use type.

Policy D-4-h: Metal Buildings. Promote the establishment of standards and guidelines for metal buildings to be acceptable and economical forms of structures.

- New buildings with metal walls or metal roofs shall be painted or have other appropriate finishes, as approved by the City; and
- Mechanical equipment shall be screened with parapet walls, mechanical wells, or other means. Roof vent color must match that of the roof. The distinctive pattern of ribs and joints in standing seam and other metal roofing materials should coordinate dimensionally with similar elements in exterior walls.

Objective D-6: Encourage design that celebrates and supports the cultural and ethnic diversity of Fresno.

Policy D-6-a: Consult with neighboring populations, including non-English speaking groups, to inform the architecture, landscape, programming, and interior design of City-owned facilities such as parks, offices, street lighting, and other visible features.

Policy D-6-b: Consider adopting and implementing incentives for, and support efforts by, private development to incorporate culturally-specific architectural elements in areas with a predominant ethnic population.

Objective D-7: Continue applying local urban form, land use, and design policies to specific neighborhoods and locations.

Policy D-7-b: Consider preparing new community, neighborhood, and/or Specific Plans for neighborhoods and locations that were covered by repealed plans.

MOBILITY AND TRANSPORTATION ELEMENT

Objective MT-3: Identify, promote and preserve scenic or aesthetically unique corridors by application of appropriate policies and regulations

Policy MT-3-b: Preserve street trees lining designated scenic corridors or boulevards. Replace trees of the predominant type and in a comparable pattern to existing plantings if there is no detriment to public safety..

Fresno Outdoor Lighting and Illumination Ordinance

The City's Zoning Ordinance contains Article 20, General Site Regulations, which provides standards for outdoor lighting in an effort to minimize light pollution, glare, and light trespass caused by inappropriate or misaligned light fixtures, while improving nighttime public safety, utility, security, and preserving the night sky as a natural resource and thus facilitating people's enjoyment of stargazing.

Fresno Tree Preservation Ordinance

The City's Zoning Ordinance contains Article 3.5, Street Trees and Parkways, which contains policies regarding the preservation of trees within city limits. The Ordinance requires the City to plant, maintain, protect, preserve, and to regulate the planting, maintaining, protecting and preserving of public trees and landscaping; to eliminate dangerous conditions caused by trees and shrubs that may result in injuries to persons or property; to protect all trees within the City against the spread of disease or pests, and to provide for the special protection of heritage and landmark trees within the city limits. This portion of Fresno's Municipal Code implements a comprehensive permitting process for new and existing development and property owners and provides feasible alternatives and options to tree removal where practicable.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Specific Plan will have significant impact on aesthetics if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Specific Plan implementation would not result in substantial adverse effects on scenic vistas. (No Impact)

No part of Plan Area is designated as a scenic vista by the City of Fresno General Plan, nor does the Plan Area contain any unique or distinguishing features that would qualify it for designation as a scenic vista.

The Plan Area is partially visible from State Route 99. Because the topography of the Plan Area is relatively flat and SR 99 is at a similar elevation as the surrounding area, views from SR 99 are primarily limited to the more developed and urbanized portions of the Plan Area. More specifically, views from SR 99 primarily consist of uses located immediately adjacent to the freeway. As the Plan Area is not identified as having scenic vistas and expansive views across the Plan Area are limited due to intervening structures and the relatively flat and consistent topography of the area, ***no impact*** would occur to scenic vistas.

Impact 3.1-2: Project implementation would not substantially damage scenic resources within a State Scenic Highway. (No Impact)

There are no designated State Scenic Highways within or in the vicinity of the Project area. There are no highways in Fresno County listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System. Fresno County has three eligible State Scenic Highways; the nearest eligible highways are located east of the Planning Area along State Route 180 (approximately 7 miles east of the Planning Area) and along State Route 168 east of the City of Clovis (approximately 5 miles east of the Planning Area). The nearest designated State Scenic Highway is located within the County of Madera, more than 30 miles northeast of the Planning Area. Thus, ***no impact*** to scenic resources within a State Scenic Highway would occur with implementation of the Project.

Impact 3.1-3: Specific Plan implementation would result in substantial adverse effects or degradation of visual character or quality of the site and its surroundings. (Significant and Unavoidable)

Future development of the Plan Area with new and/or more intense development of residential, commercial, employment, mixed use, open space, and public facility uses would substantially change the visual character of individual sites and the Plan Area.

Implementation of the proposed Specific Plan would change the existing visual character of the Plan Area from a relatively undeveloped area to a primarily urbanized area. Impacts related to a change in visual character are largely subjective and very difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered “attractive” to one viewer may be considered “unattractive” to other viewers.

The western half of the Plan Area is generally more rural and less developed while more developed portions of the Plan Area are along SR 99 and the southeastern portion of the Plan Area. The proposed Plan would result in the conversion of undeveloped land to urban uses, which may contribute to changes in the regional landscape and visual character of the area. In order to reduce visual impacts, development within the Plan Area is required to be consistent with the General Plan, Fresno Zoning Ordinance, and the proposed Specific Plan, which includes development standards in order to ensure quality and cohesive design. These standards include specifications for building height, massing, and orientation; exterior lighting standards and specifications; and landscaping standards. Implementation of the design standards would ensure quality design throughout the Plan Area, and result in development that would be internally cohesive while maintaining an aesthetic quality similar to surrounding uses. Thus, development of an existing developed or urbanized site would not conflict with zoning or other regulations governing scenic quality. In addition, a majority of the parcels identified for change are already planned for development in the exising General Plan or contain existing urbanized land uses.

In addition to future development anticipated within the existing City Limits, the Specific Plan anticipates future development in areas outside the existing City limits, but within the City’s SOI. These areas are primarily rural and agricultural lands. Thus, development of these areas with more urbanized uses would alter the visual character of the area from its current conditions. However, as

noted above, development within these areas would be in compliance with the City's General Plan and Zoning Ordinance, along with the development standards and guidelines established by the Specific Plan to ensure compatible development and cohesive development that considers the visual character of the specific site and surrounding uses. Further, the Specific Plan anticipates less urbanized development within the outer portions of the Plan Area and approximately 250 acres of park, recreational, and open space uses which will provide visual relief within the Plan Area. The proposed Specific Plan would also include visual components that would assist in enhancing the appearance of the Plan Area following site development. These improvements may include landscaping improvements such as new street trees, open lawn area and other vegetation landscaping associated with residential and non-residential development. Although compliance with development regulations and guidelines would improve the aesthetic character of the area associated with more urbanized development, existing views provided to the public of vast open space lands would be replaced with more urbanized development. Additionally, public views of expansive rural and agricultural lands that occur to the west of the Plan Area would be limited within the Plan Area due to intervening development conditions. Thus, impacts to visual character are considered significant and unavoidable.

Various temporary visual impacts could occur as a result of construction activities as the Plan Area develops, including grading, equipment and material storage, and staging. Some of these impacts could last for several weeks or months during any single construction phase. The loss of existing landscaping and trees would also be a temporary impact until new landscaping matures. However, these construction-related impacts would be temporary and viewer sensitivity in the majority of cases would be slight to moderate. Thus, construction impacts would be less than significant.

The proposed Specific Plan includes goals policies that would reduce impacts to visual and aesthetic resources. Specifically, Infrastructure & Public Realm (IPR) Goal 2 includes policies that are intended to improve streetscapes within the Specific Plan Area and contribute to the community's safety and quality of life. Land Use & Housing (LUH) Goal 1 includes policies that promote the orderly development of the Specific Plan Area and LUH Goal 2 includes policies that promote retention of agricultural uses and agritourism within the West Area.

Overall, the loss of the visual appearance of the existing vacant and open space land in the Plan Area will change the visual character of the area in perpetuity. Compliance with the City's General Plan and Municipal Code, and implementation of the proposed Specific Plan's development regulations would reduce visual impacts to the greatest extent feasible; however, the proposed Plan would permanently convert undeveloped rural, agricultural, and open space areas to urbanized uses. This is considered a ***significant and unavoidable*** impact. There is no feasible mitigation available that would reduce this impact to a less than significant level.

Impact 3.1-4: Specific Plan implementation has the potential to result in light and glare impacts. (Less than Significant with Mitigation)

Implementation of the proposed Specific Plan would introduce new sources of light and glare into the Plan Area. However, there are no specific features within the proposed Plan that would create

unusual light and glare. Implementation of existing Outdoor Lighting and Illumination Ordinance and the General Plan policies, such as Policies D-4-c, D-1-j, addressing light and glare may also ensure that no unusual daytime glare or nighttime lighting is produced.

LIGHT IMPACTS

Many areas within the Plan Area are currently exposed to a nominal amount of light due to the rural and agricultural setting. The western half of the Plan Area is generally more rural and less developed, and therefore uses within those areas are exposed to less artificial light from urbanized uses. Other areas within the Plan Area are exposed to substantial lighting, such as the more developed portions of the Plan Area along SR 99 and the southeastern portion of the Plan Area.

Increases in lighting and the introduction of new light sources would occur with new development in the Plan Area. Development within the Plan Area will include new roads, some of which will include lighting systems along the rights-of-way. Residential development will include interior and exterior light sources. Non-residential development will include lighting systems for parking areas, building, and signs, including security lighting. Some park and recreation facilities may include sports lighting to illuminate play areas for evening activities. Other public facility uses, such as schools and fire stations, will also involve lighting for parking, buildings, and security. Additionally, with the increase in development in the Plan Area, there will be increases in nighttime traffic that will increase lighting from car headlights. Although lighting would be reviewed on a project-by-project basis, for the purposes of this analysis, it has been conservatively assumed that exterior lighting would be located throughout most of the outdoor areas of the Plan Area. This includes, but is not necessarily limited to, street lighting in the residential areas; exterior lighting on the buildings; courtyard lighting; and parking lot lighting.

The introduction of new light sources and intensification of lighting within the Plan Area would be most notable in areas that are not currently developed or have minimal development within the western and southern portions of the Plan Area. Development in the westernmost portion of the Plan Area could result in lighting within the Plan Area being visible from uses adjacent to and outside of the Plan Area. The City's Outdoor Lighting and Illumination Ordinance would reduce the impact of lighting impacts onto adjacent properties. However, although direct impacts associated with new lighting would be reduced with compliance with General Plan policies and adherance to the City's Outdoor Lighting and Illumination Ordinance, the overall increase in lighting that would occur within the area would create a new source of substantial light which could adversely affect nighttime views in the area, specifically the nightime sky.

GLARE IMPACTS

Development in accordance with the Specific Plan will increase the amount of structures that could create new sources of glare within the Planning Area and directly adjacent to the Planning Area. These new sources of glare could be from materials used on building facades, parking lots, signs, and motor vehicles. Within the City limits, there are currently many sources of glare, and future development will add to the existing sources. Within the rural and agricultural areas, there are

limited sources of glare. The primary sources of glare that will be added within the Planning Area will occur from vertical structures such as building facades. Parking lots, roadway surfaces and motor vehicles do not create substantial amount of glare. Due to the substantial amount of new building square footage planned for the Plan Area, new buildings may have the potential, to result in a substantial increase in glare. This increase could result in a potentially significant glare impact. However, glare impacts would be reduced with compliance of General Plan policies, design review, municipal code requirements, and implementation of Mitigation Measure 3.1-1 that will require reflective building materials, visible from sensitive receptors, be prohibited from future project sites within the Plan Area.

CONCLUSION

There is the potential for reflective building materials and windows to result in increases in daytime glare within the Plan Area. The use of reflective building materials, including polished steel and reflective glass, could increase daytime glare for sensitive receptors in the vicinity of the project area. However, Mitigation Measure 3.1-1 would ensure that the potential for glare from proposed project buildings and structures would be minimized. With implementation of this mitigation measure, this is considered ***less than significant*** impact.

Light sources from the proposed development may have a significant adverse impact on the surrounding areas, by introducing nuisance light into the area and decreasing the visibility of nighttime skies. Additionally, on-site light sources may create light spillover impacts on surrounding land uses in the absence of mitigation. However, the proposed project will be required to comply with the City of Fresno outdoor lighting and illumination standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. However, without a detailed lighting plan, increase of nighttime lighting is a potentially significant impact. Implementation of Mitigation Measure 3.1-2 would reduce potential impacts associated with nighttime lighting and light spillage onto adjacent properties to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.1-1*: In order to reduce the potential for glare from buildings and structures within the project area, the Preliminary and Final Design Review plan(s) for all future projects in the Plan Area shall show that the use of reflective building materials that have the potential to result in glare that would be visible from sensitive receptors located in the vicinity of the project sites shall be prohibited. The City of Fresno Planning and Development Department shall ensure that the approved project uses appropriate building materials with low reflectivity to minimize potential glare nuisance to off-site receptors. These requirements shall be included in future project improvement plans, subject to review and approval by the City of Fresno.*

Mitigation Measure 3.1-2*: A lighting plan for all future projects in the Plan Area subject to section 15-2508 and section 15-2015 of the City of Fresno Municipal Code shall be prepared prior to the approval of the design review for each project site. The lighting plan shall demonstrate that the lighting systems and other exterior lighting throughout the project area have been designed to minimize light spillage onto adjacent properties to the greatest extent feasible, consistent with*

section 15-2508. – Lighting and Glare and section 15-2015 – Outdoor Lighting and Illumination of the City of Fresno Municipal Code. Use of LED lighting or other proven energy efficient lighting shall be required for facilities to be dedicated to the City of Fresno for maintenance. These requirements shall be included in future project improvement plans, subject to review and approval by the City of Fresno.

The purpose of this section is to disclose and analyze the potential impacts to agricultural resources associated with the development of the proposed Specific Plan. This section also discusses the potential conflicts between the proposed uses within the Plan Area and ongoing agricultural activities in the vicinity of the Plan Area. This section is primarily based on information from the following resources:

- City of Fresno *General Plan* (City of Fresno, 2014);
- City of Fresno *Master Environmental Impact Report EIR* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- Farmland Mapping and Monitoring Program (California Department of Conservation, 2016);
- Natural Resource Conservation Service (NRCS) *Web Soil Survey* (United States Department of Agriculture, 2017);
- Fresno County Crop Report (County of Fresno, Agricultural Commissioner, 2017).

Comments were received during the public review period or scoping meeting for the Notice of Preparation (NOP) regarding this topic from the following: Cathy Caples (August 1, 2019). The portion of the comment letter related to this topic is addressed within this section. Full comments received on the NOP are included in **Appendix A**.

3.2.1 ENVIRONMENTAL SETTING

CALIFORNIA AGRICULTURE

The California Department of Conservation Farmland Mapping and Monitoring Program identifies lands that have agriculture value and maintains a statewide map of these lands called the Important Farmlands Inventory (IFI). IFI classifies land based upon the productive capabilities of the land, rather than the mere presence of ideal soil conditions.

The suitability of soils for agricultural use is just one factor for determining the productive capabilities of land. Suitability is determined based on many characteristics, including fertility, slope, texture, drainage, depth, and salt content. A variety of classification systems have been devised by the State to categorize soil capabilities. The two most widely used systems are the Capability Classification System and the Storie Index. The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating. The IFI is in part based upon both of these two classification systems.

Soil Capability Classification System

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils that are unsuitable for agriculture. Generally, as the rating of the capability classification increases, yields and profits are

more difficult to obtain. A general description of soil classifications, as defined by the Natural Resources Conservation Service (NRCS) is provided in Table 3.2-1 below.

TABLE 3.2-1: SOIL CAPABILITY CLASSIFICATION

CLASS	*DEFINITION*
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that restrict choice plants or that require moderate conservation practices.
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plans and restrict their use to recreation, wildlife habitat, water supply, or aesthetic purposes.

SOURCE: NRCS WEB SOIL SURVEY, 2019

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating) which have few or no limitations for agricultural production, to Grade 6 soils (less than 10) which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 3.2-2.

TABLE 3.2-2: STORIE INDEX RATING SYSTEM

GRADE	*INDEX RATING*	*DEFINITION*
1	80 - 100	Few limitations that restrict their use for crops
2	60 – 80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs
3	40 – 60	Suited to a few crops or to special crops and require special management
4	20 – 40	If used for crops, severely limited and require special management
5	10 – 20	Not suited for cultivated crops, but can be used for pasture and range
6	Less than 10	Soil and land types generally not suited to farming

SOURCE: NRCS WEB SOIL SURVEY, 2019

In addition to soil suitability, other factors for determining the agricultural value of land include whether soils are irrigated, the depth of soil, water-holding capacity, and physical and chemical characteristics. Areas considered to have the greatest agricultural potential are designated as Prime Farmland or Farmland of Statewide Importance; refer to the Farmland Mapping and Monitoring Program discussion below.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the United States Department of Agriculture

Soil Conservation Service (USDA-SCS). The intent of the USDA-SCS was to produce agriculture maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA-SCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland Maps are derived from the USDA-SCS soil survey maps using the LIM criteria.

Since 1980, the State of California has assisted the USDA-SCS with completing its mapping in the state. The FMMP was created within the California Department of Conservation (CDC) to carry on the mapping activity on a continuing basis, and with a greater level of detail. The CDC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California utilize the Soil Capability Classification and Storie Index Rating systems, but also consider physical conditions such as dependable water supply for agricultural production, soil temperature range, depth of the ground water table, flooding potential, rock fragment content, and rooting depth.

The CDC classifies lands into seven agriculture-related categories: Prime Farmland, Farmland of Statewide Importance (Statewide Farmland), Unique Farmland, Farmland of Local Importance (Local Farmland), Grazing Land, Urban and Built-up Land (Urban Land), and Other Land. The first four types listed above are collectively designated by the State as Important Farmlands. Important Farmland maps for California are compiled using the modified LIM criteria (as described above) and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into surrounding classifications. Each of the seven land types is summarized below.

PRIME FARMLAND

Prime farmland is farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

FARMLAND OF STATEWIDE IMPORTANCE

Farmland of statewide importance is farmland with characteristics similar to those of prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

UNIQUE FARMLAND

Unique farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

FARMLAND OF LOCAL IMPORTANCE

Farmland of local importance is land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

GRAZING LAND

Grazing land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

URBAN AND BUILT-UP LAND

Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

OTHER LAND

Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

FRESNO COUNTY AGRICULTURE

Although the Plan Area is located within the Fresno Sphere of Influence (SOI), it is immediately adjacent to active agricultural operations in Fresno County. Agriculture is a major activity within the undeveloped portions of Fresno County. According to the 2017 Fresno County Crop Report, published by the Fresno County Agricultural Commissioner's Office, the gross value of Fresno County's agricultural production for 2017 was $7,028,024,100. Almonds were the top agricultural commodity grown in the County, with production values near $1.2 billion.

In 2017, Fresno County was estimated to have 1,359,540 acres of Important Farmland: 675,722 acres of Prime Farmland, 397,134 acres of Farmland of Statewide Importance, 94,902 acres of Unique Farmland, and 191,782 acres of Farmland of Local Importance [California Department of Conservation (CDC), 2016]. Over the past decade, the availability of Important Farmland has been consistently declining from year to year primarily because of conversions to urban and other developed land uses.

EXISTING SITE CONDITIONS

The Plan Area encompasses approximately 7,077 acres (approximately 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. Of the eleven square miles within the Plan

Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's SOI boundary, which is the adopted limit for future growth. A large amount of land within the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels. The Plan Area is relatively flat with natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level.

As shown on Figure 3.2-1, the Plan Area has approximately 3,099.9 acres of land that is classified as Urban and Built-Up, according to the State Department of Conservation. Prime Farmland is principally located outside of the Plan Area, with the exception of approximately 1.5 acres located near the western boundary, west of North Grantland Avenue. The Plan Area has 285.65 acres of Farmland of Statewide Importance which are located primarily in the western portion of the Plan Area. Approximately 505.39 acres of Unique Farmland are located within the Plan Area, most of which is within the southwest portion of the Plan Area. Farmland of Local Importance is located throughout the entire Plan Area, and totals approximately 1,562.82 acres. Vacant or Disturbed Land and Rural Residential Land account for approximately 1,650.17 acres within the growth area.

ADJACENT AGRICULTURAL USES

Surrounding land uses include State Route 99; the historic communities of Herndon and Highway City; and incorporated areas of the City of Fresno to the north; incorporated areas of the City of Fresno to the east (including mostly industrial uses); unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels); and unincorporated Fresno County to the west (including farmland and rural residential uses).

Lands to the north, and east of the Plan Area are classified as urban and built up and are currently zoned for Light Industrial, Commercial and Mixed Use. Lands to the south of the Plan Area are classified as urban and built up with large portions classified as farmland of local importance. These lands are currently zoned for Low and Medium Density Residential, Community and General Commercial, Parks and Recreation, and Public and Institutional by the City of Fresno zoning map and zoned Rural Residential by the County Zoning map. The lands west of the Plan Area are classified as Farmland of Local Importance, Unique Farmland, Farmland of Statewide Importance and Prime Farmland as shown on Figure 3.2-1 and are currently zoned Exclusive Agricultural by the County of Fresno zoning map.

PROJECT AREA SOILS AND FARMLAND CHARACTERISTICS

The Soil Capability Classifications and Storie Index ratings are presented in Table 3.2-3. As shown in Table 3.2-3, the Soil Survey of Fresno County, shows that the Plan Area contains Capability Class II, Class III and Class IV (non-irrigated and irrigated soils). Soils present within the project area are shown in Figure 3.6-1 and described below.

TABLE 3.2-3: ON-SITE SOIL CAPABILITY CLASSIFICATIONS AND STORIE INDEX RATING

SOIL NAME	*SOIL CAPABILITY CLASSIFICATION[1]*		*STORIE INDEX*	*ACRES IN PLAN AREA*
	IRRIGATED	*NON-IRRIGATED*		
Exeter loam	IIIs	IVs	35	215.7
Exeter sandy loam	IIIs	IVs	34	1,227.6
Exeter sandy loam, shallow	IVs	IVs	23	150.2
Hanford gravelly sandy loam	IVs	IIs	72	15.0
Hanford sandy loam, benches	IVe	IIe	86	17.3
Hesperia fine sandy loam moderately deep	IVs	IIs	90	1.7
Pollasky fine sandy loam 2-9%	IVe	IVe	85	2.6
Pollasky sandy loam, 9-15%	IVe	IVe	78	5.3
San Joaquin loam, 0-3%	IIIs	IVs	31	213.4
San Joaquin loam, shallow, 0-3%	IVs	IVs	25	757.6
San Joaquin sandy loam, 0-3%	IVs	IVs	16	1,523.4
San Joaquin sandy loam, shallow, 0-3%	IVs	IVs	21	2,872.8
			TOTAL	**7,002.6**

NOTES:

1. CAPABILITY SUBCLASSES ARE SOIL GROUPS WITHIN ONE CLASS. THEY ARE DESIGNATED BY ADDING A SMALL LETTER, E, W, S, OR C, TO THE CLASS NUMERAL, FOR EXAMPLE, IIE. THE LETTER 'E' SHOWS THAT THE MAIN HAZARD IS THE RISK OF EROSION UNLESS CLOSE-GROWING PLANT COVER IS MAINTAINED; 'W' SHOWS THAT WATER IN OR ON THE SOIL INTERFERES WITH PLANT GROWTH OR CULTIVATION (IN SOME SOILS THE WETNESS CAN BE PARTLY CORRECTED BY ARTIFICIAL DRAINAGE); 'S' SHOWS THAT THE SOIL IS LIMITED MAINLY BECAUSE IT IS SHALLOW, DROUGHTY, OR STONY; AND 'C', USED IN ONLY SOME PARTS OF THE UNITED STATES, SHOWS THAT THE CHIEF LIMITATION IS CLIMATE THAT IS VERY COLD OR VERY DRY.

SOURCE: NRCS WEB SOIL SURVEY, 2019.

Exeter Loam. This soil is located throughout the Plan Area, particularly in the eastern half, covering approximately 1,593.5 acres (see Figure 3.6-1). The Exeter series consists of moderately deep to a duripan, moderately well drained soils that formed in alluvium mainly from granitic sources. Exeter soils are on alluvial fans and stream terraces and have slopes of 0 to 9 percent. This soil is used for irrigated cropland growing oranges, olives and deciduous orchards, vineyards and row crops. It is also used for dairy and cattle production and building site development. Vegetation in uncultivated areas is mainly annual grasses and forbs. Moderately well drained; very slow to medium runoff; moderately slow permeability above the duripan. Permeability of the duripan is very slow.

Hanford Sandy Loam. This soil is located on approximately 32.3 acres in the northern corner of the Plan Area (see Figure 3.6-1). Hanford soils consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans at elevations of 150 to 3,500 feet. Slopes range from 0 to 15 percent. The climate is dry subhumid mesothermal with hot, dry summers and cool, moist winters.

Hesperia Sandy Loam. This soil is located on approximately 1.7 acres on the northern corner of the Plan Area (see Figure 3.6-1). The Hesperia series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks. Hesperia soils are on alluvial fans, valley plains and stream terraces and have slopes of 0 to 9 percent. Used for desert range, and for production of irrigated orchards, row crops, field crops, grain, hay, pasture and grapes. Native

vegetation consists of creosotebush in the high desert and sparse annuals in the valley. Well drained; negligible to low runoff, moderately rapid permeability.

Pollasky Sandy Loam. This soil is located on approximately 7.9 acres on the northern portion of the Plan Area (see Figure 3.6-1). The Pollasky series consists of moderately deep, well drained, moderately coarse textured Regosols formed in the residuum from softly to moderately consolidated arkosic sediments. They occur on undulating to steep dissected terraces under annual grasses and forbs. They have brown, slightly acid sandy loam A horizons and pale brown to yellowish brown, slightly acid to neutral, sandy loam C horizons abruptly overlying consolidated granitic sediments. Pollasky soils occur at elevations below 500 feet to semiarid mesothermal climate having a mean annual precipitation ranging from about 9 to 16 inches with hot, dry summers and cool, moist winters. The Pollasky series is mapped along the eastern edge of the San Joaquin Valley of California where it is moderately extensive. Used as annual range and dry farmed small grain, usually barley, with limited sprinkler irrigated pasture.

San Joaquin Loam. This soil is located throughout the entirety of the Plan Area on approximately 5,367.2 acres (see Figure 3.6-1). The San Joaquin series consists of moderately deep to a duripan, well and moderately well drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. They are on undulating low terraces with slopes of 0 to 9 percent. Well and moderately well drained; medium to very high runoff; very slow permeability. Some areas are subject to rare or occasional flooding. Typically used as cropland and livestock grazing; crops are small grains, irrigated pasture and rice; vineyards, fruit and nut crops.

3.2.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the agricultural resources of the state including the California Department of Conservation. The following is an overview of the federal, State and local regulations that are applicable to the proposed Specific Plan.

FEDERAL

Farmland Protection Program

The Natural Resource Conservation Service (NRCS) administers the Farmland Protection Program (FPP). This is a program that is designed to conserve productive farmland. The NRCS provides funds to agencies for the purchase of conservation easements that meet the specific requirements of the program. Landowners that are interested in the program must agree to conserve their farmland for a minimum period of thirty years.

STATE

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural

lands in an urbanizing society. Policies emanating from those findings include those that discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the costs of community services to community residents.

The Williamson Act authorizes each county to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a ten-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled the property owner is assessed a fee of up to 12.5 percent of the property value. As of 2016, approximately 120 acres within the Plan Area are under a Williamson Act contract. Approximately 56 acres are under Williamson Act-Non-renewal, meaning enrolled lands for which non-renewal has been filed. Upon the filing of non-renewal, the existing contract remains in effect for the balance of the period remaining on the contract. During the non-renewal process, the annual tax assessment gradually increases. At the end of the nine-year non-renewal period, the contract expires and the land is no longer enforceably restricted. Within the Plan Area, approximately 64 acres are under Williamson Act-Mixed Enrollment Agricultural Land, meaning enrolled lands containing a combination of Prime, Non-Prime, Open Space Easement, or other contracted or enrolled lands not yet delineated by the County. Approximately 38 acres immediately adjacent to the Plan Area is under Williamson Act contract-Non-renewal.

Farmland Security Zones

In 1998 the state legislature established the Farmland Security Zone (FSZ) program. FSZs are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts. The Plan Area and the immediately adjacent parcels are not within the FSZ program.

Agricultural Conservation and Mitigation Program

While the Plan Area is primarily designated as Urban and Built-Up Land by the California Department of Conservation, the Plan Area does contain prime soils as defined by the California Department of Conservation, Agricultural Conservation and Mitigation Program. According to the Agricultural Conservation and Mitigation Program, farmland shall be considered prime farmland if it meets the definition of "prime agricultural land" in Government Code Section 51201. Government Code Section 51201 states that prime agricultural land means any of the following:

(1) All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.

(2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.

(3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.

(4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars ($200) per acre.

(5) Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars ($200) per acre for three of the previous five years.

LOCAL

Fresno General Plan

The City's General Plan includes goals, policies, standards, and actions that strive to preserve agricultural resources and minimize conflicts between agricultural and urban uses. The following General Plan goals, policies, standards, and actions are relevant to the proposed Specific Plan.

RESOURCE CONSERVATION AND RESILIENCE

Objective RC-9: Preserve agricultural land outside of the area planned for urbanization under this General Plan.

Policy RC-9-a: Work to establish a cooperative research and planning program with the Counties of Fresno and Madera, City of Clovis, and other public agencies to conserve agricultural land.

Policy RC-9-b: Express opposition to residential and commercial development proposals in unincorporated areas within or adjacent to the Planning Area when these proposals would do any of the following:

- Make it difficult or infeasible to implement the General Plan;
- Contribute to the premature conversion of agricultural, open space, or grazing lands; or
- Constitute a detriment to the management of resources and/or facilities important to the region (such as air quality, water quantity and quality, traffic circulation, and riparian habitat).

Policy RC-9-c: In coordination with regional partners or independently, establish a Farmland Preservation Program. When Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is converted to urban uses outside City limits, this program would require that the developer of such a project mitigate the loss of such farmland consistent with the

requirements of CEQA. The Farmland Preservation Program shall provide several mitigation options that may include, but are not limited to the following: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, Land Use Regulations, or any other mitigation method that is in compliance with the requirements of CEQA. The Farmland Preservation Program may be modeled after some of all of the programs described by the California Council of Land Trusts.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on agricultural or forest resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Specific Plan implementation would convert Important Farmlands to non-agricultural land uses. (Significant and Unavoidable)

Within the city limits, the Plan Area is currently zoned for urban land uses (i.e., residential single family, multi-family, public and institutional, mixed use and commercial) and proposes zoning changes similar to the existing land uses. Land uses surrounding the Plan Area consist of light industrial, commercial general, commercial highway and auto, open space, single family residential, rural residential, single family residential agricultural, limited agriculture, exclusive agriculture and other similar land uses. The Plan Area is located adjacent to productive agricultural land or lands zoned for agricultural uses, primarily within the County of Fresno limits. Although the Specific Plan anticipates and plans for future annexation and development of this land into the City, annexation is not currently proposed. The timing of future annexation proposals is not currently known. At the time of annexation proposals, the land proposed for annexation and development would be reviewed to determine if important farmlands would be converted to non-agricultural land uses or result in a conflict with lands zoned for agricultural uses. If future annexation and development would involve the loss of important farmlands to non-agricultural uses, implementation of

Mitigation Measure 3.2-1 would be required. While implementation of Mitigation Measure 3.2-1 would reduce the above-identified impact through preservation of agricultural land at a 1:1 ratio, the impact would not be reduced to a less-than-significant level due to the fact that active agricultural land would still be permanently converted to urban uses. Consistent with the Fresno General Plan EIR, feasible mitigation measures do not exist to reduce the above impact to a less-than-significant level. Therefore, the impact would remain ***significant and unavoidable***.

MITIGATION MEASURE(S)

Mitigation Measure 3.2-1: *Prior to initiation of grading activities, the project proponent shall implement the following measure to mitigate impacts on Important Farmland located on the site: The project proponent shall mitigate the loss of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance within the Plan Area at a 1:1 ratio. The acreage of lost farmland shall be determined using the Land Evaluation and Site Assessment (LESA) Model. The LESA Model evaluates measures of soil resource quality, a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Once the acreage of farmland converted is determined, one of the following mitigation options shall be utilized to mitigate the loss: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, or Land Use Regulation. Should the City develop a Farmland Preservation Program before future construction within the Plan Area begins, the project proponent shall mitigate for Farmland pursuant to the Program.*

The mitigation shall be verified by the City of Fresno for each phase of the project during improvement plan review.

Impact 3.2-2: Specific Plan implementation would conflict with existing zoning for agricultural use, or a Williamson Act Contract. (Significant and Unavoidable)

The Planning Area includes approximately 120 acres of lands that are under a Williamson Act Contract. Of the 120 acres of Williamson Act Contract land, approximately 56 acres are under Williamson Act Contract-Non-Renewal; thus, at the end of the non-renewal period, the lands would no longer be restricted to agricultural use. The approximately 120 acres are currently designated for medium density residential, urban neighborhood, and open space uses under the Fresno General Plan and those acres within the Fresno city limits are currently designated residential medium density and those acres within the County of Fresno are currently zoned Rural Residential. Agricultural uses are currently permitted in areas designated as rural residential. Under the proposed Specific Plan, the approximately 120 acres of Williamson Act Contract land are proposed for Low Density, Medium Low Density, and Medium Density Residential where agricultural uses are intended to be transitioned to urban residential uses. The existing agricultural uses can continue to operate, but potentially as legal non-conforming land uses. However, future revisions to the zoning map related to agricultural uses would result in a significant impact on existing zoning for agricultural uses because non-agricultural uses, such as low, medium low density, and medium density residential would be allowed on the existing Contract land.

The proposed project would be required to implement Mitigation Measure 3.2-1. However, even after implementation of Mitigation Measure 3.2-1, this would be considered a potentially significant impact. As such, Mitigation Measure 3.2-2 would be required, which requires that land zoned for agricultural uses shall be mitigated at a 1:1 ratio. Additionally, future development resulting in the transition of agricultural land to non-agricultural uses would be required to comply with General Plan policies related to the conversion of agricultural land. While implementation of Mitigation Measure 3.2-2 would reduce the above-identified impact through preservation of agricultural land at a 1:1 ratio, the impact would not be reduced to a less-than-significant level due to the fact that land zoned for agricultural uses would still be permanently converted to urban uses. Therefore, this would be considered a ***significant and unavoidable*** impact.

MITIGATION MEASURE(S)

Mitigation Measure 3.2-2: *Prior to initiation of grading activities, the project proponent shall implement the following measure to mitigate impacts related to agriculturally-zoned land located on the site: The project proponent shall mitigate the loss of land zoned for agricultural use within the Plan Area at a 1:1 ratio. Once the acreage of land zoned for agricultural use which would be converted by the project is determined, one of the following mitigation options shall be utilized to mitigate the loss: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, or Land Use Regulation.*

The mitigation shall be verified by the City of Fresno for each phase of the project during improvement plan review.

Impact 3.2-3: Specific Plan implementation would not conflict with existing zoning, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production or result in the loss of forest land or conversion of forest land to non-forest use. (No Impact)

The Plan Area and surrounding area does not include any land designated or zoned as forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526) or timberland zoned for Timberland Production (as defined by Government Code section 51104(g)). Additionally, there are no forest lands within the Plan Area or surrounding area. Therefore, because the proposed project would not conflict with existing zoning or cause rezoning of forest land or timberland, or result in the loss of forest land or the conversion of forest land to non-forest use, implementation of the proposed project would result in ***no impact*** to forest resources or timberland.

Impact 3.2-4: Future development of the Plan Area would not result in other changes in the existing environment that would lead to the abandonment of agricultural operations and conversion of farmland or forest land to non-agricultural or non-forest land use. (Less than Significant)

As discussed in Impact 3.2-1, future development in accordance with the proposed Specific Plan would result in the conversion of farmland to a non-agricultural use. Except for direct conversion, implementation of the Specific Plan would not result in other changes in the existing environment that would impact agricultural land outside of the Plan Area. Although the Specific Plan may convert land to more urbanized uses, it will not contribute to the same occurring outside of the Plan Area because the land outside of the Plan Area is within the County and outside the City's SOI and growth Boundary.

In addition, Fresno County's Right to Farm Ordinance is intended to reduce the occurrence of such conflicts between nonagricultural and agricultural land uses between the County of Fresno and the City of Fresno through requiring the transferor of any property in the County to provide a disclosure statement describing that the County permits agricultural operations. Projects outside of the Plan Area that are compliant with the County's Right to Farm Ordinance would include adequate measures to buffer project uses from adjacent agricultural uses and would reduce adverse effects on neighboring agricultural uses. Since the proposed Specific Plan would not result in other changes that would lead to the abandonment of agricultural operations or the conversion of farmland to non-agricultural land uses, impacts would be ***less than significant*** in this regard.

Separately, the development in accordance with the proposed project would not impact forest land because no parcel within or and adjacent to the Plan Area are designated as forest land or forest land use. Therefore, the proposed project would result in ***no impact*** on farmland or forest land involving other changes in the existing environment.

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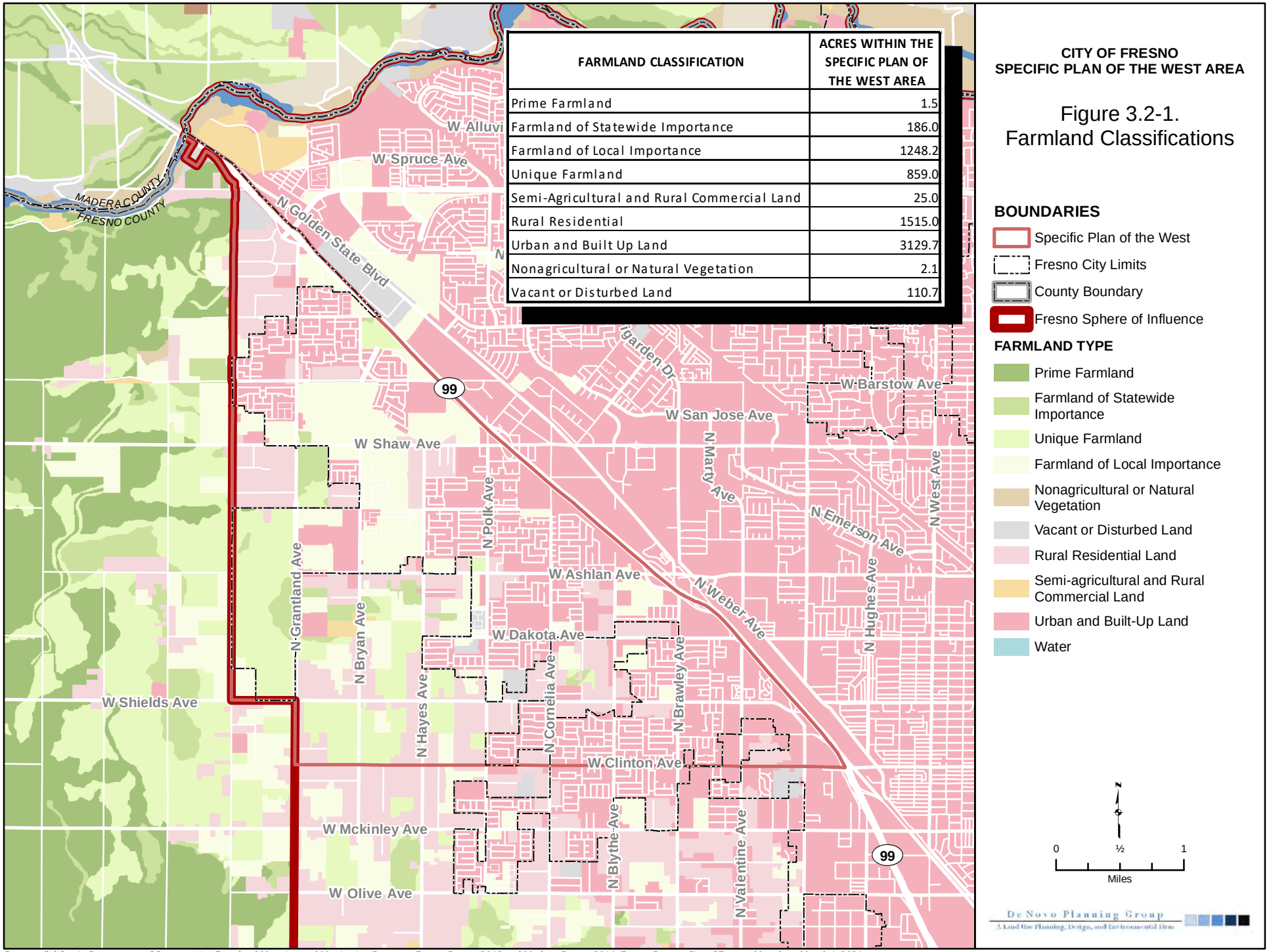

FARMLAND CLASSIFICATION	ACRES WITHIN THE SPECIFIC PLAN OF THE WEST AREA
Prime Farmland	1.5
Farmland of Statewide Importance	186.0
Farmland of Local Importance	1248.2
Unique Farmland	859.0
Semi-Agricultural and Rural Commercial Land	25.0
Rural Residential	1515.0
Urban and Built Up Land	3129.7
Nonagricultural or Natural Vegetation	2.1
Vacant or Disturbed Land	110.7

Sources: California Department of Conservation Farmland Mapping and Monitoring Program, Fresno County 2018 and Madera County 2016; Fresno County; City of Fresno. Map date: March 1, 2021.

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This section describes regional air quality, the current attainment status of the air basin, local sensitive receptors, emission sources, and the impacts that are likely to result from Specific Plan implementation. Following this discussion is an assessment of consistency of the Specific Plan with applicable policies and local plans. The Greenhouse Gases, Climate Change and Energy analysis is located in Section 3.7. This section is based in part on the following documents, reports, and studies:

- *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board [CARB], 2005);
- *Guidance for Assessing and Mitigating Air Quality Impact* (San Joaquin Valley Air Pollution Control District [SJVAPCD], 2015);
- *2016 Plan for the 2008 8-Hour Ozone Standard* (SJVAPCD, 2016);
- *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* (SJVAPCD, 2018);
- *CalEEMod* (*v.2016.3.3*) (CAPCOA, 2020); and
- *Technical Memorandum for the Specific Plan of the West Area – CEQA Impacts and Mitigations* (Kittelson & Associates, 2020).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the San Joaquin Air Pollution Control District (SJVPACD) (July 15, 2019), and Cathy Caples (August 1, 2019). Each of the comments related to this topic are addressed within this section. Full comments received are included in **Appendix A**.

3.3.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Fresno (City) is in the central portion of the San Joaquin Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (SJVAPCD, 2015).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly

in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas.[1] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate

[1] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed March 3, 2020.

a polluted air mass for an extended period. Such an eddy occurs in the Fresno area during both winter and summer (SJVAPCD, 2015).

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone at this time and also due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. This ammonium nitrate is part of the valley's $PM_{2.5}$ and PM_{10} problem. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10} (SJVAPCD, 2015).

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height,

is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.3-1) are set to public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both ROGs and NO_x are emitted by transportation and industrial sources. ROGs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. Relatedly, reactive organic compounds (ROG) are defined as the subset of ROGs that are reactive enough to contribute substantially to atmospheric photochemistry.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people

during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b). The average background level of ozone in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (California Air Resources Board, 2019a).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen oxides (NO_x) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain, and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with ROGs, in the atmospheric reactions that produce O_3. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and ROGs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles, which are less than 2.5 microns in size. Similar to PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also impacts soils and damages materials, and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect

water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, intellectual disabilities, and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies from mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments to not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board.

AMBIENT AIR QUALITY STANDARDS

Both the U.S. Environmental Protection Agency (U.S. EPA) and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.3-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	12 ug/m^3 35 ug/m^3	12 ug/m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 0.15 ug/m^3	1.5 ug/m^3 --

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019A.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within Fresno County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Fresno County has a State designation Attainment or Unclassified for all criteria pollutants except for PM_{10} and $PM_{2.5}$. Fresno County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.3-2 presents the state and nation attainment status for Fresno County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS IN FRESNO COUNTY

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone (O_3) (1-hour)	Severe/Nonattainment	Not Applicable
Ozone (O_3) (8-hour)	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified
Sulfates	Attainment	No Federal Regulation
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	No Federal Regulation
Visibility Reducing Particles	Unclassified	No Federal Regulation

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2020.

Fresno County Air Quality Monitoring

The SJVAPCD and the CARB maintain air quality monitoring sites throughout Fresno County that collect data for ozone, $PM_{2.5}$, and PM_{10}. Data for Fresno County overall was is provided for ozone, $PM_{2.5}$ and PM_{10}. It is important to note that while the State retains the one-hour standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites between 2016 and 2018 (latest year of data available) is shown in Table 3.3-3, Table 3.3-4, and Table 3.3-5.

TABLE 3.3-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (FRESNO COUNTY) - OZONE

YEAR	DAYS > STANDARD				1-HOUR OBSERVATIONS			8-HOUR AVERAGES				YEAR COVERAGE	
	STATE		NATIONAL			STATE	NAT'L	STATE		NATIONAL			
	1-HR	8-HR	1-HR	8-HR	MAX.	D.V.[1]	D.V.[2]	MAX.	D.V.[1]	MAX.	D.V.[2]	MIN	MAX
2018	20	65	0.7	62	0.129	0.12	0.129	0.099	0.103	0.099	0.090	96	99
2017	28	88	0.7	84	0.143	0.12	0.143	0.113	0.104	0.112	0.092	90	100
2016	37	86	0.4	82	0.131	0.12	0.131	0.101	0.105	0.101	0.094	96	98

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1]= STATE DESIGNATION VALUE . D.V. [2]= NATIONAL DESIGN VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (FRESNO COUNTY) – PM_{10}

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2018	36.0	ND*	17.1	16.6	95.7	96.9	96 – 100
2017	31.1	ND*	15.0	15.0	88.3	88.3	94 – 100
2016	16.0	ND*	13.0	13.6	52.7	53.8	88 – 100

NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. ND=THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (FRESNO COUNTY) - $PM_{2.5}$

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V.[1]	STATE ANNUAL D.V.[2]	NAT'L '06 STD. 98TH PERCENTILE	NAT'L '06 24-HR STD. D.V.[1]	HIGH 24-HOUR AVERAGE		YEAR COVERAGE	
		NAT'L	STATE					NAT'L	STATE	MIN	MAX
2018	36.0	17.1	16.6	15.0	17	65.5	60	95.7	96.9	96	100
2017	31.1	15.0	15.0	14.0	15	73.3	54	88.3	47.3	94	100
2016	16.0	13.0	13.6	14.7	16	42.7	54	52.7	53.8	88	99

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1]= STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools. The closest sensitive receptors to the Plan Area include existing residences located within the Plan Area itself.

3.3.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The committee's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.

- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.

- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.

- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.

- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.

- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the U.S. EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing the California SIP.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the U.S. EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by U.S. EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which require auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses

the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

LOCAL

Fresno General Plan

The Fresno General Plan includes objectives and policies within its Resource Conservation and Resilience Element that pertain directly to air quality. However, various objectives and policies included in the other General Plan Elements related to land use development patterns (e.g., infill and mixed-use development), transportation and transit, and urban form would also contribute in improving air quality within the proposed Plan Area and SJVAB. The Fresno General Plan establishes the following objectives and policies directly related to air quality:

URBAN FORM, LAND USE AND DESIGN ELEMENT

Objective UF-1. Emphasize the opportunity for a diversity of districts, neighborhoods, and housing types.

> **Policy UF-1-c:** Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of prominent east-west and north-south transit-oriented, mixed-use corridors with distinctive and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.
>
> **Policy UF-1-e:** Unique Neighborhoods. Promote and protect unique neighborhoods and mixed use areas throughout Fresno that respect and support various ethnic, cultural and historic enclaves; provide a range of housing options, including furthering affordable housing opportunities; and convey a unique character and lifestyle attractive to Fresnans. Support unique areas through more specific planning processes that directly engage community members in creative and innovative design efforts.

Objective UF-12: Locate roughly one-half of future residential development in infill areas – defined as being within the City on December 31, 2012 – including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

> **Policy UF-12-a:** BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.
>
> **Policy UF-12-b:** Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one site or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Policy UF-12-e: Access to Activity Centers. Promote adoptions and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Update the Development Code to include use regulations and standards to allow for mixed-uses and shared parking facilities, including multi-story and underground parking facilities, within Activity Centers.

Objective UF-14: Create an urban form that facilitates multi-modal connectivity.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major streets and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Objective LU-2: Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and redevelopable land uses within the City Limit where urban services are available considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Consider the adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, affordable housing and walkable access to transit stops.

Policy LU-6-d: Neighborhood and Community Commercial Center Design. Plan for neighborhood mixed use and community commercial uses to implement the Urban Form concepts of the General Plan, promote the stability and identity of neighborhood and community shopping areas, and allow efficient access without compromising the operational effectiveness of the street system.

- Neighborhoods will be anchored by community commercial centers with a mix of uses that meet the area's needs and create a sense of place.
- Community commercial centers will be located within Activity Centers.

Policy LU-6-f: Auto-Oriented Commercial Uses. Direct highway-oriented and auto-serving commercial uses to locations that are compatible with the Urban Form policies of the General Plan. Ensure adequate buffering measures for adjacent residential uses noise, glare, odors, and dust.

Policy LU-8-b: Access to Public Facilities. Ensure that major public facilities and institutions have adequate multi-modal access and can be easily reached by public transit.

RESOURCE CONSERVATION AND RESILIENCY ELEMENT

Objective RC-4: In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.

Policy RC-4-a: Support Regional Efforts. Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

Policy RC-4-b: Conditions of Approval. Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.

Policy RC-4-c: Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

Policy RC-4-d: Forward Information. Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.

Policy RC-4-e: Support Employer-Based Efforts. Support and promote employer implementation of staggered work hours and employee incentives to use carpools, public transit and other measures to reduce vehicular use and traffic congestion.

Policy RC-4-f: Municipal Operations and Fleet Actions. Continue to control and reduce air pollution emissions from vehicles owned by the City operations and municipal operations and facilities by undertaking the following:

- Expand the use of alternative fuel, electric, and hybrid vehicles in City fleets.
- Create preventive maintenance schedules that will ensure efficient engine operation.
- Include air conditioning recycling and charging stations in the City vehicle maintenance facilities, to reduce freon gases being released into the atmosphere and electrostatic filtering systems in City maintenance shops, when feasible or when required by health regulations.
- Use satellite corporation yards for decentralized storage and vehicle maintenance.
- Convert City-owned emergency backup generators to natural gas fuels whenever possible, and
- Create an advanced energy storage system.

Policy RC-4-g: FAX Actions. Continue efforts to improve Fresno Area Express (FAX) bus transit system technical performance, reduce emission levels, streamline system operations, and implement BRT where supportive land uses are proposed by Figure LU-1: Land Use Diagram.

Policy RC-4-h: Airport Actions. Support Airport efforts to develop and maintain programs and policies to support City, State and Federal efforts to achieve and maintain air quality standards.

Policy RC-4-j: All Departments. Continue to develop and implement in all City departments, operational policies to reduce air pollution.

Policy RC-4-k: Electric Charging. Develop standards to facilitate electric charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes widespread.

Policy RC-8-j: Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

HEALTHY COMMUNITIES ELEMENT

Policy HC-3-d: Green Standards for Affordable Housing. Provide appropriate incentives for affordable housing providers, agencies, non-profit and market rate developers to use LEED and CalGreen Tier 1 or Tier 2 standards or third party equivalents.

Policy HC-3-f: New Drive-Through Facilities. Include in the Development Code design review to reduce vehicle emissions resulting from queued idling vehicles at drive-through facilities in proximity to residential neighborhoods.

MOBILITY AND TRANSPORTATION ELEMENT

Objective MT-1: Create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes.

Policy MT-1-f: Match Travel Demand with Transportation Facilities. Designate the types and intensities of land uses at locations such that related travel demands can be accommodated by a variety of viable transportation modes and support Complete Neighborhoods while avoiding the rerouting of excessive or incompatible traffic through local residential streets.

Policy MT-1-g: Complete Streets Concept Implementation. Provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-I and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that mitigation to maintain this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.
- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.
- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.
- Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.

Objective MT-4: Establish and maintain a continuous, safe, and easily accessible bikeways system throughout the metropolitan area to reduce vehicle use, improve air quality and the quality of life, and provide public health benefits.

Policy MT-4-a: Bicycle, Pedestrian, and Trails Master Plan. To the extent consistent with this General Plan, continue to implement and periodically update the Bicycle, Pedestrian, and Trails Master Plan to meet State standards and requirements for recommended improvements and funding proposals as determined appropriate and feasible.

Policy MT-4-b: Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.

Policy MT-4-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers.

Objective MT-5: Establish a well-integrated network of pedestrian facilities to accommodate safe, convenient, practical, and inviting travel by walking, including for those with physical mobility and vision impairments.

Policy MT-5-a: Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in established neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes.

Policy MT-5-b: Sidewalk Requirements. Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.

Objective MT-6: Establish a network of multi-purpose pedestrian and bicycle paths, as well as limited access trails, to link residential areas to local and regional open spaces and recreation areas and urban Activity Centers in order to enhance Fresno's recreational amenities and alternative transportation options.

Policy MT-6-a: Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.

Policy MT-6-c: Link Paths and Trails and Recreational Facilities. Continue to participate in multi-agency planning and implementation partnerships for the coordinated development

of the Fresno-Clovis Metropolitan Area planned path and trail system and with Madera County for the San Joaquin River Parkway trail system.

Policy MT-6-g: Path and Trail Development. Require all projects to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of project approval.

Policy MT-6-i: Path and Trail Design Standards. Designate and design paths and trails in accordance with design standards established by the City that give consideration to all path and trail users (consistent with design, terrain and habitat limitations) and provide for appropriate widths, surfacing, drainage, design speed, barriers, fences, signage, visibility, intersections, bridges, and street cleaning.

Policy MT-6-j: Variety in Path and Trail Design. rovide for different levels and types of usable pedestrian and bicycle corridors, including broad, shaded sidewalks; jogging paths; paved and all terrain bicycle paths; through-block passageways; and hiking trails. Where a designated multi-purpose path route is adjacent to a public right-of-way which accommodates bike lane, allow for flexibility in path design, so that bike lanes may be substituted for the bicycle component of the multi-purpose path where it is safe and appropriate to do so.

Objective MT-8: Provide public transit options that serve existing and future concentrations of residences, employment, recreation and civic uses and are feasible, efficient, safe, and minimize environmental impacts.

Policy MT-8-c: New Development Facilitating Transit. Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX's comments in decision-making.

Objective MT-9: Provide public transit opportunities to the maximum number and diversity of people practicable in balance with providing service that is high in quality, convenient, frequent, reliable, cost- effective, and financially feasible.

Policy MT-9-a: Equitable Transit Provision. Provide transit that can serve all residents, including older residents and persons with disabilities.

Policy MT-9-c: Addressing Unmet Transit Needs. Continue to participate in the Council of Fresno County Governments' annual unmet transit needs evaluation process, particularly with respect to identifying need for access to medical and educational services; perform market analysis to identify potential transit choice riders; and pursue public education and information programs to identify changes in demand characteristics and opportunities to increase ridership.

Policy MT-9-d: Long-Range Transit Options. Advocate and participate in regional transportation analyses and identify appropriate long-range measures to support incorporation of light rail transit and other advanced transit service within major transportation corridors, freeway and railroad alignments.

Policy MT-9-e: Area Specific Transit Improvements. Continue to evaluate and pursue the planning and implementation of area specific transit improvements, such as street car facilities.

Policy MT-9-f: Encourage Telecommuting. Support measures that will facilitate expanded use of telecommunications technologies to reduce congestion, expansion of regional transportation facilities consistent with this General Plan, energy use, and air emissions (i.e., work at home, dispersed telecommute work centers, teleconferencing).

Fresno Municipal Code

Chapter 10, Article 13 of the City of Fresno Municipal Code addresses healthy air and smog prevention. For example, Section 10-1305 of this chapter provides an assessment and recommendations for natural gas fueling and electric vehicle charging stations. Section 10-1306 of this chapter identifies that the Director of General Services of the city, in consultation with the Advisory Committee, the California Air Resources Board, the San Joaquin Valley Air Pollution Control District (SJVAPCD) and interested city departments, shall develop and adopt fuel-efficiency specifications governing the purchase of motor vehicles. Section 10-1308 of this chapter describes the implementation of a pilot program to evaluate the efficacy of using Alternative Fuel and/or Hybrid Electric Buses, and the phase-out of older diesel buses. Additionally, strategies to reduce air emissions from the regional public sector and private sector fleets is addressed in Section 10-1309 of the Municipal Code. In addition, Section 15-2510 of the Municipal Code identifies limitations on odors during a project's operational phase (i.e. "No use, process, or activity shall produce objectionable odors that are perceptible without instruments by a reasonable person at the lot lines of a site"), although odors from temporary construction, demolition, and vehicles that enter and leave the subject parcel (e.g., construction equipment, trains, vehicle emissions, trucks, etc.) are exempt from this standard.

Fresno Council of Governments

Fresno Council of Governments' (Fresno COG's) primary functions are transportation planning and programming. As a state-designated Regional Transportation Planning Agency (RTPA) and federally-designated Metropolitan Planning Organization (MPO) for Fresno County, Fresno COG must comply with both designation requirements. Fresno COG prepares a Regional Transportation Plan (RTP) that looks 25 years into the future, and sets policies for a wide variety of transportation options and projects. It guides how and where people and goods will travel by identifying both existing and needed transportation facilities. Fresno COG prepares the region's Federal Transportation Improvement Program, a four-year program of financially constrained transportation projects consisting of highway, transit, bicycle, and pedestrian projects that are selected through an approved project selection process.

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the San Joaquin Valley Air Basin to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the State Implementation Plans (SIP). California's adopted 2007 State Strategy was submitted to the U.S. EPA as a revision to its SIP in November 2007.[2] More recently, in October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance)[3] The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-HOUR OZONE PLAN

Although U.S. EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and SJVAPCD must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the U.S. EPA published in the Federal Register a final action determining that SJVAB has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three-year period allowing nonattainment penalties to be lifted under federal Clean Air Act section 179b (SJVAPCD, 2015).

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved

[2] Note that the plan was adopted by CARB on September 27, 2007; California Air Resources Board. 2007. California Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan.
[3] SJVAPCD, 2012. 2012 $PM_{2.5}$ Plan, December 20.

the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[4,5]

PM_{10} PLAN

Based on PM_{10} measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will continue to meet the PM_{10} standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[6] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All of the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

SJVAPCD RULES AND REGULATIONS

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;

[4] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed March 3, 2020.

[5] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed March 3, 2020.

[6] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

- A comprehensive set of goals, policies, and objectives to improve air quality;
- Feasible implementation measures designed to achieve these goals.

SJVAPCD Indirect Source Review

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and PM_{10} emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout would include any one of the following:

- 50 residential units.
- 2,000 square feet of commercial space.
- 25,000 square feet of light industrial space.
- 100,000 square feet of heavy industrial space.
- 20,000 square feet of medical office space.
- 39,000 square feet of general office space.
- 9,000 square feet of educational space.
- 10,000 square feet of government space.
- 20,000 square feet of recreational space.
- 9,000 square feet of space not identified above.
- Transportation/transit projects with construction exhaust emissions of two or more tons of NOx or two or more tons of PM_{10}.
- Residential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, regardless of the number of tract maps, and has the capability of accommodating more than 50 residential units.
- Nonresidential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, and has the capability of accommodating development projects that emit two or more tons per year of NOx or PM_{10} during project operations.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fee) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and

operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources).28 Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on their air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total PM_{10} exhaust emissions

Mitigation measures may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

Operational Emissions

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- PM_{10} Emissions. Applicants shall reduce of 50 percent of the project's operational baseline PM_{10} emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emission reduction measures. In the event that a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

Fugitive PM_{10} Prohibitions

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.

- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measure to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

National Emission Standards for Hazardous Air Pollutants

Rule 4002 applies in the event an existing building will be renovated, partially demolished or removed (National Emission Standards for Hazardous Air Pollutants); this rule applies to all sources of Hazardous Air Pollutants.

Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the

mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

Assembly Bill 617

In 2017, Governor Brown signed Assembly Bill 617 (C. Garcia, Chapter 136, Statutes of 2017) to develop a new community focused program to more effectively reduce exposure to air pollution and preserve public health. This bill directs the CARB and all local air districts to take measures to protect communities disproportionally impacted by air pollution. With input from communities and air districts throughout California, CARB developed a Community Air Protection Blueprint to implement AB 617.

There are five central components to the new AB 617 mandate:

- Community-level air monitoring;
- A state strategy and community specific emission reduction plans;
- Accelerated review of retrofit pollution control technologies on industrial facilities subject to Cap-and-Trade;
- Enhanced emission reporting requirements; and
- Increased penalty provisions for polluters.

In response to AB 617 the CARB established the Community Air Protection Program. The Community Air Protection Program's mission is to reduce pollution exposure in communities based on environmental, health and socioeconomic information. This first-of-its-kind statewide effort requires community air monitoring, community emission reduction plans, and incentive funding to deploy the cleanest technologies in the most impacted areas.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

CRITERIA POLLUTANT EMISSIONS MODELING

California Emission Estimator Model (CalEEMod)^{TM} (v.2016.3.3), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts, was used to estimate net emissions for the Specific Plan. Given the size and complexity of the proposed Specific

Plan, it was assumed that full Specific Plan buildout would not occur until at least 2035, consistent with the assumption made in the *Technical Memorandum for the Specific Plan of the West Area – CEQA Impacts and Mitigations* prepared by Kittelson & Associates.

The land use assumptions for the modeling to estimate net emissions from the Specific Plan include (consistent with the land uses assumed in the *Technical Memorandum for the Specific Plan of the West Area – CEQA Impacts and Mitigations*): Single Family Housing – 34,474 units; Apartments Low Rise – 4,448 units; Apartments Mid Rise – 4,661 units; Apartments High Rise – 2,097 units; Regional Shopping Center – 48,890,010 square feet; General Office Building – 7,165,620 square feet; Office Park – 3,266,119; General Light Industry – 1,427,461 square feet; City Park – 243.63 acres; Place of Worship – 785,910 square feet; Elementary School – 15,631 students; Junior High School – 7,815 students; High School – 9,815 students. In addition, approximately 1,110 acres of asphalt surfaces were assumed (e.g. for roadways and related infrastructure), based on the difference between the total Plan Area and the land uses assumed by Kittelson & Associates for the *Technical Memorandum for the Specific Plan of the West Area – CEQA Impacts and Mitigation*. See **Appendix B** for further detail.

OPERATIONAL ACTIVITIES

Operational activities are those activities that would occur during the operational (i.e. post-construction) phase of the project. Operational activities include activities such as mobile sources (i.e. vehicles generated by development of the project), as well as area sources (such as consumer projects, landscape maintenances), and energy (such as electricity and natural gas). Mobile-source based criteria pollutant emissions were estimated using the emission factors provided within CalEEMod; an estimate of proposed Specific Plan-generated VMT developed as part of this analysis was provided by the traffic consultant, Kittelson & Associates, as provided in **Appendix G** of this EIR. Criteria pollutant emissions from consumer products, landscape maintenance activities, and other sources of operational energy usage (e.g. electricity and natural gas) were estimated using the default emission factors provided in CalEEMod.

Operation emissions from all sources were estimated for both buildout of the Specific Plan, which is anticipated to occur by 2035. Maximum daily emissions were estimated for both peak summer day and peak winter day. The highest value for each criteria pollutant was used for the purposes of this analysis. The potential for Specific Plan-generated traffic to result in concentrations of CO that exceed NAAQS and State AAQS for this pollutant were evaluated based on traffic volumes generated by future buildout allowed under the proposed Specific Plan. Health risks from Specific Plan-generated, construction- and operation-related emissions of TACs were assessed qualitatively. This assessment is based on the location from which construction- or operation-related TAC emissions would be generated by land uses developed under the Specific Plan relative to off-site sensitive receptors, as well as the duration during which TAC exposure would occur. Similarly, the assessment of odor-related impacts is based on the types of odor sources associated with the land uses that would be developed under the Specific Plan and their location relative to off-site receptors.

CONSTRUCTION ACTIVITIES

Construction activities were assumed take place over the course of approximately 15 years, from 2020 to 2035. These construction activities can be described as demolition, site improvements (grading, underground infrastructure, and topside improvements) and vertical construction (building construction and architectural coatings).

Demolition: Demolition activities may be performed as one task, but may be broken into two or more separate phases. The exact demolition schedule is largely dependent on the economic conditions of the region and the pace of development of that would occur within the Plan Area.

Site Improvements: The construction of site improvements may be performed as one task, but may be broken into two or more separate phases. The exact construction schedule is largely dependent on the economic conditions of the region and the ability for the market to absorb the proposed residential and commercial buildings.

The site improvement phase of construction will begin with site preparation. This step will include the use of dozers, backhoes, and loaders to strip (clear and grub) all organic materials and the upper half-inch to inch of soil from the Plan Area. This task will include vehicle trips from construction workers.

After the site is stripped of organic materials, grading would begin. This activity will involve the use of excavators, graders, dozers, scrappers, loaders, and backhoes to move soil around the Plan Area to create specific engineered grade elevations and soil compaction levels.

The next step involves the installation of underground infrastructure. This step will involve the use of excavators to dig trenches, place pipe and conduit, bury pipe and conduit, and compact trench soil. Grading the Plan Area and underground installation of infrastructure would include vehicle trips from construction workers.

The last task is to install the topside improvements, which includes pouring concrete curbs, gutters, sidewalks, and access aprons and then paving of all streets and parking lots. This task will involve the use of pavers, paving equipment, and rollers and will take approximately three months and will include vehicle trips from construction workers.

Building Construction/Architectural Coatings: Building construction involves the vertical construction of structures and landscaping around the structures. This task will involve the use of forklifts, generator sets, welders and small tractors/loaders/backhoes. The exact construction schedule is largely dependent on the economic conditions of the region and the ability of the market to absorb the residential and commercial buildings. Architectural coatings involve the interior and exterior painting associated with the structures. This task generally begin after construction begins on the structure and will generally be completed for each building around the time of the completion of each building. Building construction and the application of architectural coatings will include vehicle trips from construction workers, and building construction will also include vehicle trips from vendors.

MITIGATION

Air quality-related mitigation measures developed for the proposed Specific Plan were developed using CalEEMod, with default emission factors generally as provided by CalEEMod. CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* guidance, and guidance provided by the SJVAPCD were utilized, as necessary. See **Appendix B** to this EIR for further detail. The results from CalEEMod for operational and construction emissions are described under *Impacts and Mitigation Measures*, below.

IMPACTS RELATED TO PROJECT-GENERATED POLLUTANTS OF HUMAN HEALTH CONCERN

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (226 Cal.App.4th 704) (hereafter referred to as the Friant Ranch Decision). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin. The Court found that the air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that the agencies authoring environmental documents must make reasonable efforts to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants that would be generated by the project are associated with some form of health risk (e.g., asthma). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone is considered a regional criteria pollutant, whereas CO, NO_2, SO_2, and lead (Pb) are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary criteria pollutants of concern generated by the project are ozone precursors (ROG and NOx) and PM (including Diesel PM). The SJVAPCD does not currently have a methodology that would correlate the expected air quality emissions of projects to the likely health consequences of the increased emissions.

REGIONAL PROJECT-GENERATED CRITERIA POLLUTANTS (OZONE PRECURSORS AND REGIONAL PM)

Adverse health effects induced by regional criteria pollutant emissions generated by future development allowed under the Specific Plan (ozone precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NOx) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NOx generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollutants may be transported over long-distances or formed through atmospheric reactions. As such, the

magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. **Appendix B** contains a table that summarizes many of these tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As provided in **Appendix B**, while there are models capable of quantifying ozone and secondary PM formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating project generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment cannot be estimated with a high degree of accuracy.

Technical limitations of existing models to correlate project-level regional emissions to specific health consequences are recognized by air quality management districts throughout the state, including the SJVAPCD and South Coast Air Quality Management District (SCAQMD), who provided amici curiae briefs for the Friant Ranch legal proceedings. In its brief, SJVAPCD (2015) acknowledges that while health risk assessments for localized air toxics, such as diesel particulate matter (DPM), are commonly prepared, "it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task." The air district further notes that emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and ROG in the Valley) is not likely to yield valid information," and that any such information should not be "accurate when applied at the local level." SCAQMD presents similar information in their brief, stating that "it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels"[7].

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, air districts typically consider projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the project could increase photochemical reactions and the formation of tropospheric ozone and secondary PM, which at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with ozone and particulate pollution, the effects are a result of cumulative and regional emissions. As such, a

[7] For example, SCAQMD's analysis of their 2012 Air Quality Attainment Plan showed that modeled NO_x and ROG reductions of 432 and 187 tons per day, respectively, only reduced ozone levels by 9 parts per billion. Analysis of SCAQMD's Rule 1315 showed that emissions of NO_x and ROG of 6,620 and 89,180 pounds per day, respectively, contributed to 20 premature deaths per year and 89,947 school absence (South Coast Air Quality Management District, 2015).

project's incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis.

MODELS AND TOOLS TO CORRELATE PROJECT-GENERATED CRITERIA POLLUTANT EMISSIONS TO HEALTH IMPACTS

Several models and tools capable of translating mass emissions of criteria pollutants to various health endpoints have been developed. The table provided in **Appendix B** summarizes key tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As shown in the table provided in **Appendix B**, each tool listed was designed for a specific scale, and each tool has problems with applicability beyond that scale. When evaluating each tool for the Specific Plan it was determined that none of these tools are well suited to analyze the scale of changes in pollutant concentrations and the health implications of those changes. Accordingly, the analysis of health effects from criteria pollutants is based on a qualitative analysis. This qualitative analysis is consistent with the SJVAPCD's guidance.

The impact analysis does not directly evaluate airborne lead. Neither construction nor future operations would generate quantifiable lead emissions because of regulations that require unleaded fuel and that prohibit lead in new building materials.

TAC emissions associated with future construction associated with buildout of the Plan Area that could affect surrounding areas are evaluated qualitatively. The potential for the project operations to expose residents to TAC emissions that would exceed applicable health standards is also discussed qualitatively.

Lastly, the SJVPACD recommends that odor impacts be addressed in a qualitative manner. Such an analysis must determine if the Specific Plan would result in excessive nuisance odors, as defined under the SJVAPCD's Rule 4102 and California Code of Regulations, Health and Safety Code Section 41700, Air Quality Public Nuisance.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Specific Plan implementation would conflict with or obstruct implementation of the applicable air quality plan. (Significant and Unavoidable)

CEQA requires that projects be evaluated for consistency with the Air Quality Management Plans (AQMPs). A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the AQMPs. It fulfills the CEQA goal of informing decision makers of the environmental effects of a project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals of the AQMPs. The regional emissions inventory for the SJVAB is compiled by SJVAPCD and Fresno Council of Governments (COG). Regional population, housing, and employment projections developed by

Fresno COG are based, in part, on the local jurisdictions' general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into the 2018–2042 Regional Transportation Plan/Sustainable Communities Strategy, compiled by Fresno COG to determine priority transportation projects within the Fresno COG region. Projects that are consistent with the local general plan are considered consistent with the air quality–related regional plan. Typically, only new or amended general plan elements, specific plans, and major projects that have the potential to affect the regional population and employment forecasts need to undergo a consistency review.

SJVAPCD is tasked with implementing programs and regulations required by the Clean Air Act and the California Clean Air Act. SJVAPCD has prepared several plans to attain the National AAQS and California AAQS. Emission reductions achieved through implementation of SJVAPCD's NSR offset requirements are a major component of SJVAPCD's air quality plans. The established thresholds of significance for criteria pollutant emissions are based on SJVAPCD offset requirements for stationary sources. Therefore, projects with emissions below the thresholds of significance for criteria pollutants would be determined to "not conflict or obstruct implementation of the District's air quality plan."

CEQA Guidelines Section 15206(b) states that a project is of statewide, regional, or area-wide significance if it is a residential development of more than 500 dwelling units or a commercial office building of 250,000 square feet or more or that employs 1,000 or more employees. Specifically, the proposed Specific Plan would introduce up to 54,953 dwelling units (DU) (including 67 DU in the commercial category, 47,072 DU in the residential category and 7,814 DU in the mixed use category), and 60,621,006.31 square feet of non-residential uses in the Plan Area, and is therefore a project of statewide, regional, or area-wide significance. Thus, implementation of the proposed Specific Plan would have the potential to substantially affect Fresno COG's demographic projections beyond what is already anticipated for the Plan Area.

In addition, the SJVAPCD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in their *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (2015). Projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan".

The analyses under Impact 3.3-2 demonstrates that the proposed Specific Plan would generate construction emissions of criteria air pollutants that would exceed SJVAPCD's regional construction-phase significance thresholds, which were established to determine whether a project has the potential to cumulatively contribute to the SJVAB's nonattainment designations. In addition, the analyses under Impact 3.3-3 demonstrates that the proposed Specific Plan would generate long-term emissions of criteria air pollutants that would exceed SJVAPCD's regional operation-phase significance thresholds, which were established to determine whether a project has the potential to cumulatively contribute to the SJVAB's nonattainment designations. Thus, implementation of the

proposed Specific Plan would result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of the AAQS.

Summary

As discussed above, while the proposed Specific Plan would result in a substantial increase in long-term criteria pollutant emissions compared to existing conditions, it would support a more sustainable development pattern for the Plan Area. As the improvements, objectives, and policies under the proposed Plan would support a more sustainable development pattern in accommodating future growth for the Plan Area, they would contribute to minimizing long-term emissions of criteria air pollutants. Various policies of the proposed Plan would promote complete streets, mixed-use and transit-oriented neighborhoods, and increased capacity for alternative transportation modes, which would help reduce air pollutant emissions. For example, Specific Plan IPR Goal 1 promotes improved access, movement, and safety for all transportation modes in the Specific Plan, and Policy IPR 1.1 promotes implementation of the Active Transportation Plan and the General Plan to provide for complete, safe, and well-maintained sidewalk, bicycle, and trail networks that are compliant with the Americans with Disabilities Act.

The goals and polices in the Specific Plan would promote active transit and support the reduction in average vehicle trip distances, which would contribute to reducing overall vehicle trips and VMT. However, despite furthering the regional transportation and planning objectives, as stated, buildout of the proposed Plan would represent a substantial increase in emissions compared to existing conditions and would exceed SJVAPCD's regional operational and construction-related significance thresholds (see Impact 3.3-2 and Impact 3.3-3). As a result, the proposed Specific Plan could potentially exceed the assumptions in the AQMPs and would not be considered consistent with the AQMPs. Therefore, impacts are considered significant.

CONCLUSION

Implementation of the proposed Specific Plan would result in the generation of substantial long-term criteria air pollutant emissions that would exceed the SJVAPCD regional significance thresholds and would therefore not be considered consistent with the existing AQMPs. Future development projects within the Plan Area would be required to implement Mitigation Measure 3.3-1 (below). No further measures to reduce criteria air pollutant emissions are available beyond the applicable SJVAPCD rules and regulations, the proposed Specific Plan goals and policies, and the additional mitigation measures provided under Impact 3.3-2 and Impact 3.3-3 (see below). The various goals and policies of the proposed Specific Plan, such as those outlined above, would contribute to reducing long-term criteria air pollutant emissions to the extent feasible. However, due to the magnitude and intensity of development accommodated by the proposed Plan, this impact would have a ***significant and unavoidable*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-1*: Prior to the issuance of building permits for new development projects within the Plan Area, the project applicant(s) shall show on the building plans that all major appliances (dishwashers, refrigerators, clothes washers, and dryers) to be provided/installed are*

Energy Star-certified appliances or appliances of equivalent energy efficiency. Installation of Energy Star-certified or equivalent appliances shall be verified by the City of Fresno Planning and Development Department prior to the issuance of a certificate of occupancy.

Impact 3.3-2: Specific Plan implementation during project construction would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard. (Significant and Unavoidable)

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Construction activities would temporarily increase PM_{10}, $PM_{2.5}$, ROG, NOx, SOx, and CO regional emissions within the SJVAB. The primary source of NOx, CO, and SOx emissions is the operation of construction equipment. The primary sources of particulate matter (PM_{10} and $PM_{2.5}$) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary source of ROG emissions is the application of architectural coating and off-gas emissions associated with asphalt paving.

Construction activities associated with buildout of the proposed Specific Plan are anticipated to occur sporadically over an approximately 25-year period. Buildout would be comprised of multiple smaller projects, each having its own construction timeline and activities. Development of multiple properties could occur at the same time. However, there is no defined development schedule for these future projects at this time. The amount of construction assumed is consistent with the 25-year anticipated buildout of the proposed Specific Plan. An estimate of maximum daily construction emissions is provided in Table 3.3-6, below. The table shows the maximum annual emissions that would be generated over a single year during the anticipated development period (i.e. during year 2022). See **Appendix B** for further detail.

TABLE 3.3-6: CONSTRUCTION PROJECT GENERATED EMISSIONS (MAXIMUM TONS PER YEAR)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	10	10	27	15	15
EMISSIONS	288	366	131	2	104	29
EXCEEDS THRESHOLD?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

SOURCES: CALEEMOD (V.2016.3.3)

As shown in the above table (Table 3.3-6), construction activities associated with implementation of the proposed Specific Plan could potentially exceed the SJVAPCD regional thresholds for CO, NOx, ROG, PM_{10}, and $PM_{2.5}$. NOx is a precursor to the formation of both ozone and particulate matter (PM_{10} and $PM_{2.5}$). ROG is a precursor to the formation of ozone. Project-related emission of NOx would contribute to the ozone, PM_{10}, and $PM_{2.5}$ nonattainment designations of the SJVAB. As part of the development process, individual, site-specific projects accommodated under the proposed

Specific Plan that meet the criteria of Rule 9510 would be required to prepare a detailed air quality impact assessment (AIA). To the extent applicable under Rule 9510 for each such individual development, SJVAPCD would require calculation of the construction emissions from the development. The purpose of the AIA is to confirm a development's construction exhaust emissions, and therefore be able to identify appropriate mitigation, either through implementation of specific mitigation measures (e.g., use of construction equipment with Tier 4-rated engines) or payment of applicable off-site fees. As stated, under Rule 9510, each project that is subject to this Rule would be required to reduce construction exhaust emissions by 20 percent for NOx or pay offset mitigation fees for emissions that do not achieve the mitigation requirements. While adherence to Rule 9510 would contribute to reducing exhaust NOx emissions, it would not be applicable to reducing ROG emissions generated operation of equipment and from off-gassing from asphalt and paints, or other criteria pollutant emissions. Therefore, project-related construction activities would result in significant regional air quality impacts.

CONCLUSION

Future development projects in the Plan Area would be required to comply with pre-existing requisite federal, State, SJVAPCD, and other local regulations and requirements. For example, application of SJVAPCD Rules 9510 and Regulation VIII would reduce criteria air pollutant emissions from construction-related activities to the extent feasible and may result in reducing construction-related regional air quality impacts of individual projects. However, due to the programmatic nature of the proposed Specific Plan, construction time frames and equipment for individual site specific projects are not available and there is a potential for multiple developments to be constructed at any one time, resulting in significant construction-related emissions. Therefore, the proposed project would exceed the construction-related criteria pollutant thresholds as promulgated by the SJVAPCD. Future development projects in the Plan Area would be required to implement all of the mitigation measures provided below for construction-related emissions.

However, even with implementation of the following mitigation measures, the proposed Specific Plan would cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation, with respect to the construction of the proposed project. Therefore, construction of the Specific Plan would have a ***significant and unavoidable*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-2*: In order to contribute in minimizing exhaust emission from construction equipment, prior to issuance of grading or building permits whichever occurs first, the property owner(s)/developer(s) shall provide a list of all construction equipment proposed to be used in the Plan Area for projects that are subject to the California Environmental Quality Act (i.e., non-exempt projects). This list may be provided on the building plans. The construction equipment list shall state the make, model, and equipment identification number of all the equipment. The property owner(s)/developer(s) shall consult with the City of Fresno Planning and Development Department on the feasibility of utilizing cleaner (e.g. higher engine tier) construction equipment than proposed. The property owner(s)/developer(s) shall implement recommendations for the use of cleaner*

construction equipment, as determined by the City of Fresno Planning and Development Department. Compliance will be verified by the City of Fresno Planning and Development Department.

Mitigation Measure 3.3-3*: During construction activities, the construction contractors shall ensure that the equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations; and, that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.*

Mitigation Measure 3.3-4*: In order to reduce ROG emissions from construction activities, prior to issuance of a building permit for projects that are subject to the California Environmental Quality Act (i.e., non-exempt projects), the property owner/developer shall require the construction contractor and provide a note on construction plans indicating that:*

- *All coatings and solvents will have a volatile organic compound (ROG) content lower than required under Rule 4601 (i.e., super compliant paints).*
- *All architectural coatings shall be applied either by (1) using a high-volume, low-pressure spray method operated at an air pressure between 0.1 and 10 pounds per square inch gauge to achieve a 65 percent application efficiency; or (2) manual application using a paintbrush, hand-roller, trowel, spatula, dauber, rag, or sponge, to achieve a 100 percent applicant efficiency.*

The construction contractor may also use precoated/natural colored building materials.

Mitigation Measure 3.3-5: *During all construction activities, the project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).*

a. *All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.*
b. *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
c. *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.*
d. *When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.*
e. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*

f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
g. Limit traffic speeds on unpaved roads to 5 mph; and
h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Mitigation Measure 3.3-6: *Asphalt paving shall be applied in accordance with SJVAPCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*

Impact 3.3-3: Specific Plan implementation during project operation would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard. (Significant and Unavoidable)

Buildout of the proposed Specific Plan would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Mobile-source criteria air pollutant emissions are based on the traffic analysis conducted by Kittelson and Associates (see **Appendix G**). Per the traffic analysis, implementation of the proposed Specific Plan would generate a net increase of 991,667 ADT. The net change of operational emissions from buildout of the proposed Specific Plan is shown in Table 3.3-7, below. The net change in emissions is based on the new emissions associated with the new land uses.

TABLE 3.3-7: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	10	10	27	15	15
EMISSIONS	2,300	3,185	885	17	1,199	336
EXCEEDS THRESHOLD?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

SOURCES: CALEEMOD (V.2016.3.3)

As shown in Table 3.3-7, operation of future projects at buildout would generate air pollutant emissions that exceed SJVAPCD's regional significance thresholds for ROG, NOx, CO, PM_{10}, and $PM_{2.5}$ at buildout. Emissions of ROG and NOx that exceed the SJVAPCD regional threshold would cumulatively contribute to the ozone nonattainment designation of the SJVAB. Emissions of NOx that exceed SJVAB's regional significance thresholds would cumulatively contribute to the ozone and particulate matter (PM_{10} and $PM_{2.5}$) nonattainment designations of the SJVAB. Emissions of PM_{10} and $PM_{2.5}$ would contribute to the PM_{10} and $PM_{2.5}$ nonattainment designations.

Similar to construction-related emissions, application of SJVAPCD Rule 9510 to future individual projects would contribute to reducing NOx and particulate matter emissions. In addition, application of SJVACPD Rule 9410 would contribute to reducing mobile-source emissions. Furthermore, as

stated, the planned improvements, guidelines, objectives, and policies under the proposed Specific Plan would generally support a more sustainable development pattern to accommodate growth within the area by creating complete neighborhoods and providing more transit options through improvements to the pedestrian, bicycle, public transportation, and alternative fueled vehicle networks and infrastructure, which would contribute in minimizing long-term criteria air pollutant emissions. However, while SJVAPCD rules and policies of the proposed Specific Plan may contribute in reducing operation-related regional air quality impacts of individual projects accommodated under the proposed Specific Plan to less than significant, the projected cumulative emissions associated with future development projects would be in exceedance. Therefore, implementation of the proposed Specific Plan would result in a significant impact because it would significantly contribute to the nonattainment designations of the SJVAB.

CONCLUSION

As shown in Table 3.3-7, buildout of the Specific Plan Area is expected to exceed some of the SJVAPCD operational criteria pollutant emissions thresholds, as modelled. Application of State and SJVAPCD rules and regulations, such as Rules 9510 and 9410, implementation of the proposed Specific Plan's roadway, bicycle, and trail improvements, policies, and complete streets design guidelines, and implementation of applicable General Plan policies would reduce operation-related criteria air pollutants generated from energy, stationary, and mobile sources to the extent feasible. In addition, Mitigation 3.3-7 (below) requires the individual project applicants to incorporate mitigation measures to reduce operational activities.

As stated, the aforementioned improvements, goals, and policies could contribute to reducing operation-phase regional air quality impacts of future individual projects. Individual projects would also be required to undergo CEQA review. However, despite implementation of the Specific Plan goals and policies, this impact would remain significant and unavoidable due to the magnitude of the overall land use development associated with the proposed Specific Plan. As such, operation of the Specific Plan would have a ***significant and unavoidable*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-7: *The property owner(s)/developer(s) shall incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the Project Conditions of Approval. Possible mitigation measures to reduce long-term emissions include but are not limited to:*

- *For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plugging in the anticipated number of refrigerated trailers to reduce idling time and emissions.*
- *Applicants for manufacturing and light industrial uses shall consider energy storage (i.e., battery) and combined heat and power (CHP, also known as cogeneration) in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.*

- *Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with CARB Rule 2845 (13 California Code of Regulations [CCR] Chapter 10, Section 2485).*
- *Require that 240-volt electrical outlets or Level 3 chargers be installed in parking lots that would enable charging of neighborhood electric vehicles (NEVs) and/or battery powered vehicles.*
- *Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on building roofs throughout the city to generate solar energy.*
- *Maximize the planting of trees in landscaping and parking lots.*
- *Use light-colored paving and roofing materials.*
- *Require use of electric or alternatively fueled street-sweepers with HEPA filters.*
- *Require use of electric lawn mowers and leaf blowers.*
- *Utilize only Energy Star heating, cooling, and lighting devices, and appliances.*
- *Use of water-based or low volatile organic compound (VOC) cleaning products.*

Impact 3.3-4: Specific Plan implementation has the potential to result in other emissions (such as those leading to odors) affecting a substantial number of people. (Less than Significant with Mitigation)

ODORS

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (California Health and Safety Code §41700) and Air District Rule 402 is the basis for the threshold.

Examples of facilities that are known producers of odors include: wastewater treatment facilities, chemical manufacturing, sanitary landfill, fiberglass manufacturing, transfer station, painting/coating operations (e.g. auto body shops), composting facility, food processing facility, petroleum refinery, feed lot/dairy, asphalt batch plant, and rendering plant.

Odors from the types of land uses that could generate objectional odors are regulated under Regulation IV, Prohibitions, Rule 4102, Nuisance, which states:

> *"A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."*

Additionally, the California Health and Safety Code §41700 prohibits emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that

present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed Specific Plan from emitting objectionable odors.

Heavy industrial land uses are the primary types of land uses that have the potential to generate objectionable odors. Heavy industrial-type land uses would generally be prohibited within the proposed Specific Plan Area. Residential and other non-residential (excluding industrial) land uses could result in generation of odors such as exhaust from landscaping equipment. However, unlike heavy industrial land uses, these are not considered potential generators of odor that could affect a substantial number of people. Therefore, impacts from potential odors generated from the planned land uses associated with the proposed Specific Plan are considered ***less than significant.***

Separately, during construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent in nature. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Nevertheless, the proposed project would be required to implement Mitigation Measure 3.3-8, as applicable. Therefore, with implementation of Mitigation Measure 3.3-8, impacts associated with construction-generated odors are considered ***less than significant***.

CARBON MONOXIDE HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. The GAMAQI previously required CO hotspot monitoring. However, emissions from motor vehicles, the largest source of CO emissions, have been declining since 1985 despite increases in VMT due to the introduction of new automotive emission controls and fleet turnover. Consequently, no CO hotspots have been reported in the SJVAB even at the most congested intersections. Furthermore, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.[8]

Buildout of the proposed Specific Plan would result in approximately 991,667 ADT over existing conditions. However, distributing the total daily vehicle trips within the proposed Specific Plan Area and region and by peak hour would result in smaller traffic volumes at the various intersections. Thus, implementation of the proposed Specific Plan is not anticipated to produce the volume of traffic required to generate a CO hotspot. Therefore, implementation of the proposed Specific Plan

[8] Bay Area Air Quality Management District (BAAQMD), 2017. California Environmental Quality Act: Air Quality Guidelines, May.

would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the planning area, and impacts would be ***less than significant*** relative to this issue.

TOXIC AIR CONTAMINANTS

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the State and federal governments have set ambient air quality standards.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in its latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards; therefore, it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

In general, land uses that would require a permit from SJVAPCD for emissions of TACs include chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. As the proposed Specific Plan is a program-level document, it is currently unknown which types of stationary sources may be installed, if any. However, the proposed Specific Plan would generally prohibit the development of heavy industrial-type land uses. While development of land uses may result in stationary source emissions such as dry cleaners and restaurants with charbroilers or buildings with emergency generators, these types of land uses would not be large emitters. Additionally, they would be controlled by SJVAPCD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under Regulation II. According to SJVAPCD's GAMAQI, Regulation II ensures that stationary source emissions (permitted sources) would be reduced or mitigated below SJVAPCD significance thresholds of ten in one million cancer risk and one for acute risk at the maximally exposed individual. Though these sources would incrementally contribute to the project's inventory

individually, they would be mitigated to the standards identified above. Moreover, future development projects in the Plan Area would be required to implement Mitigation Measure 3.3-9, which requires project applicants for individual projects to conduct health risk assessments (where warranted by land use and proposal). In addition, Mitigation Measure 3.3-10 requires sensitive land uses to avoid incompatibilities with recommended buffer distances identified in the most current version of the CARB Air Quality and Land Use Handbook: A Community Health Perspective (CARB Handbook). Sensitive land uses that are within the recommended buffer distances listed in the CARB Handbook are required to provide enhanced filtration units or submit a Health Risk Assessment (HRA) to the City. If the HRA shows that the project would exceed the applicable SJVAPCD thresholds, mitigation measures capable of reducing potential impacts to an acceptable level must be identified and approved by the City.

Therefore, overall, impacts would be ***less than significant*** relative to this environmental issue.

CONCLUSION

The Specific Plan does not propose sensitive receptors that could be exposed to odors in the vicinity; nor does it propose uses that would create odors that could expose receptors in the area. Moreover, Mitigation Measure 3.3-8 would ensure that the project would not generate an odors impact. Therefore, operation of the proposed Specific Plan would not result in significant objectionable odors. With implementation of Mitigation Measure 3.3-8, impacts associated with exposure to odors would be ***less than significant.***

The Plan Area is located in an area that is designated attainment-unclassified for carbon monoxide. Therefore, no project-level conformity analysis is necessary for CO. Substantial concentrations of carbon monoxide are not expected at or along any streets or intersections affected by the development of the Plan Area. Impacts associated with carbon monoxide hotspots would be ***less than significant,*** and no additional mitigation is required.

Overall, while implementation of the Specific Plan, in and of itself, would not result in an increased exposure of sensitive receptors to localized concentrations of TACs, there is a potential for future commercial business activity, as permitted under the Specific Plan, to result in increased exposure of sensitive receptors to localized concentrations of TACs. The emission sources could be stationary sources and/or mobile source (i.e. diesel truck traffic). Because, at the Specific Plan level of land use planning, the City does not yet know the precise locations, configurations, and sizes of any future land uses within the Specific Plan that uses may generate sufficient levels of TACs to create the possibility of adverse health effects, it is premature, at the Specific Plan stage, to undertake an overall health risk assessment for the Specific Plan. Future health risk assessments will be performed where warranted, as required by Mitigation Measure 3.3-9, below. In addition, Mitigation Measure 3.3-10 requires sensitive land uses to avoid incompatibilities with recommended buffer distances, and to prepare an HRA if required.

The following mitigation measure would ensure that each future business is assessed for TACs in accordance with the requirements of the Air Toxics "Hot Spots" Program, Facility Prioritization

Guidelines (July 1990). Implementation of this measure would ensure that impacts related to public exposure to TACs would be ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-8*: The project applicant(s) shall require developers of projects within the Specific Plan Area with the potential to generate significant odor impacts as determined through review of SJVAPCD odor complaint history for similar facilities and consultation with the SJVAPCD, to prepare an odor impact assessment and to implement odor control measures recommended by the SJVAPCD or the City as needed to reduce the impact to a level deemed acceptable by the SJVAPCD. The City's Planning and Development Department shall verify that all odor control measures have been incorporated into the project design specifications prior to issuing a permit to operate.*

Mitigation Measure 3.3-9: *Prior to future discretionary approval for individual projects within the Specific Plan Area that require environmental evaluation under CEQA, the City of Fresno shall evaluate new development proposals for new industrial or warehousing land uses that: (1) have the potential to generate 100 or more truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Planning and Development Department. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the SJVAPCD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the Applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to:*

- *Restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter;*
- *Requiring use of newer equipment and/or vehicles;*
- *Provide charging infrastructure for: electric forklifts, electric yard trucks, local drayage trucks, last mile delivery trucks, electric and fuel-cell heavy duty trucks; and/or*
- *Install solar panels, zero-emission backup electricity generators, and energy storage to minimize emissions associated with electricity generation at the project site.*

T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

Mitigation Measure 3.3-10*: Locate sensitive land uses (e.g., residences, schools, and daycare centers) to avoid incompatibilities with recommended buffer distances identified in the most current version of the CARB Air Quality and Land Use Handbook: A Community Health Perspective (CARB Handbook). Sensitive land uses that are within the recommended buffer distances listed in the CARB*

Handbook shall provide enhanced filtration units or submit a Health Risk Assessment (HRA) to the City. If the HRA shows that the project would exceed the applicable SJVAPCD thresholds, mitigation measures capable of reducing potential impacts to an acceptable level must be identified and approved by the City.

Impact 3.3-5: Specific Plan implementation has the potential to cause substantial adverse effects on human beings, either directly or indirectly. (Less than Significant with Mitigation)

Development that would be accommodated by the proposed Specific Plan could expose sensitive receptors to elevated pollutant concentrations during operational and construction activities if it would cause or contribute significantly to elevating those levels. As stated, the planned improvements, objectives and policies under the proposed Specific Plan would generally support a sustainable development pattern in accommodating future growth within the Plan Area, which would generally contribute to reducing long-term criteria air pollutant emissions. In addition, application of SJVAPCD Rule 9510 and Regulation VIII would contribute to reducing operation- and construction-related NOx and particulate matter emissions. Furthermore, Rule 9410 would also contribute to reducing operation-related mobile-source emissions. However, the projected cumulative emissions associated with future development projects accommodated under the proposed Specific Plan would be in exceedance and could result in causing an exceedance of the AAQS. Therefore, as construction and operation of future individual development projects accommodated under the proposed Specific Plan could result in causing or contribute to a violation of the ambient air quality standards, impacts to air quality would be significant.

As shown in the table provided in **Appendix B**, each tool listed was designed for a specific scale, and each tool has problems with applicability beyond that scale. When evaluating each tool for the Specific Plan it was determined that none of these tools are well suited to analyze the scale of changes in pollutant concentrations and the health implications of those changes. Accordingly, the analysis of health effects from criteria pollutants is based on a qualitative analysis. This qualitative analysis is consistent with the SJVAPCD's guidance.

OZONE

O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of (also known as ROG) and oxides of nitrogen (NOx) in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may

increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b).

Operational Emissions

Future development projects in the Plan Area would generate emissions of ROG and NOx during project operational activities, as shown in Table 3.3-7. The CAA regulates these pollutants mainly because they contribute to ozone formation, but they can each cause adverse reactions in people on their own, as explained earlier in this chapter. Although the exact effects of project-level emissions on local health are not precisely known, it is likely that the increases in ROG and NOx generated by the proposed Specific Plan would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the Specific Plan Area. However, the increases of these pollutants generated by the proposed project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the proposed Plan Area in comparison to Fresno County as a whole. Instead, the increases in ROG and NOx generated by the proposed project when combined with the existing ROG and NOx emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Specific Plan Area.

Construction Emissions

Although the exact effects of ROG and NO_x emissions on local health are not known, it is likely that the increases in ROG and NOx generated by future development projects during construction would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the Specific Plan Area. However, the increases of these pollutants generated by buildout of the proposed Specific Plan are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the proposed project in comparison to Fresno County as a whole. Instead, the increases in ROG and NOx generated by the proposed project, including during construction activities, when combined with the existing ROG and NOx emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Specific Plan Area. However, it should be noted that, since construction emissions are temporary in nature, the potential for substantial health impacts due to project construction activities is typically much less than for project operational activities.

PARTICULATE MATTER

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, PM can cause major effects of concern for human health. These include effects on breathing and respiratory symptoms,

aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

Operational Emissions

Future development projects in the Plan Area would generate emissions of PM during project operational activities, as shown in Table 3.3-7. Although the exact effects of such emissions on local health are not known, it is likely that the increases in PM generated by the proposed project would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the Specific Plan Area. However, the increases of these pollutants generated by the proposed project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the project in comparison the Fresno County and the wider region as a whole. Instead, the increases in PM generated by the proposed project when combined with the existing PM emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Specific Plan Area. Nevertheless, if a health risk assessment is warranted for a specific facility within the Specific Plan Area, it would be prepared in accordance with Mitigation Measure 3.3-7.

Construction Emissions

Ambient levels of construction particulate matter emissions are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades). Furthermore, based on the short-term nature of construction activities in comparison to operational activities, the potential for substantial health impacts due to particulate matters emissions during project construction is limited.

DISCUSSION

As previously discussed, the magnitude and locations of any potential changes in ambient air quality, and thus health consequences, from these additional emissions cannot be quantified with a high level of certainty due to the dynamic and complex nature of pollutant formation and distribution (e.g., meteorology, emissions sources, sunlight exposure), as well as the variabilities in the receptors that reside in a particular area. Additionally, the SJVAPCD has not established any methodology or thresholds (quantitative or qualitative) for assessing the health effects from criteria pollutants. The City of Fresno is not aware of any air district in California that has an established methodology for correlating project-generated criteria pollutant emissions to health end points. From a qualitative perspective, it is well documented from scientific studies that criteria pollutants can have adverse health effects. The federal and state governments have established the NAAQS or CAAQS as an attempt to regionally, and cumulatively, assess and control the health effects that criteria pollutants have within Air Basins. It is anticipated that public health will continue to be affected by the emission of criteria pollutants, especially by those with impaired respiratory systems in the City of Fresno and the surrounding region so long as the region does not attain the CAAQS or NAAQS. However, the increases of these pollutants generated by future development under the Specific Plan are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the project in comparison to Fresno County and the wider region as a whole. Instead, the increases in criteria pollutants generated by the proposed project when combined with the existing criteria pollutants emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Specific Plan Area. Separately, localized construction activities are temporary in nature, and therefore, do not pose a threat to human health in the same manner as ongoing, chronic, lifetime exposure from projects during their operational phase.

CONCLUSION

The increases in criteria pollutants generated by the proposed Specific Plan when combined with the existing criteria pollutants emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Specific Plan Area. Construction emissions would be temporary in nature, while the operational activities of a project would be most likely to cause substantial adverse effects on human beings, since ongoing, chronic, and lifetime exposure to criteria pollutants are key in the level of health impact. However, the increases of these pollutants generated by the proposed project are not on their own likely to generate an increase in the number of days exceeding the health-based NAAQS or CAAQS standards, based on the size of the Plan Area in comparison the Fresno County and the wider region as a whole. For these reasons, with implementation of the mitigation measures contained under the previous impacts (i.e. Mitigation Measures 3.3-1 through 3.3-7, the Specific Plan would have a ***less than significant*** impact related to this topic.

See Impact 3.3-4 (previous) for a more detailed discussion of the potential risks from toxic air contaminants and carbon monoxide hotspots by the proposed Specific Plan.

MITIGATION MEASURE(S)

*Implement **Mitigation Measures 3.3-1** through **3.3-10.***

This section describes the geomorphic provinces/bioregions, vegetation, wildlife, soils, hydrogeomorphic features, wetlands, special-status species, regulatory setting, and impacts that are expected related to biological resources. This section is based in part on the following documents, reports, and studies:

- *Fresno General Plan* (City of Fresno, 2014);
- *Draft Master Environmental Impact Report General Plan and Development Code Update, City of Fresno, Fresno County, California* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- *Fresno Municipal Code* (City of Fresno, 2007); and
- *Web Soil Survey* (NRCS, 2019).

One comment was received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Cathy Caples (August 1, 2019). The portion of this comment letter which relates to this topic is addressed within this section. Full comments received are included in **Appendix A**.

3.4.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCE AND BIOREGION

The City of Fresno is located in the southern portion of the Great Valley Geomorphic Province of California. The Great Valley Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The Stanislaus River is located just north of the City. This is a tributary of the San Joaquin River, which drains the Great Valley Province into the San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

The City of Fresno is located within the San Joaquin Valley Bioregion, which is comprised of Kings County, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties. The San Joaquin Valley Bioregion is the third most populous out of ten bioregions in the state, with an estimated 2 million people. The largest cities are Fresno, Bakersfield, Modesto, and Stockton. Interstate 5 and State Route (SR) 99 are the major north-south roads that run the entire length of the bioregion.

The bioregion is bordered on the west by the coastal mountain ranges. Its eastern boundary joins the southern two-thirds of the Sierra bioregion, which features Yosemite, Kings Canyon, and Sequoia National Parks. At its northern end, the San Joaquin Valley bioregion borders the southern end of the Sacramento Valley bioregion. To the west, south, and east, the bioregion extends to the edges of the valley floor.

Habitat in the bioregion includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah. Historically, millions of acres of wetlands flourished in the bioregion, but stream diversions for irrigation dried all but about five percent.

Remnants of the wetland habitats are protected in this bioregion in publicly owned parks, reserves, and wildlife areas. The bioregion is considered the state's top agricultural producing region with the abundance of fertile soil.

LOCAL SETTING

Location

The West Area Neighborhoods Specific Plan (also-known-as "Specific Plan" or "West Area" or "Plan Area") encompasses approximately 7,077 acres (or a little more than 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. Of the 11 square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The Plan Area is triangular in shape and located west of SR 99. It is bounded on the south by W. Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to SR 99.

Topography

The Plan Area is relatively flat with natural gentle slope near SR 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level.

Climate

The City of Fresno is located in the southern portion of the San Joaquin Valley, which has a Mediterranean climate that is subject to cool, wet winters (often blanketed with fog) and hot, dry summers. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as rain most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5 F to July highs of 94.3 F.

Existing Uses

A significant amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized/underdeveloped parcels. According to the State Department of Conservation, the Plan Area has approximately 3,070 acres of land that is classified as Urban and Built-Up, 2,357 acres of agricultural, and 1,650 acres of vacant, disturbed, or rural residential land.

Agricultural land is scattered throughout the Plan Area, but mainly in the southern, western, and southwestern portions of the Plan Area. Irrigation ditches are also located throughout the Plan Area near these active agricultural lands. Developed uses are mainly in the northern, eastern, southern, and southeastern portions of the Plan Area. Undeveloped vacant land previously used for agricultural uses is also scattered throughout the Plan Area.

Surrounding Uses

Surrounding land uses include SR 99, the unincorporated communities of Herndon, Highway City, and Muscatel, and incorporated areas of the City of Fresno to the north (including mostly industrial uses), incorporated areas of the City of Fresno to the east (also including mostly industrial uses), unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including

farmland uses, rural residential uses, low density residential uses, and underutilized parcels) and unincorporated Fresno County to the west (including farmland and rural residential uses).

Vegetation

Most agricultural activity on-site and in the immediate vicinity has consisted of cultivation of various types of row crops. Non-cultivated portions of the Specific Plan Area are vegetated with various common non-native annual grassland species, such as ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*), black mustard (*Brassica nigra*), and filaree (*Erodium cicutarium*). Trees are also scattered throughout the developed and undeveloped portions of the Specific Plan Area, most of which are ornamental landscaping trees or residual trees from agricultural land.

Wildlife

The developed areas in the Plan Area typically provide habitat for common species that are accustomed to human disturbance, such as California scrub-jay (*Aphelocoma californica*), American robin (*Turdus migratorius*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), raccoon (*Procyon lotor*), squirrel (*Sciurus* spp.), opossum (*Didelphis virginiana*), Norway rat (*Rattus norvegicus*), and house mouse (*Mus musculus*).

Opportunistic species that may occur in agricultural lands in the Plan Area include side-blotched lizard (*Uta stansburiana*), American crow (*Corvus brachyrhynchos*), California scrub-jay, yellow-billed magpie (*Pica nuttalli*), house finch, small mammals, and raptors that prey on them. The edges of fields and orchards where stands of weeds, blackberry brambles, and brush are left undisturbed may provide protective cover for wildlife and food for birds. Burrowing animals such as California ground squirrels and gophers may be actively discouraged because of damage these animals can cause to irrigation systems, although their presence may be more likely in fallow fields.

The vacant lots and areas previously used for agricultural uses in the Plan Area are typically comprised of disturbed annual grassland species such as ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*), black mustard (*Brassica nigra*), and filaree (*Erodium cicutarium*). Wildlife that may occur and forage in disturbed annual grasslands as described include desert cottontail *(Sylvilagus audubonii)*, California ground squirrel *(Otospermophilus beecheyi)*, deermouse (*Peromyscus maniculatus)*, western harvest mouse (*Reithrodontomys megalotis*), side-blotched lizard, western fence lizard (*Sceloperus occidentalis*), gopher snake (*Pituophis catenifer*), and southern pacific rattlesnake (*Crotalis oreganus helleri*). California horned larks (*Eremophila alpestris actia*) and burrowing owls (*Athene cunicularia*) may use disturbed grassland habitat for foraging and nesting, and red-tailed hawks (*Buteo jamaicensis*), Swainson's hawks (*Buteo swainsoni*), American kestrel (*Falco sparverius*), and common raven (*Corvus corax*) may soar over and forage in the grasslands, depending on the size and location of the habitat patch relative to other habitat types.

The irrigation ditches in the Plan Area associated with the agricultural uses appear to be largely devoid of riparian vegetation and are generally isolated, surrounded by agricultural fields, disturbed annual grasslands, parklands, or developed areas. The aquatic habitats may provide some limited

habitat for wildlife such as waterfowl, red-winged blackbird (*Agelaius phoeniceus*), and western pond turtle (*Emys marmorata*). These habitats likely lack persistent emergent vegetation, but surrounding vegetation may include hydrophytic plants and grasses.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

The California Wildlife Habitat Relationships (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

Figure 3.4-1 shows the CWHR designations in the Plan Area. Table 3.4-1 summarizes the designations in the Plan Area.

TABLE 3.4-1: CWHR LAND COVER TYPES

LAND COVER TYPE	*ACRES WITHIN THE PLAN AREA*
Annual Grassland	132.17
Barren	34.41
Deciduous Orchard	2,083.69
Dryland Grain Crops	22.68
Evergreen Orchard	12.68
Irrigated Grain Crops	1.33
Irrigated Hayfield	382.62
Irrigated Row and Field Crops	872.82
Lacustrine	3.78
Pasture	11.79
Riverine	7.76
Urban	3,100.36
Vineyard	348.66

SOURCES: CALFIRE FVEG15_1, 2015; FRESNO COUNTY; CITY OF FRESNO. MAP DATE: JULY 25, 2019.

Below is a brief description of these CWHR habitats.

DEVELOPED COVER TYPES

Deciduous Orchards are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns usually touch, and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Deciduous

orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. Though some deciduous orchards are nonirrigated, most are irrigated. Some flat soils are flood irrigated, but many deciduous orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most deciduous orchards are in valley or foothill areas, with a few, such as, apples and pears, up to 3,000 feet elevation. Within the West Area, there are 2,083.69 acres of Deciduous Orchard habitat.

Evergreen Orchards are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns often do not touch, and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Evergreen orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Some flat soils are flood irrigated, but most evergreen orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most evergreen orchards are in valley or foothill areas. Except for olive, most evergreen orchard trees are not very frost tolerant. Within the West Area, there are 12.68 acres of Evergreen Orchard habitat.

Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Most vineyards are sprinkler irrigated. Large numbers of vineyards are irrigated by drip or trickle irrigation systems. Most vineyards are in valley or foothill areas. Within the West Area, there are 348.66 acres of Vineyard habitat.

Dryland Grain Crops are composed of vegetation in the dryland (nonirrigated) grain and seed crops habitat includes seed producing grasses, primarily barley, cereal rye, oats, and wheat. These seed and grain crops are annuals. They are usually planted by drilling in rows which produce solid stands, forming 100 percent canopy at maturity in good stands. They are normally planted in fall and harvested in spring. However, they may be planted in rotation with other irrigated crops and winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in late spring. Within the West Area, there are 22.68 acres of Dryland Grain Crop habitat.

Irrigated Grain Crops include a variety of sizes, shapes and growing patterns. Field corn can reach ten feet tall while dry beans are only several inches tall. Most irrigated grain and seed crops are grown in rows. Some may form 100 percent canopy while others may have significant bare areas between rows. All seed and grain crops are annuals. They are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry

farmed (during the wet winter and early spring months) or they may be irrigated, and then harvested in the late spring. Within the West Area, there are 1.33 acres of Irrigated Grain Crop habitat.

Irrigated Hayfield normally has a 2 to 6 months initial growing period, depending on climate, and soil, this habitat is dense, with nearly 100 percent cover. Average height is about 0.46 m. (1.5 feet) tall. Planted fields generally are monocultures (the same species or mixtures or a few species with similar structural properties). Structure changes to a lower stature following each harvest, grows up again and reverts to bare ground following plowing or discing. Plowing may occur annually, but is usually less often. Layering generally does not occur in this habitat. Unplanted "native" hay fields may contain short and tall patches. If not harvested for a year, they may develop a dense thatch of dead leaves between the canopy and the ground. Within the West Area, there are 382.62 acres of Irrigated Hayfield habitat.

Irrigated Row and Field Crops include a variety of sizes, shapes and growing patterns. Cotton and asparagus can be three or four feet tall while others may be a foot or less high. Most irrigated row and field crops are grown in rows. Some may form 100 percent canopy while others may have significant bare areas between rows. Most are annuals, while others, such as asparagus and strawberries are perennial. The annuals are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in the late spring. In some areas of southern California three crops may be grown in a year. Within the West Area, there are 872.82 acres of Irrigated Row and Field Crop habitat.

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the West Area, there are 3,100.36 acres of Urban habitat.

HERBACEOUS COVER TYPES

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost-free season averages 250 to 300 days. Annual precipitation is highest in northern California. Within the West Area, there are 132.17 acres of Annual Grassland habitat.

Pastures are planted on flat and gently rolling terrain. Flat terrain is irrigated by the border and check method of irrigation, except on sandy soils or where water supplies are limited. Pastures established on sandy soils or hills are sprinklered. Hilly lands also use wild flooding; that is, ditches that follow the grade along ridges and hillsides, where water is released at selected points along the ditch. Climate influences the length of the growing season. For example, pastures at higher

elevations or in the north have a shorter growing season. Within the West Area, there are 11.79 acres of Pasture habitat.

AQUATIC COVER TYPES

Riverine habitats can occur in association with many terrestrial habitats. Riverine habitats are found adjacent to many rivers and streams. Riverine habitats are also found contiguous to lacustrine and fresh emergent wetland habitats. This habitat requires intermittent or continually running water generally originating at some elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Over this transition from a rapid, surging stream to a slow, sluggish river, water temperature and turbidity will tend to increase, dissolved oxygen will decrease, and the bottom will change from rocky to muddy. Within the West Area, there are 7.76 acres of Riverine habitat.

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. Riverine habitats are found in association with any terrestrial habitats, riverine, and fresh emergent wetlands. Most permanent lacustrine systems support fish life; intermittent types usually do not. Within the West Area, there are 3.78 acres of Lacustrine habitat.

OTHER COVER TYPES

Barren habitat is defined by the absence of vegetation. Any habitat with <2% total vegetation cover by herbaceous, desert, or non-wildland species and <10% cover by tree or shrub species is defined this way. The physical settings for permanently barren habitat represent extreme environments for vegetation. An extremely hot or cold climate, a near-vertical slope, an impermeable substrate, constant disturbance by either human or natural forces, or a soil either lacking in organic matter or excessively saline can each contribute to a habitat being inhospitable to plants. Within the West Area, there are 34.41 acres of Barren habitat.

Soils

The U.S. Department of Agriculture (USDA)/Natural Resource Conservation Service (NRCS) Web Soil Survey indicates the presence of 12 soil types occurring within the Specific Plan Area. Table 3.4-2 identifies the soils found in the Specific Plan Area.

TABLE 3.4-2: USDA SOIL SERIES INFORMATION

NAME	*ACRES IN PLAN AREA*	*PERCENT OF PLAN AREA*
Exeter loam	215.7	3.1%
Exeter sandy loam	1,227.6	17.5%
Exeter sandy loam, shallow	150.2	2.1%
Hanford gravelly sandy loam	15.0	0.2%
Hanford sandy loam, benches	17.3	0.2%
Hesperia fine sandy loam, moderately deep	1.7	0.0%

NAME	*ACRES IN PLAN AREA*	*PERCENT OF PLAN AREA*
Pollasky fine sandy loam, 2-9% slopes	2.6	0.0%
Pollasky sandy loam, 9-15% slopes	5.3	0.1%
San Joaquin loam, 0-3% slopes	213.4	3.0%
San Joaquin loam, shallow, 0-3% slopes	757.6	10.8%
San Joaquin sandy loam, 0-3% slopes, MLRA 17	1,523.4	21.7%
San Joaquin sandy loam, shallow, 0-3% slopes	2,872.8	41.0%

SOURCE: NRCS WEB SOIL SURVEY, 2019.

Exeter series. The Exeter series consists of moderately deep to a duripan, moderately well drained soils that formed in alluvium mainly from granitic sources. Exeter soils are on alluvial fans and stream terraces and have slopes of 0 to 9 percent. The mean annual precipitation is about 11 inches and the mean annual air temperature is about 64 degrees F. The Exeter series includes but is not limited to the 'Exeter loam', 'Exeter sandy loam', and the 'Exeter sandy loam, shallow' soils, each of which is present within the Plan Area.

Hanford series. The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. The mean annual precipitation is about 12 inches and the mean annual air temperature is about 63 degrees F. The Hanford series includes but is not limited to the 'Hanford gravelly sandy loam', and the 'Hanford sandy loam, benches' soils, each of which is present within the Plan Area.

Hesperia series. The Hesperia series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks. Hesperia soils are on alluvial fans, valley plains and stream terraces and have slopes of 0 to 9 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 64 degrees F. The Hesperia series includes but is not limited to the 'Hesperia fine sandy loam, moderately deep' soil, which is present within the Plan Area.

Pollasky series. The Pollasky series consists of moderately deep, well drained, moderately coarse textured Regosols formed in the residuum from softly to moderately consolidated arkosic sediments. They occur on undulating to steep dissected terraces under annual grasses and forbs. They have brown, slightly acid sandy loam A horizons and pale brown to yellowish brown, slightly acid to neutral, sandy loam C horizons abruptly overlying consolidated granitic sediments. Pollasky soils occur at elevations below 500 feet to semiarid mesothermal climate having a mean annual precipitation ranging from about 9 to 16 inches with hot, dry summers and cool, moist winters. The Pollasky series is mapped along the eastern edge of the San Joaquin Valley of California where it is moderately extensive. Used as annual range and dry farmed small grain, usually barley, with limited sprinkler irrigated pasture.

San Joaquin series. The San Joaquin series consists of moderately deep to a duripan, well and moderately well drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. They are on undulating low terraces with slopes of 0 to 9 percent. The mean annual

precipitation is about 15 inches and the mean annual temperature is about 61 degrees F. The San Joaquin series includes but is not limited to the 'San Joaquin loam, 0-3% slopes', San Joaquin loam, shallow, 0-3% slopes', 'San Joaquin sandy loam, 0-3% slopes, MRLA 17', and 'San Joaquin sandy loam, shallow, 0-3% slopes' soils, each of which is present within the Plan Area.

Hydrogeomorphic Features

Fresno County is located in the San Joaquin River watershed. The San Joaquin River is about 300 miles long. It begins in the Sierra Nevada mountain range on California's eastern border. The river runs down the western slope of the Sierra and flows roughly northwest through the Central Valley, to where it meets the Sacramento River at the Sacramento-San Joaquin Delta, a 1,000-square-mile maze of channels and islands that drains more than 40 percent of the state's lands (SJRGA 2013).

The Fresno Metropolitan Flood Control District (FMFCD) has primary responsibility for managing the local stormwater flows for the City, as well as a large area beyond the City's boundaries. The City's stormwater drains to urban stormwater basins, where it is retained for groundwater recharge or pumped to local irrigation canals owned by Fresno Irrigation District (FID) and then conveyed away from the municipal area.

The City of Fresno is located in the alluvial fans of numerous foothill streams and creeks that drain the western slope of the Sierra Nevada foothills. These streams include Big Dry Creek, Alluvial Drain, Pup Creek, Dog Creek, Redbank Creek, Mud Creek, and Fancher Creek. The City has hot dry summers and cool mild winters, with temperatures of mid-90°F in the summer and 60°F in the winter. The precipitation averages 11 inches per year and occurs almost entirely in the fall, winter, and spring.

Regionally, the City is protected by the U.S. Army Corps of Engineers' (Corps) Redbank-Fancher Creeks Flood Control Project. This project includes dams, detention basins, and levees designed to control upstream flood flows to approximately the 200-year storm event. Major facilities of this project include levee systems, the Big Dry Creek, Fancher Creek, and Redbank Creek dams and reservoirs, and the Alluvial Drain, Redbank Creek, Pup Creek, Fancher Creek, Big Dry Creek, Pup Creek Enterprise, and Dry Creek Extension detention basins.

Locally, the FMFCD drainage system consists of approximately 680 miles of pipeline and more than 150 stormwater retention basins. The storm drainage pipeline system is designed to accept the peak flow rate of runoff from a two-year intensity storm event (a storm that has a 50 percent probability of occurring in any given year). When storm events occur that exceed the two-year intensity, ponding begins to occur in the streets until the pipeline system can remove the water. In the event of larger storms, "major storm breakover", the FMFCD has planned for streets or other conveyance to move the excess runoff to the basins. The FMFCD facilities in the Plan Area are shown in Figure 3.9-2 in Section 3.9, Hydrology and Water Quality.

The drainage system discharges to a system of irrigation canals, creeks, and the San Joaquin River, but is designed to retain and infiltrate as much runoff as possible into the underlying groundwater aquifer. The local drainage service area is subdivided into over 160 drainage areas, most of which drain to a retention basin. Drainage channels within the Plan Area include:

- East Branch Victoria Canal
- Epstein Canal
- Herndon Canal
- Minor Thornton Ditch
- Silvia Ditch
- Teague School Canal
- Tracy Ditch
- West Branch Victoria Canal
- Wheaton Ditch
- Austin Ditch

The Plan Area is drained by 15 drainage watersheds, six of which are fully within the Plan Area, and nine of which drain to areas immediately south or west of the Plan Area. There are seven existing retention basins within the Plan Area and an additional five that serve the Plan Area. An additional basin is planned to serve the drainage shed in the far southwestern corner of the Plan Area.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within a 12-quadrangle area (including the following U.S. Geological Survey [USGS] 7.5-minute quadrangle maps: Madera, Gregg, Lanes Bridge, Friant, Biola, Herndon, Fresno North, Clovis, Kerman, Kearney Park, Fresno South, and Malaga). Table 3.4-3 provides a list of special-status plants and Table 3.4-4 provides a list of special-status animals that are found in the regional vicinity. Figure 3.4-2 shows all occurrences within the 12-quadrangle area.

TABLE 3.4-3: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN SPECIFIC PLAN AREA

SPECIES	*STATUS (FED./CA/ CNPS)*	*HABITAT AND BLOOMING PERIOD*
California alkali grass *Puccinellia simplex*	--/--/1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernally mesic. Sinks, flats, and lake margins. 1-915 m. March-May.
California jewelflower *Caulanthus californicus*	E/E/1B.1	Chenopod scrub, valley and foothill grassland, pinyon and juniper woodland. Sandy soils. 65-1860 m. February-May.
California satintail *Imperata brevifolia*	--/--/2B.1	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-1495 m. September- May.
caper-fruited tropidocarpum *Tropidocarpum capparideum*	--/--/1B.1	Valley and foothill grassland. Alkaline clay. 0-360 m. March-April.
dwarf downingia *Downingia pusilla*	--/--/2B.2	Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 1-490 m. March-May.
Greene's tuctoria *Tuctoria greenei*	E/R/1B.1	Vernal pool. Vernal pools in open grasslands. 25-1325 m.May-July.
hairy Orcutt grass *Orcuttia pilosa*	E/E/1B.1	Vernal pools. 25-125 m. May-September.
Hartweg's golden sunburst *Pseudobahia bahiifolia*	E/E/1B.1	Valley and foothill grassland, cismontane woodland. Clay soils, often acidic. Predominantly on the northern slopes of knolls, but also along shady creeks or near vernal pools. 60-170 m. March-April.
heartscale *Atriplex cordulata var. cordulata*	--/--/1B.2	Saline or alkaline soils, chenopod scrub, meadows and seeps, valley and foothill grassland (sandy). April-October.
Hoover's calycadenia *Calycadenia hooveri*	--/--/1B.3	Cismontane woodland, valley and foothill grassland. On exposed, rocky, barren soil. 60-260 m. July-September.
lesser saltscale *Atriplex minuscula*	--/--/1B.1	Chenopod scrub, playas, valley and foothill grassland. In alkali sink and grassland in sandy, alkaline soils. 0-225 m. May-October.
Madera leptosiphon *Leptosiphon serrulatus*	--/--/1B.2	Cismontane woodland, lower montane coniferous forest. Dry slopes; often on decomposed granite in woodland. 80-1645 m. April-May.
palmate-bracted bird's-beak *Chloropyron palmatum*	E/E/1B.1	Chenopod scrub, valley and foothill grassland. Usually on Pescadero silty clay which is alkaline, with Distichlis, Frankenia, etc. 5-155 m. May-October.
recurved larkspur *Delphinium recurvatum*	--/--/1B.2	Chenopod scrub, valley and foothill grassland, cismontane woodland. On alkaline soils; often in valley saltbush or valley chenopod scrub. 3-790 m. March-June.
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	T/E/1B.1	Vernal pool. 10-755 m. April-September.

SPECIES	*STATUS (FED./CA/ CNPS)*	*HABITAT AND BLOOMING PERIOD*
Sanford's arrowhead *Sagittaria sanfordii*	--/--/1B.2	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m. May-October (November).
spiny-sepaled button-celery *Eryngium spinosepalum*	--/--/1B.2	Vernal pools, valley and foothill grassland. Some sites on clay soil of granitic origin; vernal pools, within grassland. 15-1270 m. April-June.
succulent owl's-clover *Castilleja campestris var. succulenta*	T/E/1B.2	Vernal pools. Moist places, often in acidic soils. 20-705 m. (March) April-May.

NOTES:

FEDERAL

E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.

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STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.

T = THREATENED UNDER THE FEDERAL CALIFORNIA ENDANGERED SPECIES ACT.

R = RARE UNDER THE CALIFORNIA ENDANGERED SPECIES ACT

CALIFORNIA NATIVE PLANT SOCIETY

1B = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE.

2 = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE.

3 = A REVIEW LIST – PLANTS ABOUT WHICH MORE INFORMATION IS NEEDED.

4 = PLANTS OF LIMITED DISTRIBUTION – A WATCH LIST

.1 = SERIOUSLY ENDANGERED IN CALIFORNIA (OVER 80% OF OCCURRENCES THREATENED-HIGH DEGREE AND IMMEDIACY OF THREAT).

.2 = FAIRLY ENDANGERED IN CALIFORNIA (20-80% OCCURRENCES THREATENED).

.3 = NOT VERY ENDANGERED IN CALIFORNIA (<20% OF OCCURRENCES THREATENED).

TABLE 3.4-4: SPECIAL-STATUS WILDLIFE AND FISH SPECIES WHICH MAY OCCUR IN SPECIFIC PLAN AREA

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
INVERTEBRATES			
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/--	Stream side habitats below 3,000 feet throughout the Central Valley	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.
California linderiella *Linderiella occidentalis*	--/--	It has been documented on most land forms, geologic formations and soil types supporting vernal pools in California, at altitudes as high as 1,150 meters (3,770 ft) above sea level. Most common in the Central Valley.	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.
midvalley fairy shrimp *Branchinecta mesovallensis*	--/--	Extending from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County and along the central Coast Range from northern Solano County to Pinnacles National Monument in San Benito County.	Vernal pools with tea-colored water, most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands.
vernal pool fairy shrimp *Branchinecta lynchi*	FT/--	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; they are also found in sandstone rock outcrop pools.
AMPHIBIANS			
California tiger salamander *Ambystoma californiense*	FT/CT	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.
western spadefoot *Spea hammondii*	--/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County	Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.
BIRDS			
black-crowned night heron *Nycticorax nycticorax*	--/--	Throughout California	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
burrowing owl *Athene cunicularia*	--/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast.	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.
California horned lark *Eremophila alpestris actia*	--/SSC	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.
double-crested cormorant *Phalacrocorax auritus*	--/WL	Nonbreeding California habitat located along coastal California and the Central Valley. Migrates throughout California.	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.
great egret *Ardea alba*	--/--	Throughout California	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.
Least Bell's vireo *Vireo bellii pusillus*	FE/CE	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms.	Found below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.
snowy egret *Egretta thula*	--/--	Found mostly throughout North, Central, and South America. Breeds in coastal and inland wetlands. Their range has been limited over time due to habitat destruction and hunting. A migratory species that relocates from the United States and Canada to Mexico, Central America, South America, and the West Indies.	Prefer shallow water inlets for feeding such as salt-marsh pools, tidal channels, and bays. Mostly along coastal areas and islands. During winter time they migrate and roost in the mangroves of the Caribbean.
Swainson's hawk *Buteo swainsoni*	--/CT	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
tricolored blackbird *Agelaius tricolor*	--/C (SSC)	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties.	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/CE	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley oak riparian habitats where scrub jays are abundant
FISH			
hardhead *Mylopharodon conocephalus*	--/SSC	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem	Resides in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. They also occur in reservoirs.
MAMMALS			
American badger *Taxidea taxus*	--/SSC	Badgers are found primarily in the Great Plains region of North America. Badgers occur north through the central western Canadian provinces, in appropriate habitat throughout the western United States, and south throughout the mountainous areas of Mexico. They have expanded their range since the turn of the 20th century and are now found as far east as Ontario, Canada.	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.
Fresno kangaroo rat *Dipodomys nitratoides exilis*	FE/CE	Western Fresno County.	Alkali sink-open grassland habitats. Bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs and grasses.
Hoary bat *Lasiurus cinereus*	--/--	Occur in all 50 states. Rare in the eastern United States and northern Rockies. Found mainly in the Pacific Northwest and California, Arizona, and New Mexico.	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
Pallid Bat *Antrozous pallidus*	--/SSC	Associated with oak woodlands in coastal California.	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
San Joaquin kit fox *Vulpes macrotis mutica*	FE/CT	Western Kern County, San Luis Obispo County, and Contra Costa County	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.
San Joaquin Pocket Mouse *Perognathus inornatus*	--/--	Found in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley and adjacent foothills, south to the Mojave Desert.	Grassland, oak savanna and arid scrubland. Associated with fine-textured, sandy, friable soils.
spotted bat *Euderma maculatum*	--/SSC	Distributed across large areas of western North America from southern British Columbia to the central Mexican state of Queretaro.	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.
western mastiff bat *Eumops perotis californicus*	--/SSC	Widespread in the southern United States and the northern part of Mexico. Occur at elevations to 2,600 meters.	Day roosts occur in crevices of cliffs and rocky canyons as well as trees. Roost areas need to be elevated and have a 2 meter drop off for take off area. Can live in chaparral, coastal and desert shrubs, and forests and wetland habitats.
REPTILES			
blunt-nosed leopard lizard *Gambelia sila*	FE/CE	Distributed across eastern California	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.
California glossy snake *Arizona elegans occidentalis*	--/SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Generally reported from a range of scrub and grassland habitats, often with loose or sandy soils.
coast horned lizard *Phrynosoma blainvillii*	--/SSC	Found at elevations from sea level to 8,000 ft. (2,438 m).	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*
northern California legless lizard *Anniella pulchra*	--/--	California legless lizards are found in California and Mexico. They are found from western central California (San Joaquin and the coastal regions), through northwestern Baja California, and as far south as Colonia Guerrero, Mexico.	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.
western pond turtle *Emys marmorata*	--/SSC	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada.	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.31 miles from water for egg-laying.

NOTES:

FEDERAL

E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
PE = PROPOSED FOR ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
PT = PROPOSED FOR THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE FEDERAL ENDANGERED SPECIES ACT.
D = DELISTED FROM FEDERAL LISTING STATUS.

STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.
SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.

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3.4.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the California Department of Fish and Wildlife (CDFW), USFWS, U.S. Army Corps of Engineers (USACE), and the Regional Water Quality Control Board (RWQCB). These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, State and local regulations that are applicable to the proposed Specific Plan.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA), administered by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), provides protection to plant and wildlife species listed as endangered or threatened. In general, USFWS has jurisdiction over terrestrial and fresh-water species, while NMFS has jurisdiction over ocean-going species.

Section 9 of FESA generally prohibits all persons from causing the "take" of any member of a listed species. (16 U.S.C. § 1538.) This prohibition applies mainly to animals; it only extends to plants in areas “under federal jurisdiction” and plants already protected under state law. (Id., subd. (a)(2)(B); see also Northern Cal. River Watch v. Wilcox (9th Cir. 2010) 620 F.3d 1075.)

“Take” is defined in statute as, "... to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." (16 U.S.C. § 1532(19).) Harass is defined in regulation as "...an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering." (See 50 CFR § 17.3.) Harm is defined in regulation as "...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.” (Id.) Despite the general prohibition against take, FESA in some circumstances permits “incidental take,” which means take that is incidental to, but not the purpose of, the carrying out of an otherwise lawful activity. (16 U.S.C. § 1539(a).) Under section 10 of FESA, persons seeking permission to engage in actions that could result in such incidental take can obtain such permission through the approval of a habitat conservation plan (HCP) by either USFWS or NMFS. (16 U.S.C., § 1539(a).)

Proposed federal actions that would result in take of a federal-listed or proposed species require consultation with USFWS or NMFS under section 7 of FESA. (Id., § 1536.) The objective of consultation is to determine whether the proposed federal action would jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. Where such an outcome would not occur, USFWS or NMFS must still impose reasonable and prudent measures to minimize the effects of the incidental taking. Where such an outcome could occur, USFWS or NMFS must

propose reasonable and prudent alternatives that, if implemented, would avoid such an outcome. (Id.)

Compliance with ESA can be achieved under Section 7 or 10 of FESA depending on the involvement of the federal government. Section 7 requires federal agencies to make a finding on all federal actions, including the approval by an agency of a public or private action, such as the issuance of a "404 permit" for filling wetlands by the U.S. Army Corps of Engineers (USACE), on the potential of the action to jeopardize the continued existence of any listed species impacted by the action or to result in the destruction or adverse modification of such species' critical habitat. Provisions of Section 10 are implemented when there is no federal involvement in a project except compliance with FESA. A take not specifically allowed by federal permit under Section 7 or Section 10(a)(1)(B) of the FESA is subject to enforcement through civil or criminal proceedings under Section II of the FESA.

Migratory Bird Treaty Act

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Federal Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act provide regulations to protect bald and golden eagles as well as their nests and eggs from willful damage or injury.

Clean Water Act – Section 404

Section 404 of the CWA regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the RWQCB. To obtain the water quality certification, the RWQCB must indicate that the proposed fill would be consistent with the standards set forth by the state.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

STATE

Fish and Game Code §2050-2097 - California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers a number of laws and programs designed to protect fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA Fish and Game Code Section 2050 et seq.), which regulates the listing and take of state endangered and threatened species, as well as candidate species. Under Section 2081 of CESA, CDFW may authorize take of an endangered and/or threatened species, or candidate species, by an incidental take permit or Memorandum of Understanding (MOU) for scientific, educational, or management purposes. In approving an incidental permit, CDFW must ensure, among other things, that "[t]he impacts of the authorized take shall be minimized and fully mitigated." Further, "[t]he measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation." To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants, as previously designated under the California Native Plant Protection Act (discussed below). Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §2800-2835 – Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning Act is set forth in Fish and Game Code Sections 2800–2835. The intent of the legislation is to provide for conservation planning as an officially recognized policy that can be used as a tool to eliminate conflicts between the protection of natural resources and the need for growth and development. In addition, the legislation promotes conservation planning as a means of coordination and cooperation among private interests, agencies, and landowners, and as a mechanism for multispecies and multi-habitat management and conservation. The development of Natural Community Conservation Plans (NCCPs) is an alternative to obtaining take authorization under Section 2081 of the Fish and Game Code.

Fish and Game Code §1900-1913 – California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance

endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 – Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, possess, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a “Streambed Alteration Agreement” from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Fish and Game Code §3511, 3513, 4700, and 5050 – Fully Protected Species

Fish and Game Code Sections 3511, 3513, 4700, and 5050 pertain to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit the take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock, or if an NCCP has been adopted.

California Environmental Quality Act Guidelines § 15380 – Unlisted Species Worthy of Protection

The CEQA Guidelines provide that a species that is not listed on the federal or State endangered species list may nevertheless be considered rare or endangered if the species meets certain criteria. (CEQA Guidelines § 15380) Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFW. Additionally, the California Native Plant Society (CNPS), a nongovernmental organization, maintains a list of plant species native to California that have low populations, limited distribution, or are otherwise threatened with extinction. This information is published in the

Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) is California's primary water quality control statute. But its protections extend to wetlands, and in some instances wetlands that are not subject to federal jurisdiction under the Clean Water Act. Under the Porter-Cologne Act definition, waters of the state are "any surface water or groundwater, including saline waters, within the boundaries of the state." (Wat. Code, § 13050[e].) Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not necessarily true. Therefore, California retains authority to regulate discharges of waste into any waters of the state, discharges to receiving waters more broadly than the CWA does.

Waters of the state fall under the jurisdiction of the nine Regional Water Quality Control Boards (RWQCBs). Under Porter-Cologne, each RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. California Water Code Section 13260 requires any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements [WDRs]) with the applicable RWQCB. Construction activities that may discharge wastes into the waters of the state must meet the discharge control requirements of the Porter-Cologne Act.

Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), adopted by the Central Valley RWQCB in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River Basins, including the Delta.

State and federal laws mandate the protection of designated "beneficial uses" of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Additional protected beneficial uses of the San Joaquin River include groundwater recharge and fresh water replenishment. Major issues and the general conditions of existing beneficial uses in the San Joaquin River are as follows:

- Water Supply: The San Joaquin River is not currently a source of municipal water supply for the City of Fresno and is not identified as a source for the proposed Project, although some farms in the region use the river as a source of water for irrigation. The City uses groundwater, water from the Kings River through an agreement with FID, and Class 1 water from the Central Valley Project through a water supply contract with the United States Bureau of Reclamation.
- Agricultural Supply: Extensive use is made of San Joaquin River and Delta waters for agricultural purposes. Annual water diversions from the Delta by the State Water Project (SWP) and the Central Valley Project (CVP) for agriculture are estimated to reach 4.3 million acre-feet (MAF) per year by 2030. In addition, about 2,000 privately owned agricultural water supply diversions are scattered throughout the Delta, generally consisting of riverside pumping stations.
- Recreation: Water-dependent recreation uses of the San Joaquin River and the Delta include swimming, wading, waterskiing, sport fishing, and a variety of other activities that involve contact with the water. Noncontact (water-enhanced) recreation uses include picnicking, camping, pleasure boating, hunting, bird watching, education, and aesthetic enjoyment.
- Groundwater Recharge: Water from the San Joaquin River and the Delta recharges the San Joaquin Valley groundwater basin. Recharge serves to maintain salt balance in the soil column, prevent saltwater intrusion into freshwater aquifers, and provide for water supplies. Groundwater is replenished through deep percolation of streamflow, precipitation, and applied irrigation water. Groundwater quality is generally adequate throughout the San Joaquin Valley and the Delta, although at shallow depths within the Delta the water is often saline and contains high levels of total dissolved solids (TDS) and dissolved minerals. Enforceable TDS standards do not exist for drinking water. The need for treatment generally depends on consumer acceptance.
- Fish and Wildlife: The San Joaquin River and the waterways of the Delta provide important habitat for a diverse variety of aquatic life and terrestrial wildlife. This includes temporary habitat and migration routes for anadromous and other migratory species, as well as permanent habitat for resident species. Fish dependent on the Delta as a migration corridor, nursery, or permanent residence include Chinook salmon, steelhead, delta smelt,

Sacramento splittail, striped bass, American shad, sturgeon, catfish, largemouth bass, and numerous other estuary and freshwater species. The amount and quality of water flowing through the Delta greatly influences the overall productivity of the area on an annual basis. A large assemblage of wildlife uses the Delta either seasonally or year round, including waterfowl; migratory and resident songbirds; mice, rabbits, and other small mammals; water dependent mammals, such as beaver and muskrat; and predators such as skunk, raccoon, northern harrier, and coyote.

LOCAL

Fresno General Plan

The Fresno General Plan establishes the following objective and policies directly related to biological resources:

PARKS, OPEN SPACE, AND SCHOOLS ELEMENT

Objective POSS-5: Provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat.

Policy POSS-5-a: Habitat Area Acquisition. Support federal, State, and local programs to acquire significant habitat areas for permanent protection and/or conjunctive educational and recreational use.

Policy POSS-5-b: Habitat Conservation Plans. Participate in cooperative, multijurisdictional approaches for area-wide habitat conservation plans to preserve and protect rare, threatened, and endangered species.

Policy POSS-5-c: Buffers for Natural Areas. Require development projects, where appropriate and warranted, to incorporate natural features (such as ponds, hedgerows, and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

Policy POSS-5-d: Guidelines for Habitat Conservation. Establish guidelines for habitat conservation and mitigation programs, including:

- Protocols for the evaluation of a site's environmental setting and proposed design and operating parameters of proposed mitigation measures.
- Methodology for the analysis depiction of land to be acquired or set aside for mitigation activities.
- Parameters for specification of the types and sources of plant material used for any re-vegetation, irrigation requirements, and post-planting maintenance and other operational measures to ensure successful mitigation.
- Monitoring at an appropriate frequency by qualified personnel and reporting of data collected to permitting agencies.

Policy POSS-5-e: Pursue development of conjunctive habitat and recreational trail uses in flood control and drainage projects.

Policy POSS-5-f: Regional Mitigation and Habitat Restoration. Coordinate habitat restoration programs with responsible agencies to take advantage of opportunities for a coordinated regional mitigation program.

Fresno Municipal Code

Article 3, Street Trees and Parkways, of Chapter 13 of the Fresno Municipal Code contains the public tree policy, tree beautification and preservation regulations, and Special Tree List authorization. Section 13-302, Public Tree Policy, declares that the public interest and welfare require that the City maintain a program for the planting and preservation of trees on all public property in the city as a municipal affair in order to beautify the city, purify its air, and provide shade for its inhabitants. Section 13-304, Tree Beautification, establishes and defines the Master Tree Plan requirements, Parkway Tree requirements, and other requirements related to new and existing development and the provision of parkway trees. Section 13-305, Tree Preservation, outlines tree removal and maintenance requirements, tree permit conditions, and payment of fees in-lieu of replacing a removed tree. Lastly, Section 13-306, Special Tree List, outlines the Special Tree List requirements and tree removal requests for Special Trees:

> The Director is authorized to develop and maintain a Special Tree List. Such list is intended to include those trees of special interest to the city, including, but not limited to, landmark trees or trees of outstanding size or beauty. The City Council may also designate trees on the Special Tree List by resolution. The Director shall give and encourage others to give such trees special treatment and care to retain and protect them.
>
> The Public Works Director shall review all tree removal requests for special trees filed independent of a development application. The Director shall render his/her decision within thirty (30) days after the filing of the request. Any denial shall state the reasons for denial. The decision of the Director shall be mailed to the applicant and to all owners of record of the subject property on the same day the decision is made. In addition, the site or tree shall be posted with a sign by the Department for at least ten calendar days indicating the decision of the Director.
>
> Decisions of the Public Works Director may be appealed to the City Council by the Councilmember of the district in which the project is located or by the Mayor, either on their own initiative or upon receiving a petition from any person. Appeals must be initiated by filing a letter with the Public Works Director. Such action shall require a statement of reasons for the appeal. Unless otherwise specified in a governing State or federal law, all appeals shall be filed with the Public Works Director in writing within 15 days of the date of the decision.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample Initial Study checklist that includes number of factual inquiries related to the subject of biological resources, as it does on a whole series of additional environmental topics. Notably, lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of air quality impacts, or indeed on any subject addressed in the checklist. (*Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.) Rather, with few exceptions, "CEQA grants agencies discretion to develop their own thresholds of significance." (*Ibid*.) Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The City has done so here, though it has exercised its discretion to modify the language of the Appendix G threshold addressing impacts to wetlands so that it applies not only to federally-protected wetlands, but also to wetlands that are protected under State law (the reach of which is sometimes broader than federal law).

Although CEQA generally gives agencies considerable discretion in fashioning significance thresholds, there are some thresholds that must, as a matter of law, be used by public agencies. Many of these relate to biological resources, and are found in CEQA Guidelines section 15065 ("Mandatory Findings of Significance").

Finally, the City is aware that neither Appendix G nor section 15065 sets forth language directly addressing potential effects on birds of prey or nesting birds due to violation of laws (described earlier) intended to protect them. The City has therefore exercised its discretion to formulate a threshold to address this particular category of impact.

In light of the foregoing, for purposes of this EIR, a significant impact would occur if implementation of the Specific Plan would:

- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, rare or threatened species;
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally - or state- protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan;
- Result in the take or destruction of any nesting birds or birds of prey or the nest or eggs of such birds.

IMPACTS AND MITIGATION

Impact 3.4-1: Specific Plan implementation could directly or indirectly have a substantial adverse effect through habitat modifications or reductions, cause populations to drop below self-sustaining levels, substantially eliminate a community, or substantially reduce the number of, or restrict the range of, an endangered, rare or threatened species, including those considered candidate, sensitive, or special status in local or regional plans, policies, regulations, or by the CDFW or USFWS. (Less than Significant with Mitigation)

Approval of the proposed Specific Plan would not directly approve or entitle any development or infrastructure projects. However, implementation of the Specific Plan and Land Use Map would allow and facilitate future development in the Plan Area, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors. Each are discussed below.

INVERTEBRATES

Special-status invertebrates that occur within the 12-quad for the Plan Area include: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), California linderiella (*Linderiella occidentalis*), midvalley fairy shrimp (*Branchinecta mesovallensis*), and vernal pool fairy shrimp (*Branchinecta lynchi*). The Plan Area may contain suitable habitat, or more specifically, micro-habitats, for these special-status invertebrate species. For example, elderberry shrubs, which are the host plant for valley elderberry longhorn beetle, are known to occur in various areas throughout the region, and may be located in the Plan Area on certain properties. It is noted that elderberry can establish itself in various areas, so the absence of this species at one point in time does not mean that it is absent in future years. Additionally, seasonally aquatic, or other aquatic areas (i.e. irrigation ditches or drainage swales) within the Plan Area could provide suitable habitat for some special status aquatic invertebrate species.

Subsequent development under the proposed Specific Plan could result in the direct loss of habitat areas associated with these special-status invertebrate species, since suitable habitat for these species does occur in the region, and can be found as a microhabitat. Additionally, indirect impacts

to special-status invertebrate species could occur with implementation of the Specific Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality, increased human presence, and the loss of aquatic habitat. This is a ***potentially significant*** impact.

AMPHIBIANS & REPTILES

There are two special-status amphibian species and five special-status reptile species that are documented within the 12-quadrangle region for the Specific Plan Area, including: California tiger salamander (CTS) (*Ambystoma californiense*), western spadefoot (*Spea hammondii*), blunt-nosed leopard lizard (*Gambelia sila*), California glossy snake (*Arizona elegans occidentalis*), coast horned lizard (*Phrynosoma blainvillii*), northern California legless lizard (*Anniella pulchra*), and western pond turtle (*Emys marmorata*). There are two documented occurrences of CTS in the Specific Plan Area. The more recent occurrence was documented in February 2017. This occurrence was documented in the vicinity of N. Blythe Avenue approximately 0.2 miles northwest of the W. Austin Way junction, and 0. Mile southeast of the W. Ashland Avenue junction. There are two polygons showing approximate locations – the northern polygon is the approximate location of the detection site for the CTS, and the southern polygon is the approximate location of the relocation site for CTS. For this occurrence, one CTS adult was found on the grounds of an apartment complex by a landscape maintenance crew. The animal was delivered to a local biologist who relocated the CTS to a nearby open space area. The open space area has alfalfa and grass, standing water in the springs, and many burrows present. According to the CNDDB, the individual may have represented a remnant population that has lost too much habitat to be viable.

The second occurrence was documented in 1879. The occurrence was from the U.S. National Museum (#11794), and the Cornell University Museum of Vertebrates (#3017). The site is considered to be extirpated.

The developed and agricultural areas within the Specific Plan Area provide very limited to no potential for special status species reptile and amphibians listed above. The portions of the Plan Area with the highest potential for presence of any special status reptile or amphibian species are areas where aquatic habitat is present, such as irrigation ditches or retention basins. Additionally, there are numerous locations for refugia (debris, burrows, crevices, barns, sheds, etc.) within the Plan Area that could be used by migrating CTS.

Subsequent development under the proposed Specific Plan could result in the direct loss of habitat areas associated with these special-status reptile and amphibian species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special-status reptile and amphibian species could occur with implementation of the Specific Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality, increased human presence, and the loss of foraging habitat. This is a ***potentially significant*** impact.

FISH

There is one special-status fish species that is documented within the 12-quadrangle region for the Specific Plan Area: hardhead (*Mylopharodon conocephalus*). This species is not documented within

the Specific Plan Area or vicinity. Based on habitat conditions and records searches, this fish species does not have the potential to be present within the Specific Plan Area. The proposed Specific Plan would not, directly or indirectly, have a substantial adverse effect on fish species through habitat modifications or reductions, cause populations to drop below self-sustaining levels, substantially eliminate a community, or substantially reduce the number of, or restrict the range of, an endangered, rare or threatened species, including those considered candidate, sensitive, or special status in local or regional plans, policies, regulations, or by the CDFW or USFWS. Therefore, impacts associated with special-status fish species would be ***less than significant***.

BIRDS

There are ten special-status bird species that are documented within the 12-quadrangle region for the Specific Plan Area, including: black-crowned night heron (*Nycticorax nycticorax*), burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), double-crested cormorant (*Phalacrocorax auratus*), great egret (*Ardea alba*), Least Bell's vireo (*Vireo bellii pusillus*), snowy egret (*Egretta thula*), Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). While none of these bird species have been documented in the Plan Area, it is highly likely that some of the aforementioned special-status bird species could regularly use or pass through the Specific Plan Area given their high mobility.

It is anticipated that the raptor species would frequent the site for foraging. There is limited to no potential for nesting in the agricultural and developed areas. The portions of the Plan Area with the highest potential for presence of any nesting birds are the more rural and vacant portions of the Plan Area. Most bird nesting would occur in trees located in these areas, with the exception of ground nesting species such as the burrowing owl.

Subsequent development under the proposed Specific Plan could result in the direct loss of habitat areas associated with these special-status bird species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special-status bird species could occur with implementation of the Specific Plan. Indirect impacts could include habitat degradation, increased human presence, and the loss of foraging habitat. This is a ***potentially significant*** impact.

MAMMALS

There are eight special-status mammal species that are documented within the 12-quadrangle region for the Specific Plan Area, including: American badger (*Taxidea taxus*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), Hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), San Joaquin kit fox (*Vulpes macrotis mutica*), San Joaquin Pocket Mouse (*Perognathus inornatus*), spotted bat (*Euderma maculatum*), and western mastiff bat (*Eumops perotis californicus*). Fresno kangaroo rat, San Joaquin kit fox, and western mastiff bat have all been documented in the Specific Plan Area.

The agricultural areas within the Specific Plan Area provide very limited to no potential for special status species mammals, except for movement and foraging. The portion of the Plan Area with the highest potential for presence of special-status mammal species is along the vacant, undeveloped

land not used for active agriculture. These areas provide the most intact habitat available within the entirety of the Specific Plan Area, although the species could move and forage throughout much of the Plan Area.

Subsequent development under the proposed Specific Plan could result in the direct loss of habitat areas associated with these special-status mammal species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special-status mammal species could occur with implementation of the Specific Plan. Indirect impacts could include habitat degradation, increased human presence, and the loss of foraging habitat. This is a ***potentially significant*** impact.

PLANTS

The search revealed documented occurrences of 18 special status plant species within the 12-quadrangle region for the Plan Area, as shown in Table 3.4-3.

The developed and agricultural areas within the Plan Area provide very limited to no potential for special status plant species. The tilled farmland is regularly disturbed and is planted for agricultural production and does not have any potential for these plants. The farmland fringe and irrigation ditches are the only areas within the agricultural land that have some potential for presence of native plants, although the potential for presence is very low. There exists the potential for future development or infrastructure improvements to encroach upon sensitive plant habitat within the Plan Area. Therefore, impacts associated with special-status plant species would be ***potentially significant***.

CONCLUSION

Construction and maintenance activities associated with future development projects under the proposed Specific Plan could result in the direct and indirect loss or indirect disturbance of special-status plant or wildlife (i.e. mammal, bird, amphibian, or reptile) species or their habitats that are known to occur, or have potential to occur, in the region. Impacts to special-status species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special-status species associated with individual subsequent projects could include:

- increased mortality caused by higher numbers of automobiles in new areas of development;
- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through construction areas;
- direct mortality resulting from removal of trees with active nests;
- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- direct mortality resulting from fill of wetlands features;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;

- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- abandoned eggs or young and subsequent nest failure for special-status nesting birds, including raptors, and other non-special-status migratory birds resulting from construction-related noises;
- loss or disturbance of rookeries and other colonial nests;
- loss of suitable foraging habitat for special-status raptor species;
- loss of migration corridors resulting from the construction of permanent structures or features; and
- impacts to fisheries/species associated with waterways.

Subsequent development projects will be required to comply with the City's General Plan and adopted Federal, State, and local regulations for the protection of special-status plants and animals, including habitat. The Specific Plan includes numerous policies intended to protect special-status plants and animals, including habitat, from adverse effects associated with future development and improvement projects. While future development of the Plan Area has the potential to result in significant impacts to protected special-status plants and animals, including habitat, the implementation of the policies listed below, as well as Federal and State regulations, would reduce impacts to these resources. Additionally, the mitigation measures included below would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-1: *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts on special-status invertebrate species:*

- *Preconstruction surveys/habitat assessments for valley elderberry longhorn beetle (Desmocerus californicus dimorphus), California linderiella (Linderiella occidentalis), midvalley fairy shrimp (Branchinecta mesovallensis), and vernal pool fairy shrimp (Branchinecta lynchi) shall be conducted by a qualified biologist in all areas of suitable habitat within the project disturbance area.*

- *If valley elderberry longhorn beetle (Desmocerus californicus dimorphus), California linderiella (Linderiella occidentalis), midvalley fairy shrimp (Branchinecta mesovallensis), or vernal pool fairy shrimp (Branchinecta lynchi), or their suitable habitat, is found during preconstruction surveys/habitat assessments within the disturbance area, activities within 200 feet of the find shall cease until appropriate measures have been completed, which may include an application for incidental take, or it is determined by the qualified biologist and City staff, in coordination with USFWS and CDFW, that the species will not be harmed by the activities. Any sightings or incidental take shall be reported to USFWS and CDFW immediately.*

- *Construction personnel performing activities within aquatic habitats and other suitable habitats (i.e., elderberry shrubs) to be disturbed by project activities shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize the species, their habitats, and measures being implemented for its protection.*

Mitigation Measure 3.4-2: *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts on special-status amphibian and reptile species:*

- *Preconstruction surveys/habitat assessments for California tiger salamander (CTS) (Ambystoma californiense), western spadefoot (Spea hammondii), blunt-nosed leopard lizard (Gambelia sila), California glossy snake (Arizona elegans occidentalis), coast horned lizard (Phrynosoma blainvillii), northern California legless lizard (Anniella pulchra), and western pond turtle (Emys marmorata) shall be conducted by a qualified biologist in all areas of suitable habitat within the project disturbance area.*

- *If California tiger salamander (CTS) (Ambystoma californiense), western spadefoot (Spea hammondii), blunt-nosed leopard lizard (Gambelia sila), California glossy snake (Arizona elegans occidentalis), coast horned lizard (Phrynosoma blainvillii), northern California legless lizard (Anniella pulchra), or western pond turtle (Emys marmorata), or their suitable habitat, is found during preconstruction surveys/habitat assessments within the disturbance area, activities within 200 feet of the find shall cease until appropriate measures have been completed, which may include an application for incidental take, or it is determined by the qualified biologist and City staff, in coordination with USFWS and CDFW, that the species will not be harmed by the activities. Any sightings or incidental take shall be reported to USFWS and CDFW immediately.*

- *If western pond turtles are found during preconstruction surveys, a qualified biologist, with approval from CDFW, shall move the turtles to the nearest suitable habitat outside the area subject to project disturbance. The construction area shall be reinspected whenever a lapse in construction activity of 2 weeks or more has occurred.*

- *Construction personnel performing activities within aquatic habitats and adjacent suitable uplands to be disturbed by project activities shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize western pond turtle, their habitats, and measures being implemented for its protection.*

- *Construction personnel shall observe a 15-miles-per-hour speed limit on unpaved roads.*

Mitigation Measure 3.4-3: *Prior to any ground disturbance in areas which may support suitable breeding or nesting habitat for burrowing owl, a preconstruction survey of the parcel(s) to be developed shall be completed for burrowing owl in accordance with CDFW survey guidelines (California Department of Fish and Game 1995). On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land*

ownership need not be surveyed. Surveys shall take place near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls shall be identified and mapped. Surveys shall take place no earlier than 30 days prior to construction. During the breeding season (February 1 to August 31), surveys shall document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1 to January 31), surveys shall document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results shall be valid only for the season (breeding or nonbreeding) during which the survey is conducted. If burrowing owls and/or suitable burrows are not discovered, then further mitigation is not necessary.

If burrowing owls are found during the breeding season (February 1 to August 31), the project proponent(s) shall avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance shall include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 to January 31), the project proponent(s) shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a buffer zone (described below). During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur shall be established around each occupied burrow (nest site). Buffer zones of 160 feet shall be established around each burrow being used during the nonbreeding season. The buffers shall be delineated by highly visible, temporary construction fencing.

If occupied burrows for burrowing owls cannot be avoided, passive relocation shall be implemented. Owls may be excluded from burrows in the immediate impact zone under an authorization from the CDFW. Such exclusion would be anticipated to include the installation of one-way doors in burrow entrances. These doors would be in place for 48 hours prior to excavation and monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows must be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow. CDFW has the authority to authorize a variation to the above described exclusion method.

***Mitigation Measure 3.4-4:** Prior to any ground disturbance conducted during the Swainson's hawk nesting season (March 15 to September 15) in areas which may support suitable habitat for Swainson Hawk, a USFWS/CDFW-approved biologist shall conduct a preconstruction survey for Swainson's hawk no earlier than 30 days prior to construction in order to determine whether occupied Swainson's hawk nests are located within 1,000 feet of the parcel(s) to be developed. If any potentially-occupied nests within 1,000 feet are off the project site, then their occupancy shall be determined by observation from public roads or by observations of Swainson's hawk activity (e.g. foraging) near the project site. A written summary of the survey results shall be submitted to the City of Fresno.*

During the Swainson's hawk nesting season (March 15 to September 15), construction activities within 1,000 feet of occupied nests or nests under construction shall be prohibited to prevent nest abandonment. If site-specific conditions, or the nature of the covered activity (e.g., steep topography, dense vegetation, and limited activities) indicate that a smaller buffer could be used, the City of Fresno may coordinate with CDFW/USFWS to determine the appropriate buffer size. If young fledge prior to September 15, construction activities could proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project proponent(s) can apply to the City of Fresno for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFW. While nest is occupied, activities outside the buffer can take place.

All active nest trees shall be preserved on site, if feasible.

Mitigation Measure 3.4-5: *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts to the black-crowned night heron (Nycticorax nycticorax), California horned lark (Eremophila alpestris actia), double-crested cormorant (Phalacrocorax auratus), great egret (Ardea alba), Least Bell's vireo (Vireo bellii pusillus), snowy egret (Egretta thula), tricolored blackbird (Agelaius tricolor), and western yellow-billed cuckoo (Coccyzus americanus occidentalis) that may occur on the site:*

- *Preconstruction surveys for active nests of black-crowned night heron (Nycticorax nycticorax), California horned lark (Eremophila alpestris actia), double-crested cormorant (Phalacrocorax auratus), great egret (Ardea alba), Least Bell's vireo (Vireo bellii pusillus), snowy egret (Egretta thula), tricolored blackbird (Agelaius tricolor), and western yellow-billed cuckoo (Coccyzus americanus occidentalis) shall be conducted by a qualified biologist in all areas of suitable habitat within 500 feet of project disturbance. Surveys shall be conducted within 14 days before commencement of any construction activities that occur during the nesting season (February 15 to August 31) in a given area.*

- *If any active nests, or behaviors indicating that active nests are present, are observed, appropriate buffers around the nest sites shall be determined by a qualified biologist to avoid nest failure resulting from project activities. The size of the buffer shall depend on the species, nest location, nest stage, and specific construction activities to be performed while the nest is active. The buffers may be adjusted if a qualified biologist determines it would not be likely to adversely affect the nest. If buffers are adjusted, monitoring will be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.*

Mitigation Measure 3.4-6: *Prior to any ground disturbance related to construction activities, a biologist shall conduct a preconstruction survey in areas which may support suitable breeding or denning habitat for San Joaquin kit fox. The survey shall establish the presence or absence of San Joaquin kit fox and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (USFWS, 1999). Preconstruction surveys shall be conducted not earlier than 30 days from*

commencing ground disturbance. On the parcel where activity is proposed, the biologist shall survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit fox and/or suitable dens. Adjacent parcels under different land ownership need not be surveyed. The status of all dens shall be determined and mapped. Written result of preconstruction surveys shall be submitted to the USFWS within 5 working days after survey completion and before start of ground disturbance. Concurrence by the USFWS is not required prior to initiation of construction activities. If San Joaquin kit fox and/or suitable dens are not discovered, then further mitigation is not necessary. If San Joaquin kit fox and/or suitable dens are identified in the survey area, the following measure shall be implemented.

If a San Joaquin kit fox den is discovered in the proposed development footprint, the den shall be monitored for 3 days by a CDFW/USFWS-approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. Unoccupied dens shall be destroyed immediately to prevent subsequent use. If a natal or pupping den is found, the USFWS and CDFW shall be notified immediately. The den shall not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFW. If kit fox activity is observed at the den during the initial monitoring period, the den shall be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied, it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgement of a biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).

Mitigation Measure 3.4-7: *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measures to avoid or minimize impacts on bats:*

- *If removal of suitable roosting areas (i.e. buildings, trees, shrubs, bridges, etc.) must occur during the bat pupping season (April 1 through July 31), surveys for active maternity roosts shall be conducted by a qualified biologist. The surveys shall be conducted from dusk until dark.*

- *If a special-status bat maternity roost is located, appropriate buffers around the roost sites shall be determined by a qualified biologist and implemented to avoid destruction or abandonment of the roost resulting from habitat removal or other project activities. The size of the buffer shall depend on the species, roost location, and specific construction activities to be performed in the vicinity. No project activity shall commence within the buffer areas until the end of the pupping season (August 1) or until a qualified biologist confirms the maternity roost is no longer active.*

Mitigation Measure 3.4-8: *Future project proponent(s) of development projects within the Specific Plan Area shall implement the following measure to avoid or minimize impacts to the American badger (Taxidea taxus), Fresno kangaroo rat (Dipodomys nitratoides exilis), and San Joaquin pocket mouse (Perognathus inornatus) that may occur on the site:*

- *Preconstruction surveys for indications of American badger (Taxidea taxus), Fresno kangaroo rat (Dipodomys nitratoides exilis), and San Joaquin pocket mouse (Perognathus inornatus) shall be conducted by a qualified biologist in all areas of suitable habitat within 500 feet of project disturbance. Surveys shall be conducted within 14 days before commencement of any construction activities that occur in a given area.*

- *If any active habitat areas, or behaviors indicating that active habitat is present, are observed, appropriate avoidance and mitigation measures, including but not limited to buffer areas, shall be required. The avoidance and mitigation measures shall be determined by the qualified biologist and implemented by the project proponent(s).*

Mitigation Measure 3.4-9: *Prior to construction in undisturbed areas, future project proponent(s) shall retain a biologist to perform plant surveys. The surveys shall be performed during the floristic season. If any of these plants are found during the surveys, the project proponent(s) shall contact the CNPS to obtain the appropriate avoidance and minimization measures. The project proponent(s) shall also implement the avoidance and minimization measures.*

SPECIFIC PLAN POLICIES THAT MITIGATE POTENTIAL IMPACTS

Policy IPR 3.5*: Utilize existing regulations and procedures, including but not limited to, the Development Code and the environmental review process, in order to conserve any existing or discovered wetland, riparian, or other sensitive habitats within the Plan Area.*

Policy IPR 3.6*: Where sensitive biological habitats have been identified or are discovered on or immediately adjacent to a project site, the project shall include appropriate mitigation measures determined by a qualified biologist.*

Policy IPR 3.7*: Coordinate with the California Department of Fish and Wildlife, Fresno County, and local watershed protection groups to identify potentially impacted aquatic habitat within the Plan Area and to develop management guidelines to be implemented by development, recreation, and other projects adjacent to ponds, ditches, canals, and other waterways.*

Impact 3.4-2: Specific Plan implementation has the potential to have substantial adverse effect on federally- or state-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (Less than Significant with Mitigation)

The Plan Area does not contain any natural hydrologic features. The Plan Area contains an internal network of agricultural ditches along the margins of the farm fields. The ditches in proximity to active agricultural areas of the Plan Area are regularly maintained to control/collect irrigation runoff from the fields. These features are manmade and are fed only by local irrigation water during the irrigation season or rainfall during the winter/spring season.

The USACE has regulatory responsibility for navigable waters as well as "all other waters such as...streams ...wetlands...and natural ponds, the use, degradation or destruction of which could

affect interstate or foreign commerce" (33 CFR 323.4) under Section 404 of the CWA. A formal jurisdictional determination must be made by the USACE relative to protected wetlands and jurisdictional waters. The agricultural irrigation ditches are manmade and believed to solely function to drain upland agricultural runoff. As such, they are expected to be exempted from the USACE jurisdiction under the Irrigation Ditch Exemption pursuant to Federal Regulations (33 CFR 323.4(a)(3)). However, a final determination must be made by the USACE prior to any filling of these ditches for urban use.

CONCLUSION

Because the proposed Specific Plan is a planning document and thus, no physical changes will occur to the environment, adoption of the Specific Plan would not directly impact the environment. There is a reasonable chance that water features could be impacted throughout the buildout of the individual projects. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process. These requirements are also included in Mitigation Measures 3.4-10 and 3.4-11.

Subsequent development projects will be required to comply with the City's General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. The Specific Plan includes numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected water features, compliance with existing Federal and State regulations would reduce impacts to these resources. Mitigation measures included below ensure these regulations are followed. Additionally, implementation of Specific Plan Policies IPR 3.5 through IPR 3.7, as detailed below, would ensure that this impact is ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-10: *If a proposed project will result in the significant alteration or fill of a federally protected wetland, a formal wetland delineation conducted according to USACE accepted methodology would be required for each project to determine the extent of wetlands on a project site. The delineation shall be used to determine if federal permitting and mitigation strategy are required to reduce project impacts. Acquisition of permits from USACE for the fill of wetlands and USACE approval of a wetland mitigation plan would ensure a "no net loss" of wetland habitat within the Planning Area. Appropriate wetland mitigation/creation shall be implemented in a ratio according to the size of the impacted wetland.*

Mitigation Measure 3.4-11: *In addition to regulatory agency permitting, Best Management Practices identified from a list provided by the USACE shall be incorporated into the design and construction phase of the project to ensure that no pollutants or siltation drain into a federally protected wetland. Project design features such as fencing, appropriate drainage and incorporating*

detention basins shall assist in ensuring project-related impacts to wetland habitat are minimized to the greatest extent feasible.

SPECIFIC PLAN POLICIES

Policy IPR 3.5*: Utilize existing regulations and procedures, including but not limited to, the Development Code and the environmental review process, in order to conserve any existing or discovered wetland, riparian, or other sensitive habitats within the Plan Area.*

Policy IPR 3.6*: Where sensitive biological habitats have been identified or are discovered on or immediately adjacent to a project site, the project shall include appropriate mitigation measures determined by a qualified biologist.*

Policy IPR 3.7*: Coordinate with the California Department of Fish and Wildlife, Fresno County, and local watershed protection groups to identify potentially impacted aquatic habitat within the Plan Area and to develop management guidelines to be implemented by development, recreation, and other projects adjacent to ponds, ditches, canals, and other waterways.*

Impact 3.4-3: Specific Plan implementation would not have substantial adverse effects on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant with Mitigation)

The records search revealed the presence of the following sensitive natural communities within the 12-quadrangle region for the Specific Plan Area: Great Valley Mixed Riparian Forest, Northern Claypan Vernal Pool, Northern Hardpan Vernal Pool, Sycamore Alluvial Woodland. None of these community types are found in the Plan Area. Riparian habitat is located northwest of the northwestern corner of the Plan Area along the San Joaquin River; however, this riparian habitat is not found within the Plan Area. The rectangular parcel located closest to the River and associated riparian habitat is the site of the future Fresno Aquarium.

Subsequent development projects will be required to comply with the City's General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat. The Specific Plan includes policies intended to protect sensitive natural communities, including riparian habitat, from adverse effects associated with future development and improvement projects. While future development has the potential to result in significant impacts to protected habitats, implementation of Specific Plan Policies IPR 3.5 and IPR 3.6 and Mitigation Measures 3.4-12 through 3.4-14, detailed below, would ensure that this impact is ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-12: *A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in the removal or impact to any riparian habitat and/or a special-status natural community with potential to occur in the Specific Plan Area,*

compensatory habitat-based mitigation shall be required to reduce project impacts. Compensatory mitigation must involve the preservation or restoration or the purchase of off-site mitigation credits for impacts to riparian habitat and/or a special-status natural community. Mitigation must be conducted in-kind or within an approved mitigation bank in the region. The specific mitigation ratio for habitat-based mitigation shall be determined through consultation with the appropriate agency (i.e., CDFW or USFWS) on a case-by-case basis. The project applicant/developer for a proposed project shall develop and implement appropriate mitigation regarding impacts on their respective jurisdictions.

Mitigation Measure 3.4-13: *A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in significant impacts to streambeds or waterways protected under Section 1600 of Fish and Wildlife Code and Section 404 of the CWA. The project applicant/developer for a proposed project shall consult with partner agencies such as CDFW and/or USACE to develop and implement appropriate mitigation regarding impacts on their respective jurisdictions, determination of mitigation strategy, and regulatory permitting to reduce impacts, as required for projects that remove riparian habitat and/or alter a streambed or waterway. The project applicant/developer shall implement mitigation as directed by the agency with jurisdiction over the particular impact identified.*

Mitigation Measure 3.4-14: *Prior to project approval, a pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in project-related impacts to riparian habitat or a special-status natural community or if it may result in direct or incidental impacts to special-status species associated with riparian or wetland habitats. The project applicant/developer for a proposed project shall be obligated to address project-specific impacts to special-status species associated with riparian habitat through agency consultation, development of a mitigation strategy, and/or issuing incidental take permits for the specific special-status species, as determined by the CDFW and/or USFWS.*

SPECIFIC PLAN POLICIES

Policy IPR 3.5*: Utilize existing regulations and procedures, including but not limited to, the Development Code and the environmental review process, in order to conserve any existing or discovered wetland, riparian, or other sensitive habitats within the Plan Area.*

Policy IPR 3.6*: Where sensitive biological habitats have been identified or are discovered on or immediately adjacent to a project site, the project shall include appropriate mitigation measures determined by a qualified biologist.*

Impact 3.4-4: Specific Plan implementation would not interfere substantially with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)

Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat

fragments). Wildlife habitat corridors maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation or removal. The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet any of the habitat requirements necessary for a passage species everyday survival. "Corridor dwellers" are those species that have limited dispersal capabilities – a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds – and use corridors for a greater length of time.

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Plan Area. There is a reasonable chance that movement corridors could be impacted throughout the buildout of the individual projects in the Plan Area. The agricultural areas are not migratory wildlife corridors, although some species may move through this area.

Subsequent development projects will be required to comply with the City's General Plan, proposed Specific Plan, and adopted Federal, State, and local regulations for the protection of movement corridors. The Specific Plan includes Policy IPR 3.6, which states, "Where sensitive biological habitats have been identified or are discovered on or immediately adjacent to a project site, the project shall include appropriate mitigation measures determined by a qualified biologist." While future development has the potential to result in significant impacts to protected movement corridors, the implementation of Policy IPR 3.6, as well as Federal and State regulations, would ensure impacts to these resources to a ***less than significant*** level.

Impact 3.4-5: Specific Plan implementation would not conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan. (Less than Significant)

The Plan Area overlaps with areas that are covered by PG&E's San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (HCP). The HCP covers PG&E's routine operations and maintenance activities, as well as minor new construction, on any PG&E gas and electrical transmission and distribution facilities, easements, private access routes, or lands owned by PG&E. The proposed Specific Plan would not be expected to conflict or interfere with the HCP activities. Future buildout of the Plan Area, however, would likely result in a need for PG&E gas and electrical transmission and distribution facilities to support new residential and other developed land uses not covered by the HCP; however, construction of PG&E gas and electrical transmission and distribution facilities in the Plan Area would be covered by General Plan Policies POSS-5-a through POSS-5-f, and the proposed mitigation measures described herein.

The Plan Area is also located in the planning area of the Recovery Plan for Upland Species of the San Joaquin Valley, which addresses recovery needs and goals for the San Joaquin kit fox, among other species. Project-level implementation of the General Plan Policies POSS-5-a through POSS-5-f, and Mitigation Measure 3.4-5 discussed in Impact 3.4-1, will reduce potential project impacts to the San Joaquin kit fox and other wildlife covered by the Recovery Plan and their associated habitat, and require consultation with the USFWS if take of federally-listed species would occur. Thus, with implementation of these measures, the proposed Specific Plan would not be expected to conflict with the goals of the Recovery Plan. The proposed Specific Plan would have a ***less than significant*** impact relative to this topic.

Impact 3.4-6: Specific Plan implementation would not conflict with local policies or ordinances protecting biological resources. (Less than Significant)

State law requires any decision by a city affecting land use and development to be consistent with its General Plan. This determination is ultimately made by the City Council. If an action, program or project is inconsistent with the General Plan, State law requires it be reconciled. This may involve modification to the action, program, or project, or amendment of the General Plan. Therefore, this impact discussion will evaluate the proposed projects' consistency with the Fresno General Plan as it related to biological resources. The evaluation will consider the proposed Plan's consistency with the adopted General Plan policies included within the Parks, Open Space, and Schools Element of the Fresno General Plan. This impact discussion also includes an evaluation of the Plan's consistency with the City of Fresno Municipal Code.

FRESNO GENERAL PLAN

The following discussion analyzes the project's consistency with the relevant policies of the City's General Plan.

Policy POSS-5-a: Habitat Area Acquisition. Support federal, State, and local programs to acquire significant habitat areas for permanent protection and/or conjunctive educational and recreational use.

> The Plan Area does not contain significant habitat areas. It is noted, however, that the Specific Plan land use plan includes 248.4 acres of open space uses, including pocket parks, neighborhood parks, community parks, open space, and ponding basins. These open space uses could be used for educational and/or recreational uses. The proposed Specific Plan is consistent with this Policy.

Policy POSS-5-b: Habitat Conservation Plans. Participate in cooperative, multijurisdictional approaches for area-wide habitat conservation plans to preserve and protect rare, threatened, and endangered species.

> As discussed in Impact 3.4-5, the Plan Area overlaps with areas that are covered by PG&E's San Joaquin Valley Operation and Maintenance HCP. The Plan Area is also located in the planning area of the Recovery Plan for Upland Species of the San Joaquin Valley, which addresses

recovery needs and goals for the San Joaquin kit fox, among other species. The proposed Specific Plan would participate in both plans, as applicable, and would not conflict with PG&E's San Joaquin Valley Operation and Maintenance HCP or the Recovery Plan for Upland Species of the San Joaquin Valley. The proposed Specific Plan is consistent with this Policy.

Policy POSS-5-c: Buffers for Natural Areas. Require development projects, where appropriate and warranted, to incorporate natural features (such as ponds, hedgerows, and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

The Plan Area does not contain areas with high ecological value. The San Joaquin River and associated riparian habitat, which has high ecological value, is located northwest of the northwestern corner of the Plan Area along the San Joaquin River; however, this riparian habitat is not found on-site. The rectangular parcel located closest to the River and associated riparian habitat is the site of the future Fresno Aquarium. The Aquarium would overlook the River but would be physically buffered from this natural area. The proposed Specific Plan is consistent with this Policy.

Policy POSS-5-d: Guidelines for Habitat Conservation. Establish guidelines for habitat conservation and mitigation programs, including:

- Protocols for the evaluation of a site's environmental setting and proposed design and operating parameters of proposed mitigation measures.
- Methodology for the analysis depiction of land to be acquired or set aside for mitigation activities.
- Parameters for specification of the types and sources of plant material used for any re-vegetation, irrigation requirements, and post-planting maintenance and other operational measures to ensure successful mitigation.
- Monitoring at an appropriate frequency by qualified personnel and reporting of data collected to permitting agencies.

As discussed above, the Specific Plan would not conflict with PG&E's San Joaquin Valley Operation and Maintenance HCP or the Recovery Plan for Upland Species of the San Joaquin Valley. The proposed Specific Plan is consistent with this Policy. The mitigation measures outlined throughout the above impact discussions include guidelines for future projects to implement in order to conserve habitat and mitigate potential impacts. The proposed Specific Plan is consistent with this Policy.

Policy POSS-5-e: Pursue development of conjunctive habitat and recreational trail uses in flood control and drainage projects.

The Specific Plan includes two policies which address flood protection and design. Policy IPR 2.9 states, "Plant locally appropriate, drought-tolerant landscaping and, where possible, incorporate designs that can contribute to groundwater recharge, flood protection, and reduced urban heat island effects." Policy LUH 5.1 states, "Update the Development Code so that when land proposed for urban development abuts active farmland, planned farmland, or rural

residential, the development project shall include and provide for the maintenance of one of the following design features to provide a rural/urban buffer:

- Provide landscaping and setbacks to fully obscure the new development's buildings and fences.
- Do not include fencing, or provide only see-through fencing no greater than four feet in height between the new development and the existing property.
- Provide open space such as edible gardens, landscaped walkways, or permanent on-site flood control/drainage facilities.
- Locate boundary streets between the new and existing developments."

These two Specific Plan policies supports conjunctive use of flood control facilities as recreational or open space amenities. The proposed Specific Plan is consistent with this Policy.

Policy POSS-5-f: Regional Mitigation and Habitat Restoration. Coordinate habitat restoration programs with responsible agencies to take advantage of opportunities for a coordinated regional mitigation program.

As discussed above, the Specific Plan would not conflict with PG&E's San Joaquin Valley Operation and Maintenance HCP or the Recovery Plan for Upland Species of the San Joaquin Valley. The proposed Specific Plan is consistent with this Policy. Additionally, the mitigation measures outlined throughout the above impact discussions include guidelines for future projects to implement in order to conserve habitat and mitigate potential impacts. The City will continue to coordinate habitat restoration programs with responsible agencies in order to take advantage of opportunities for a coordinated regional mitigation program. The proposed Specific Plan is consistent with this Policy.

FRESNO MUNICIPAL CODE

Article 3, Street Trees and Parkways, of Chapter 13 of the Fresno Municipal Code contains the public tree policy, tree beautification and preservation regulations, and Special Tree List authorization. Section 13-302, Public Tree Policy, declares that the public interest and welfare require that the city maintain a program for the planting and preservation of trees on all public property in the city as a municipal affair in order to beautify the city, purify its air, and provide shade for its inhabitants. Section 13-304, Tree Beautification, establishes and defines the Master Tree Plan requirements, Parkway Tree requirements, and other requirements related to new and existing development and the provision of parkway trees. Section 13-305, Tree Preservation, outlines tree removal and maintenance requirements, tree permit conditions, and payment of fees in-lieu of replacing a removed tree. Lastly, Section 13-306, Special Tree List, outlines the Special Tree List requirements and tree removal requests for Special Trees.

There are trees located throughout the Plan Area. Any removal of these trees would be required to comply with the provisions of the Fresno Municipal Code, including Article 3, Street Trees and Parkways, of Chapter 13. This is an existing standard and regulation that is enforced by the City of Fresno during the improvement/grading plan and/or building plan phase of a project.

CONCLUSION

The proposed Specific Plan would not conflict with local policies or ordinances protecting biological resources. The future project proponents would be required to comply with the provisions of the City's General Plan and Municipal Code. As demonstrated above, the proposed Specific Plan is generally consistent with the above relevant open space and conservation policies of the General Plan, as well as the City's Municipal Code. Overall, the proposed Specific Plan would have a ***less than significant*** impact relative to this topic.

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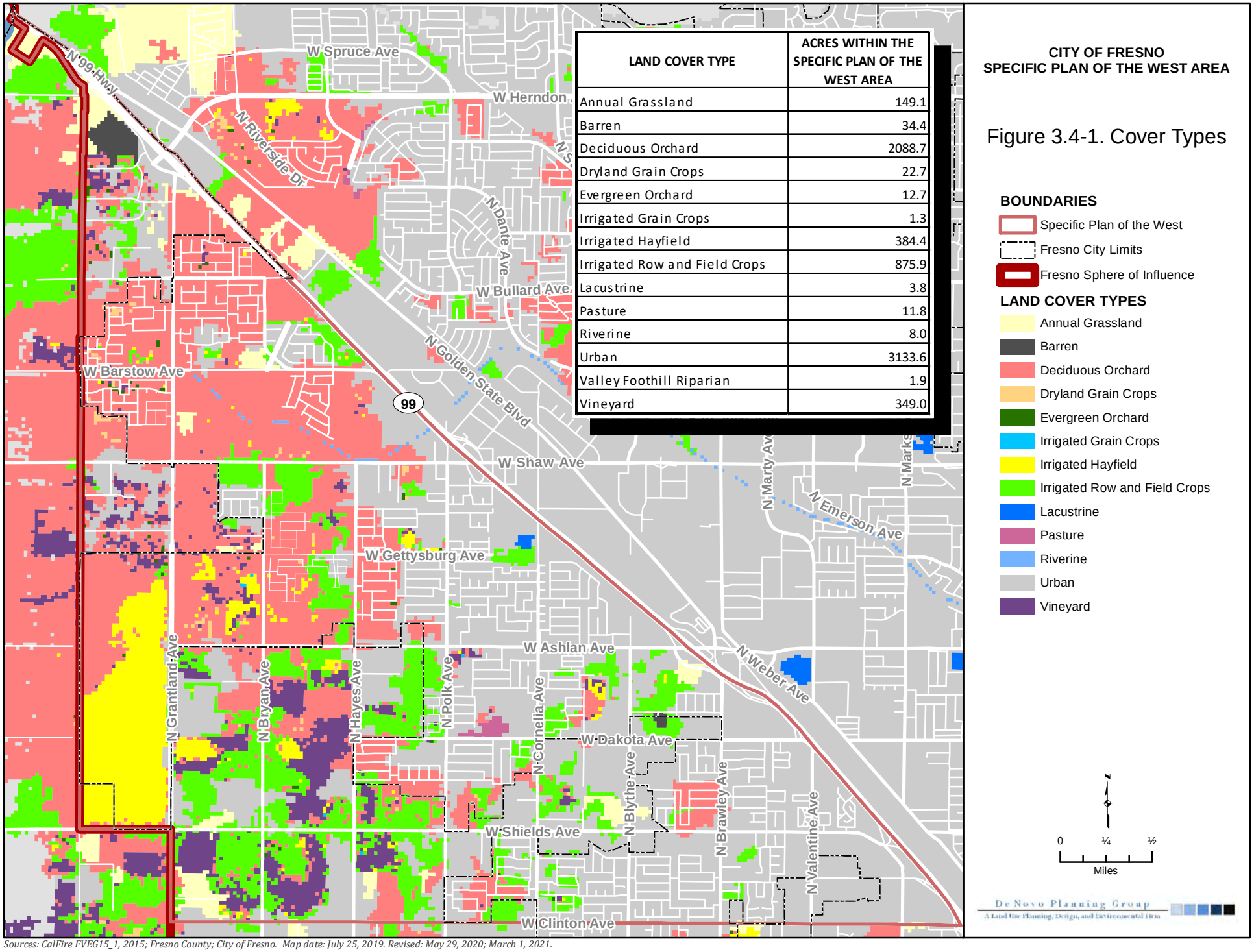

LAND COVER TYPE	ACRES WITHIN THE SPECIFIC PLAN OF THE WEST AREA
Annual Grassland	149.1
Barren	34.4
Deciduous Orchard	2088.7
Dryland Grain Crops	22.7
Evergreen Orchard	12.7
Irrigated Grain Crops	1.3
Irrigated Hayfield	384.4
Irrigated Row and Field Crops	875.9
Lacustrine	3.8
Pasture	11.8
Riverine	8.0
Urban	3133.6
Valley Foothill Riparian	1.9
Vineyard	349.0

Sources: CalFire FVEG15_1, 2015; Fresno County; City of Fresno. Map date: July 25, 2019. Revised: May 29, 2020; March 1, 2021.

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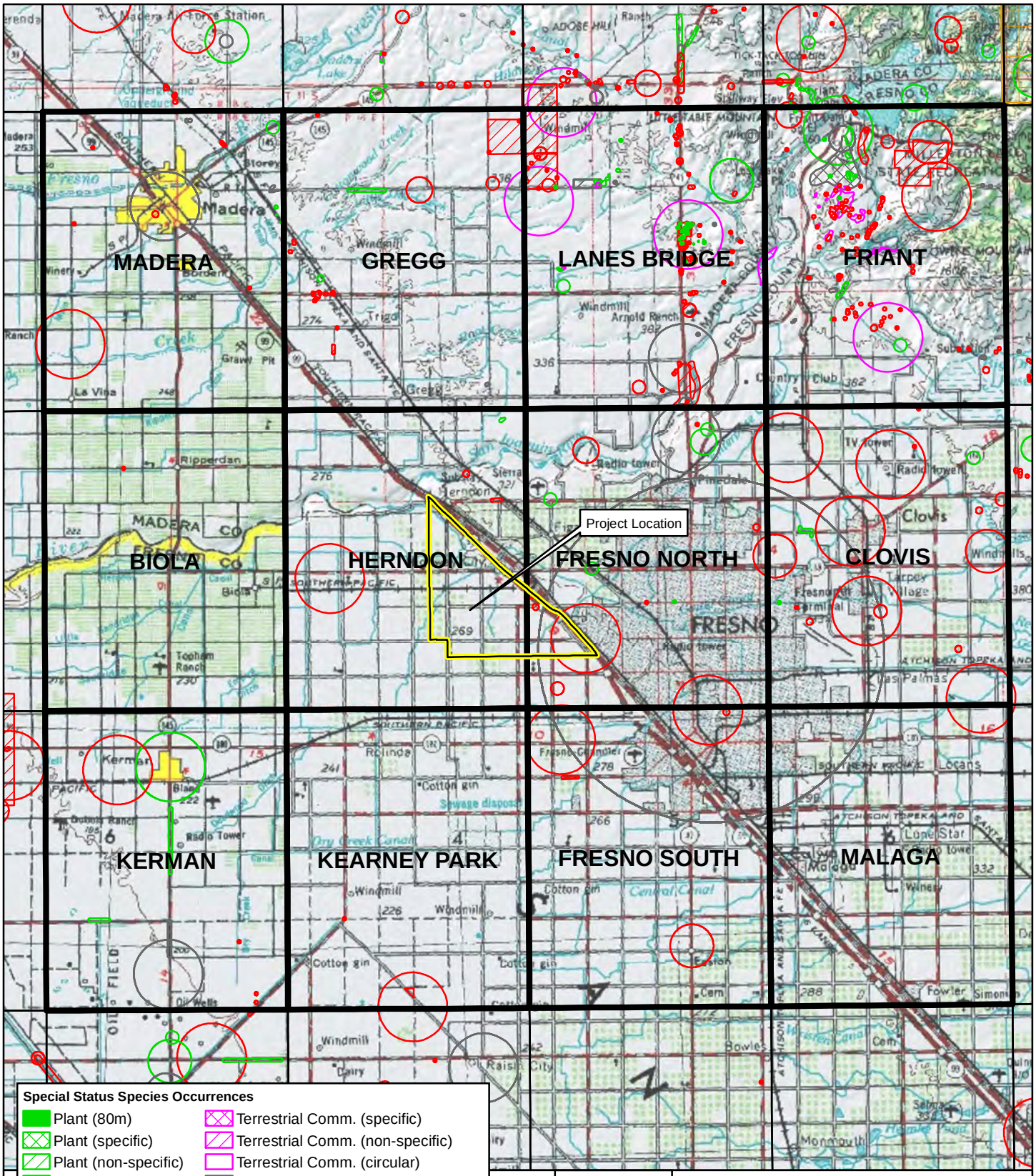

*The Specific Plan of the West Area lies within two USGS quads, therefore the required 9-quad search was expanded to 12 quads to encompass the entire project area's 9-quad region.
CNDDB version 06/30/2019. Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Basemap: ArcGIS Online Topographic Map Service. Map date: July 26, 2019.

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 3.4-2. California Natural Diversity Database

12-Quad Search*

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section provides a background discussion of the prehistoric period background, ethnographic background, and historic period background, as well as the known cultural resources in the region and the Plan Area. The purpose of this section is to disclose and analyze the potential impacts to cultural and tribal cultural resources associated with development of the proposed Specific Plan. Information in this section is derived primarily from the following:

- *Cultural and Paleontological Resource Assessment for the Fresno West Area Specific Plan Project* (Cogstone, October 2019 – included in **Appendix D**).

Two comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: The Native American Heritage Commission (August 13, 2019) and the Table Mountain Rancheria Tribe (August 6, 2019). The portion of this comment letter which relates to this topic is addressed within this section. Full comments received are included in **Appendix A**.

KEY TERMS

Cultural and Historic Resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Preservation of the city's cultural heritage should be considered when planning for the future.

Archaeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Ethnography. The systematic study of contemporary human cultures.

3.5.1 ENVIRONMENTAL SETTING

PREHISTORY

Humans are believed to have resided in Fresno County for at least the past 5,000 years. Archeologists who have studied these past cultures have uncovered evidence of widespread activities that allowed them to divide these previous 13,000 years into periods or phases based on the kinds of subsistence behaviors practiced.

Three periods have been identified with locally defined phases and regional cultures as identified below:

- Paleoindian and Lower Archaic Period, 11,500 – 5,550 B.C
- Upper Archaic Period, 550 cal B.C.– cal 1100 A.D.
- Emergent/Late Prehistoric Period, cal 1100 A.D. – Historic Contact.

Paleoindian and Lower Archaic Periods (11,500 – 5,550 B.C.)

Few archaeological sites that predate 5,000 years ago have been discovered in the region. Near the end of the Pleistocene (approximately 9,050 cal B.C.) and during the early Middle Holocene (approximately 5,550 cal B.C.), there were periods of climate change and associated alluvial deposition throughout the central California lowlands. Recent geoarchaeological studies have

verified that large segments of the Late Pleistocene landscape were removed or buried by periodic episodes of deposition or erosion during the Middle Holocene. This confirms hypotheses that Paleoindian and Lower Archaic sites were buried during the last 5,000 to 6,000 years by deposits of Holocene alluvium up to 10 meters thick along the lower stretches of the Sacramento River and San Joaquin River drainage systems. Archaeological evidence for the Paleoindian Period is scant, comprised primarily by fluted projectile points. The Lower Archaic Period is also mainly represented by isolated finds, such as at the Tulare Lake basin in the southern San Joaquin Valley. As a consequence of the natural alluvial deposition processes, only one site on the valley floor has produced cultural material dating to this period, and featured stone tools, remains of birds, fish and shellfish but no plant remains or milling tools. At two Lower Archaic Period sites in the foothills of Calaveras County, abundant handstones and milling slabs have been recovered.

Spears, angling hooks, composite bone hooks, and baked clay artifacts that may have been used as net or line sinkers represent the variety of fishing implements found at sites dating to this period. Other baked clay items include pipes and discoids, as well as cooking "stones." Impressions of twined basketry, bone tools, shell beads, and ground and polished charmstones have also been recovered. A variety of grave goods accompanied burials in cemetery areas, which were separate from habitation areas. The presence during the Middle Archaic of an established trade network is indicated by a variety of exotic cultural materials, including obsidian tools, quartz crystals, and Olivella shell beads.

Upper Archaic Period (550 cal B.C – cal 1100 A.D)

The Upper Archaic Period features more specialized technology, with innovations and new types of bone tools, Olivella shell beads, Haliotis ornaments, charmstones, and ceremonial blades. An abundance of grinding tools (mortars and pestles) and plant remains, accompanied by a decrease in slab milling stones and handstones, indicates a shift to a greater reliance on acorns as a dietary staple during the Upper Archaic Period. A wide variety of natural resources were exploited during this period. Subsistence strategies varied regionally, focusing on seasonally available resources suited for harvesting in bulk, such as salmon, shellfish, deer, rabbits, and acorns. Numerous large shell mounds dating to this period are located near fresh or salt water and indicate exploitation of aquatic resources was relatively intensive. The accumulations of cultural debris and habitation features, such as rock-lined ovens, house floors, burials, hearths, and fire-cracked rock, reflect long-term residential occupation.

In the western margins of the San Joaquin Valley, discrete cemeteries date to the Upper Archaic Period. In the southern San Joaquin Valley, villages on the shores of Buena Vista Lake were occupied year-round. Trade in marine shell beads and obsidian, among other items, continued to be important.

Emergent/Late Prehistoric Period (cal A.D. 1100 – Historic Contact)

The archaeological record in the Central Valley for the Emergent/Late Prehistoric Period documents an increase in the diversity and number of artifacts and in the number of archaeological sites. Along with an increase in sedentism and population that led to the development of social stratification, with an elaborate ceremonial and social organization, a number of cultural innovations shaped the

Emergent Period. These include the introduction of the bow and arrow and more diverse fishing equipment (bone fish hooks, harpoons, and gorge hooks). Fishing, hunting, and gathering plant foods continue as the foci of subsistence practices, including intensive harvesting of acorns and an increased emphasis on fishing. Hopper mortars and shaped mortars and pestles, as well as bone awls used for producing coiled baskets, are common. Locally made Cosumnes Brownware has been recovered from some sites in the lower Sacramento Valley, while pottery in the Tulare basin was obtained through trade. Baked clay balls, probably used for cooking in the absence of stone, remain common.

Ceremonial and ritual items include flanged tubular pipes and baked clay effigies representing humans and animals. Clamshell disk beads were used as currency and accompanied the development of extensive exchange networks. Mortuary practices included flexed burials, the cremation of high-status individuals, and pre-interment burning of offerings in grave pits. Overall, the cultural patterns known from historic period Native American groups inhabiting the Central Valley are reflected in the subsistence and land use patterns practiced during the Emergent Period.

ETHNOLOGY

The Plan Area is located within the traditional territory of the Yokuts. Historically, the Yokuts people collectively inhabited the San Joaquin Valley as well as the eastern foothills of the Sierra Nevada from the Calaveras River southward to the Kern River. Ethnographers and linguists have traditionally divided Yokuts into three geographic groups, based on linguistic similarities and differences: Northern Valley, Southern Valley, and Foothill. The Plan Area is located in the area historically occupied by the Northern Valley Yokuts according to Kroeber (1925: 462), who suggested that they lived along the San Joaquin River. The Northern Valley Yokuts tribes' territory extended southward from the Calaveras River to the upper San Joaquin River and from the crest of the Coast (Diablo) Range east to the Sierra Nevada foothills.

Information on the Yokuts lifeways has been compiled by Kroeber (1925:474-543), Wallace (1978:462-470), and Latta (1977) and is summarized here. The Northern Valley Yokuts grouping consisted of 11 or more tribes, each containing 300 or so people. Most members lived within a single settlement that often had the same name as the political unit. These were generally established on low rises along the major watercourses. The eastern side of the San Joaquin River was more heavily populated than the land to the west of the river, due to greater water availability. A village generally contained at least three types of structures – oval single-family dwellings made of tule, ceremonial chambers, and sweathouses. According to Kroeber's informants, a tribe of Yokuts known as the Hewchi lived close to the Plan Area, near Fresno River (1925: 470).

The fundamental economy of the Yokuts was subsistence fishing, hunting, and collecting plant foods. Acorns, collected in the fall and then stored in granaries, were a staple food (Wallace 1978:464). During the fall and spring runs, salmon was a dietary mainstay. Wildfowl, such as geese and ducks, were also an important staple. Additional dietary plant parts included seeds, berries and tule roots. Large game included deer, elk, antelope, and black bears.

A wide variety of tools, implements, and enclosures were used by the Northern Valley Yokuts to gather, collect, and process food resources. These included bow and arrows, nets, traps, slings, and blinds for hunting land mammals and birds; and harpoons, hooks, and nets, as well as tule rafts. Sharpened digging sticks and woven tools (seed beaters, burden baskets, and carrying nets) would have been used to collect plant resources and a variety of implements (stone mortars and pestles, bedrock and portable mortars, stone knives, and bone tools) used for processing resources. The Northern Valley Yokuts traded with neighboring groups for bows and arrows, baskets, shell ornaments and beads, obsidian, and mussels and abalone.

The San Joaquin Valley was never settled during the Spanish and Mexican periods, but influences from the coastal missions and presidios were felt inland by the late 1700s. By 1805, Northern Valley Yokuts were transported to the San José, Santa Clara, Soledad, San Juan Bautista, and San Antonio missions that were established during the Spanish era. Later, disease and military raids claimed many lives during the Mexican period, followed by displacement during the early American Period by gold seekers and farmers.

Pre-contact population density for Northern Valley Yokuts has been estimated at 25,000 to 31,000. In 1852, representatives of only three Northern Valley Yokuts tribes (including the Heuchi) remained to sign one of a series of statewide treaties. Today, people of Yokuts descent live on the Tule River Reservation in Tulare County and on three rancherias: Picayune in Madera County at Coarsegold, Santa Rosa in Kings County, and Table Mountain in Fresno County near Friant. Some Foothill Yokuts also live with Central Sierran Miwok on the Tuolumne Rancheria in Tuolumne County.

HISTORIC PERIOD BACKGROUND

The general history of the exploration and settlement of Fresno County has been documented in a number of sources. This section focuses on the specific history of Fresno and the Plan Area.

Spanish Exploration

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). The Spanish colonization of what was then known as Alta California began with the 1769 overland expedition, led by Gaspar de Portolá, with a crew of 63 men, in order to explore the land between San Diego and Monterey. Between 1769 and 1822, the Spanish had colonized California and established missions, presidios, and pueblos and documented the people and landscape along the way (McCawley 1996).

Following the Portolá Expedition, vast tracts of land were granted to the missions. The goals of the missions were tri-fold: they establish a Spanish presence on the west coast, proselytize Christianity to the native peoples, and serve to exploit the native population as laborers. The Spanish also hoped each mission would become a town center, whereas, “the pueblo would receive a ground of four square leagues of land… and other property would be parceled out among the Indians”. The missionaries, or padres, would essentially serve as a mayor, or head of the town (Bean 1968).

Mexican Period

In 1821, Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, appropriating the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands, in the form of land grants, to private owners (Bean and Rawls 1993). The lands were typically granted to soldiers who proved their loyalty to the Mexican government once liberated from the Spanish crown.

Fresno History

The County of Fresno was founded in 1856 from portions of Tulare, Merced, and Mariposa Counties. In 1872, Central Pacific Railroad, predecessor to the Southern Pacific Railroad Company, arrived in the San Joaquin Valley. The local train station, "Fresno Station," represented the epicenter of Fresno (Planning Resource Associates, Inc. 2008).

Fresno's original land plan was organized on a grid system which extended eastward from the Central Pacific Railroad tracks along what is currently H Street. In 1872, the Railroad began selling lots to entrepreneurs and by the end of the year Fresno consisted of a few residential homes, multiple livery stables, four restaurants and hotels, and two stores (Planning Resource Associates, Inc. 2008).

In 1874, the Fresno County seat was transferred from Millerton, which had experienced years of floods and a catastrophic fire, to the City of Fresno (Hoover & Kyle 2002). Fresno's new position as the County seat resulted in a boost of prosperity and by 1885 Fresno was incorporated with a population of approximately 2,000 (Victor Gruen Associates 1968).

Fresno's economic success came from its agricultural production in conjunction with the railroad. Fresno County became the number one agricultural producer in California in addition to one of the nation's best producers of cotton, figs, grapes, and raisins (Hoover & Kyle 2002). In 1911, the Sun-Maid Raisin Cooperative was founded in the City of Fresno as the principle packing center and hosted multiple packinghouses throughout the City (Hattersley-Drayton 2013). To this day, Fresno County is ranked as the nation's highest agricultural producer with annual sales totaling over $3 billion per annum.

By the late 1890s and early 1900s, Fresno's population and economy continued to grow with the U.S. Census showing the City's population doubling from 12,470 in 1900 to 24,892 in 1910 (U.S. Census 1910). The Fresno City Board of Trustees approved the establishment of the City's first planning commission in 1916, in anticipation of further growth. By 1923, the plans were adopted and included parks and recreation centers, and streets to accommodate the increased population (Planning Resource Associates, Inc. 2008).

Fresno's early 20th century residential development located north of the downtown area caused the expansion of the electric Fresno Street Railway established in 1888. The Railway was later taken over by the Fresno City Railway Company in 1901 and built northward to connect the suburban areas

to the City's center. The electric streetcar would remain the primary form of mass transit in Fresno City until its replacement by the bus by 1939 (Planning Resource Associates, Inc. 2008).

During the Post-War Economic Boom (1945-1973), the population shifted from Fresno's center to the newly developed suburbs as a result of increased population and increase in personal car ownership. This shift in population caused the decline of the City's urban center and in the 1960s, Fresno began an urban revitalization project for downtown resulting in the construction of the Fulton Mall in 1964. This six-block pedestrian mall was considered an innovative model and effective response to what was considered at the time to be America's "Urban Crisis" (Victor Gruen Associates 1968).

During the 1970s to 1990s, development continued to expand outward from Fresno's City center.

Plan Area History

The Plan Area boundaries are defined by Clinton Avenue at its southern boundary, North Garfield Avenue at its western boundary, and the State Route 99 (SR-99) running northwest/southeast connecting the northern end of Garfield Avenue to the eastern end of Clinton Avenue. Historic topographic maps from 1923 (Bullard 7.5x15 minute) to approximately 1965 (Fresno North 7.5 minute) show the vast majority of the Plan Area occupied by farmland and various farmhouses. The Post-War Economic Boom (1945-1973) is depicted in historic aerials from 1962 and 1972 as an increase in tract homes on previous agricultural land as the population shifted from urban to suburban locations. The tract homes spread west of SR-99 through the Plan Area. By 1998, nearly a third of the Plan Area was developed and closely resembled the Plan Area's built environment at it exists today.

CULTURAL RESOURCES IN THE SPECIFIC PLAN AREA

California Historic Resources Information System

The purpose of the cultural records search is to identify all previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the Plan Area. All cultural resources, as well as cultural resource surveys, performed within the Plan Area boundaries were reviewed.

A search of the California Historic Resources Information System (CHRIS) was requested from the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield on July 30, 2019, which included the entire Plan Area. Results of the record search indicate that 36 previous studies have been completed within the Plan Area (Table 3.5-1).

In addition to the SSJVIC records search, a variety of sources were consulted to obtain information regarding the cultural context of the Plan Area. Sources included the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), California Historical Resources Inventory (CHRI), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Specific information about the Plan Area, obtained from historic-era maps and aerial photographs, is presented in the Plan Area History section.

TABLE 3.5-1: PREVIOUS STUDIES WITHIN THE PLAN AREA

REPORT NO. (FR-)	*AUTHOR(S)*	*TITLE*	*YEAR*
00069	Hudlow, Scott M. and de la Garza, Theresa	A Phase I Architectural Survey for the Highway City Specific Plan Area City of Fresno, California	1996
00135	Hatoff, Brian, Voss, Barb, Waechter, Sharon, Benté, Vance, and Wee, Stephen	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project.	1995
00166	Kus, James S.	Negative Archaeological Survey Report for Proposed Fresno Housing Authority Clinton Avenue Project	1994
00191	Wren, Donald G.	An Archaeological Survey: Central Unified School District Stadium Project	1998
00271	Bissonnette, Linda Dick	Cultural Resources Survey for Central Unified School District Adult School, Fresno County, California	1991
00287	Bissonnette, Linda Dick	Phase I Cultural Resources Assessment: Central Unified School District, Milburn/Dakota Elementary School Site, Fresno County, California	1992
00294	Bissonnette, Linda Dick	Cultural Resources Assessment for the Central Unified School District, New High School Project, Northwest of Dakota and Cornelia Avenues, Fresno County	1993
00302	Bissonnette, Linda Dick	Grantland Avenue Sewer Trunk and Herndon Expressway Cultural Resources Assessment	1994
00393	Dondero, Steven	Negative Archaeological Survey Report for the Herndon Avenue Overcrossing, Fresno County	1988
00433	Davis, Alan, Dick, Linda, and Varner, Dudley	An Archaeological Reconnaissance of the Gates Substation to the Proposed Gregg Substation 500 KV Transmission Line, Fresno and Madera Counties	1977
00447	Jackson, Scott R.	Environmental Impact Evaluation: An Archaeological Assessment of God's Family Church Property, Fresno County, California	1990
00677	Roop, William	A Cultural Resources Evaluation of Tracts 4488 (APN 311-03124) and 4581 (APN 404-071-17), Fresno, Fresno County, California	1993
00760	Varner, Dudley M.	Highway City Sewer Project (Improvement Dist. #166)	1974
01640	Binning, Jeanne Day	Negative Archaeological Survey Report Installation of Traffic Surveillance Stations along Interstate 5, State Route 41, and State Route 99 in Madera and Fresno Counties	1999
01656	Wren, Donald G.	A Cultural Resource Study: Stormwater Retention Basin EN and EO, Fresno County, California	2000
01702	Wren, Donald G.	A Cultural Resource Study: Basin CD Project, Fresno County, California	2001
01710	Szeto, Andy	Site Location Map and Site Description for PL-754-01	1998
01808	Wren, Donald G.	An Archaeological Survey Central Unified Education Center, Fresno County, California	2002
01811	Hildebrand, Karen and Roper, C. Kristina	Hardpan and Adobe Brick: A National Register Evaluation of Two Highway City Adobe Buildings, Fresno, California	1997
01942	Hudlow, Scott M. and de la Garza, Theresa	A Phase I Architectural Survey for the Highway City Specific Plan Area, City of Fresno, California	1996
01953	Wren, Donald G.	Draft Environmental Impact Report: Central Unified Education Center: State Clearinghouse No. 2002021064	2002
02029	Brady, Jon L.	Historic Property Survey for the Proposed La Estancia Housing Project, Fresno, California	2004
02212	Nettles, Wendy M.	Phase I Cultural Resources Study of Assessor's Parcel No. 311140-14, 5901 W. Shaw Avenue, Fresno, California	2006
02227	Losee, Caroyln	New Tower Submission Packet, FCC Form 620	2006

REPORT NO. (FR-)	*AUTHOR(S)*	*TITLE*	*YEAR*
02256	Hobbs, Kelly	Historic Property Survey Report: State Route 99/Shaw Avenue Interchange Improvement Project, Fresno, California	2002
02256	Brady, Jon	Underground Caverns 4951 N. Dale, Fresno California, Historic Evaluation and Determination of Significance	2000
02256	Kiaha, Krista	Archaeological Survey Report for the Shaw Avenue Interchange Reconstruction at State Route 99 Fresno County, California	2001
02256	Hobbs, Kelly	Historic Architecture Survey Report/Historic Resource Evaluation for State Route 99/Shaw Avenue Interchange Improvements	2002

SOURCE: COGSTONE, 2019.

The results of the records search indicate a total of 82 cultural resources have been previously recorded within the Plan Area. Of these cultural resources, four are historic archaeological sites and 78 are historic built environment resources. No fossils are known from the Plan Area or the Fresno area. No prehistoric archaeological sites have been previously recorded within the Plan Area.

Four historical archaeological sites have been recorded in the Plan Area. Three of the historic archaeological sites are in the vicinity of Teague Elementary School and one historic archaeological site, the San Joaquin River Quarry, is located just south of Highway 99 in the northern portion of the Plan Area.

Historical resources include current and former locations of historic buildings, historical archaeological sites (often near historic use areas) and the location of extant historic homes more than 45 years old. The majority of the historic built resources are historic residences clustered around North Polk Avenue and West Acacia Avenue in the northern portion of the Plan Area.

NATIVE AMERICAN CONSULTATION

Pursuant to Senate Bill (SB) 18 and Assembly Bill (AB) 52, consultation letters were sent via certified mail on August 20, 2019 requesting information related to cultural resources or heritage sites within the Plan Area. Additional attempts at contact were made by email or phone on September 6 and September 19, 2019. The letters were sent to: the Native American Heritage Commission; Ms. Elizabeth D. Kipp, Chairperson, Big Sandy Rancheria of Western Mono Indians; Carol Bill, Chairperson, Cold Springs Rancheria; Mr. Robert Ledger Sr, chairperson, Dumna Wo-Wah Tribal Government; Mr. Benjamin Charley Jr., Tribal Chair, Dunlap Band of Mono Indians; Mr. Dick Charley, Tribal Secretary, Dunlap Band of Mono Indians; Mr. Stan Alec, Kings River Choinumni Farm Tribe; Mr. Ron Goode, Chairperson, North Fork Mono Tribe; Mr. Rueben Barrios Sr., Chairperson, Santa Rosa Rancheria Tachi Yokut Tribe; Ms. Leanne Walker-Grant, Chairperson, and Mr. Bob Pennell, Cultural Resources Director, Table Mountain Rancheria; Mr. David Alvarez, Chairperson, and Mr. Rick Osborne, Cultural Resources, Traditional Choinumni Tribe; and Mr. Kenneth Woodrow, Chairperson, Wuksache Indian Tribe/Eshom Valley Band. To date, three responses have been received and are summarized below. All consultation correspondence and a contact log are provided in Appendix C of **Appendix D**.

- On August 26, 2019 Mr. Charley, tribal secretary for the Dunlap Band of Mono Indians, responded via phone that the Plan Area is outside the Tribe's interest and that they would

not be commenting or requesting consultation. Mr. Charley recommended contacting Big Sandy or Table Mountain Rancheria for comments.

- On September 19, 2019 Mr. Alec of the Kings River Choinumni Farm Tribe, responded via phone that the Tribe has no concerns with the Specific Plan.
- On August 6, 2019, Mr. Pennell, Cultural Resources Director of the Table Mountain Rancheria, responded by letter stating that the Tribe is interested in the Specific Plan and requested any cultural resource reports received from the record search. Mr. Pennell requested that the City contact the Tribal office to coordinate a discussion and meeting date for the Specific Plan. On October 7, 2019 Cogstone replied to Mr. Pennell with the results of the cultural records search.

3.5.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the cultural and tribal cultural resources of the state and nation including the California Register of Historic Resources (CRHR), National Register of Historic Places, and the California Native American Heritage Commission (NAHC). These agencies often oversee the preservation of historic, cultural and tribal cultural resources. The following is an overview of the federal, State and local regulations that are applicable to the proposed Specific Plan.

FEDERAL

National Historic Preservation Act

Most regulations at the Federal level stem from the National Environmental Policy Act (NEPA) and historic preservation legislation such as the National Historic Preservation Act (NHPA) of 1966, as amended. NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for Federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any Federal agency and which have the potential to affect cultural resources. All projects that are subject to NEPA are also subject to compliance with Section 106 of the NHPA and NEPA requirements concerning cultural resources. Provisions of NHPA establish a National Register of Historic Places (The National Register) maintained by the National Park Service, the Advisory Councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on Federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on Federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

STATE

California Register of Historic Resources (CRHR)

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in documents prepared pursuant to the California Environmental Quality Act (CEQA). Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. The State Historic Preservation Office (SHPO) maintains the CRHR. Historic properties listed, or formally designated for eligibility to be listed, on the National Register are automatically listed on the CRHR. State Landmarks and Points of Interest are also automatically listed. The CRHR can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

California Environmental Quality Act (CEQA)

CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources which meet significance criteria qualifying them as "unique," "important," listed on the CRHR, or eligible for listing on the CRHR. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

- Identify cultural resources,
- evaluate the significance of the cultural resources found,

- evaluate the effects of the project on cultural resources, and
- develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in a project's area of potential affect, assessment of potential impacts on significant or unique resources, and development of mitigation measures for potentially significant impacts, which may include monitoring combined with data recovery and/or avoidance. Impacts to paleontological resources are discussed in Section 3.6, Geology and Soils.

State Laws Pertaining to Human Remains

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-Federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

State Laws Pertaining to Paleontological Resources

Section 5097.5 of the California Public Resources Code prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any "vertebrate paleontological site, including fossilized footprints," on public lands, except where the agency with jurisdiction has granted express permission. "As used in this section, 'public lands' means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof."

Section 30244 of the California Public Resources Code requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

The California Administrative Code relating to the State Division of Beaches and Parks affords protection to geologic features and "paleontological materials" but grant the director of the State park system authority to issue permits for specific activities that may result in damage to such resources, if the activities are in the interest of the State park system and for State park purposes (California Administrative Code, Title 14, Section 4307–4309).

Senate Bill 18 (Burton, Chapter 905, Statutes 2004)

Senate Bill (SB) 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code; also requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments on how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in

local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Assembly Bill 52 (Chapter 532, Statutes of 2014)

Assembly Bill (AB) 52 establishes a formal consultation process for California tribes as part of CEQA and equates significant impacts on "tribal cultural resources" with significant environmental impacts (PRC Section 21084.2). AB 52 defines a "California Native American Tribe" as a Native American tribe located in California, and included on the contact list maintained by the Native American Heritage Commission. AB 52 requires formal consultation with California Native American Tribes prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of proposed projects. AB 52 also requires that the consultation address project alternatives and mitigation measures, for significant effects, if requested by the California Native American Tribe, and that consultation be concluded when either the parties agree to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached.

LOCAL

Fresno General Plan

The Fresno General Plan identifies the following objectives and policies related to cultural and tribal resources:

HISTORIC AND CULTURAL RESOURCES ELEMENT

Objective HCR-1: Maintain a comprehensive, citywide preservation program to identify, protect and assist in the preservation of Fresno's historic and cultural resource.

> **Policy HCR-1-a**: Maintain the City's status as a Certified Local Government (CLG), and use CLG practices as the key components of the City's preservation program.
>
> **Policy HCR-1-b**: Maintain the Preservation Office, Historic Preservation Commission, and preservation program to administer the City's preservation functions and programs.
>
> **Policy HCR-1-c**: Maintain the provisions of the City's Historic Preservation Ordinance, as may be amended, and enforce the provisions as appropriate.

Objective HCR-2: Identify and preserve Fresno's historic and cultural resources that reflect important cultural, social, economic, and architectural features so that residents will have a foundation upon which to measure and direct physical change.

> **Policy HCR-2-a:** Work to identify and evaluate potential historic resources and districts and prepare nomination forms for Fresno's Local Register of Historic Resources and California and National registries, as appropriate.

Policy HCR-2-b: Prepare historic surveys according to California Office of Historic Preservation protocols and City priorities as funding is available.

Policy HCR-2-c: Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.

Policy HCR-2-d: Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, as required by State law, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.

Policy HCR-2-e: Develop and adopt Alternate Public Improvement Standards for historic landscapes to ensure that new infrastructure is compatible with the landscape; meets the needs of diverse users, including motorists, cyclists, and pedestrians; and provides for proper traffic safety and drainage.

Policy HCR-2-f: Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.

Policy HCR-2-g: Review all demolition permits to determine if the resource scheduled for demolition is potentially eligible for listing on the Local Register of Historic Resources. Consistent with the Historic Preservation Ordinance, refer potentially eligible resources to the Historic Preservation Commission and as appropriate to the City Council.

Policy HCR-2-h: Continue to support enforcement of the minimum maintenance provisions of the Historic Preservation Ordinance, as may be amended, and enforce the provisions as appropriate.

Policy HCR-2-i: Consider creating a preservation mitigation fund to help support efforts to preserve and maintain historic and cultural resources.

Policy HCR-2-j: City staff will evaluate potential opportunities for identification of window replacements to ensure historic integrity is maintained while encouraging sustainability. In addition, city staff will evaluate window replacements in federally funded housing projects on a project-by-project basis with consideration for health, safety, historic values, sustainability, and financial feasibility.

Policy HCR-2-k: Maintain all City-owned historic and cultural resources in a manner that is consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties, as appropriate.

Policy HCR-2-l: Establish an inter-departmental Historic Preservation team to coordinate on matters of importance to history and preservation.

Policy HCR-2-m: Recommend that property owners, who receive funds from the City of Fresno for rehabilitation of a property, consent to listing it on the Local Register of Historic Resources if the property meets the criteria for age, significance, and integrity. Publicly funded rehabilitation properties which may meet Local Register criteria will be presented to the City's Historic Preservation Commission for review.

Policy HCR-2-n: Identify all historic resources within the city designated on the Local, State, or National register, and potential significant resources (building, structure, object or site) in existence for at least 45 years, and provide this information on the City's website.

Objective HCR-3: Promote a "New City Beautiful" ethos by linking historic preservation, public art, and planning principles for Complete Neighborhoods with green building and technology.

Policy HCR-3-a: Promote the adaptive reuse and integration of older buildings into new projects as part of the City's commitment to nurturing a sustainable Fresno.

Policy HCR-3-a: Collaborate with the arts community to promote the integration of public art into historic buildings and established neighborhoods. Link arts activities (such as Art Hop) with preservation activities.

Policy HCR-3-c: Work with architects, developers, business owners, local residents and the historic preservation community to ensure that infill development is context sensitive in its design, massing, setbacks, color, and architectural detailing.

Objective HCR-4: Foster an appreciation of Fresno's history and cultural resources.

Policy HCR-4-a: Foster cooperation with public agencies and non-profit groups to provide activities and educational opportunities that celebrate and promote Fresno's history and heritage.

Policy HCR-4-b: Promote heritage tourism and the public's involvement in preservation through conferences, walking tours, publications, special events, and involvement with the local media.

Policy HCR-4-c: Provide training, consultation, and support in collaboration with Historic Preservation Commissioners to community members regarding Fresno's history, use of the U.S. Secretary of the Interior's Standards, and the California Historical Building Code, as time and resources allow.

Policy HCR-4-d: Maintain public archives that include information on all designated historic properties, as well as historic surveys, preservation bulletins, and general local history reference materials. Post survey reports, Historic Preservation Commission minutes and agendas, and other information of public interest on the historic preservation page of the City's website.

Policy HCR-4-e: Continue to recognize the best work in preservation and neighborhood revitalization as may be appropriate through programs such as the biennial Mayoral Preservation Awards program.

Policy HCR-4-f: Investigate the potential for developing a Mills Act program and possible sources of funding for the Historic Rehabilitation Financing Program.

City of Fresno Historic Preservation Ordinance

Article 16, Historic Preservation Ordinance, of Chapter 12 of the City's Municipal Code provides standards for historic and cultural resources in an effort to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public; protect and review changes to these resources and districts which have a distinctive character or a special historic, architectural, aesthetic or cultural value to this City, state and nation; safeguard the heritage of the city by preserving and regulating its historic buildings, structures, objects, sites and districts which reflect elements of the City's historic, cultural, social, economic, political and architectural history; preserve and enhance the environmental quality and safety of these landmarks and districts; and to establish, stabilize and improve property values and to foster economic development.

The Ordinance establishes three categories of designation for properties in Fresno: Historic Resource, Heritage Property, and Local Historic District. The criteria for City of Fresno historic designation correspond closely with criteria established for State and National Register eligibility, and are as follows:

HISTORIC RESOURCE DESIGNATION

The City of Fresno Historic Preservation Commission and City Council may designate any building, structure, object or site as a Historic Resource if it is found to meet the following criteria:

It has been in existence more than 50 years and it possesses integrity of location, design, setting, materials, workmanship, feeling and association, and:

a) It is associated with events that have made a significant contribution to the broad patterns of our history; or
b) It is associated with the lives of persons significant in or past; or
c) It embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic values; or
d) It has yielded or is likely to yield, information important in prehistory or history.

Additionally, a property may be eligible for designation as a Historic Resource if it is less than 50 years old and meets the above-listed criteria, and is found to have exceptional importance within an appropriate historical context at the local, state, or national level.

HERITAGE PROPERTY DESIGNATION

Any building, structure, object or site may also be eligible for designation as a Heritage Property by the City of Fresno Historic Preservation Commission if it is found by the Commission to be worthy of preservation because of its historical, architectural, or aesthetic merit.

LOCAL HISTORIC DISTRICT DESIGNATION

In order for a group of properties to be designated as a Local Historic District (LHD) by the City of Fresno, there must be a finite group of resources related to one another in a clearly distinguishable way; or a geographically definable area that possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. Additionally, the proposed LHD must meet one or more of the following criteria:

1. It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, or architectural heritage; or
2. It is identified with a person or group that contributed significantly to the culture and development of the city; or
3. It embodies the distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or
4. Structures within the area exemplify a particular architectural style or way of life to the city; or
5. The area is related to a designated historic resource or district in such a way that its preservation is essential to the integrity of the designated resource or Local Historic District; or
6. The area has potential for yielding information of archaeological interest.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project is considered to have a significant impact on cultural and tribal resources if it will:

- Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5;
- Cause a substantial adverse change in the significance of archaeological resource pursuant to CEQA Guidelines §15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries.
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Consistent with Appendix G of the CEQA Guidelines, impacts to paleontological resources are discussed in Section 3.6, Geology and Soils.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Specific Plan implementation may cause a substantial adverse change to a significant historical or archaeological resource, as defined in CEQA Guidelines §15064.5, or a significant tribal cultural resource, as defined in Public Resources Code §21074. (Less than Significant with Mitigation)

According to the *Cultural and Paleontological Resource Assessment,* a total of 82 cultural resources have been previously recorded within the Plan Area. Of these cultural resources, four are historic archaeological sites and 78 are historic built environment resources.

HISTORIC RESOURCES

The majority of the historic built resources within the Plan Area are historic residences clustered around North Polk Avenue and West Acacia Avenue. However, as full buildout of the Specific Plan would occur over several years, there is the potential for other buildings to reach 45 years old during implementation of the Specific Plan. Any future development within the Plan Area with the potential to impact a historic resource or potentially historic resource would be required to comply with the City's Historic Preservation Ordinance, CEQA Guidelines Section 15064.5 regarding determining significant impacts to historic resources, and Mitigation Measure 3.5-1. Project specific mitigation measures would be required to mitigate significant adverse changes in the significance of an historical resource. It is not anticipated that future ground disturbing activities associated with future development projects within the Plan Area would result in impacts to historical resources. However, future development in proximity to a historic resource or potentially historic resource would be reviewed for the potential to generate vibration that could result in damage to a historic resource pursuant to CEQA. Potential impacts to historic resources would be reduced to a ***less than significant*** *level.*

ARCHAEOLOGICAL RESOURCES

Although no prehistoric archaeological sites have been recorded within the Plan Area, unknown resources may be present. Four historical archaeological sites have been recorded in the Plan Area.

Three of the historic archaeological sites are in the vicinity of the Teague School and one historic archaeological site, the San Joaquin River Quarry, is located just south of SR 99 in the northern portion of the Plan Area. No other archaeological resources have been identified in the Plan Area. Ground disturbing activities associated with future development projects within the Plan Area could result in impacts to currently unknown archaeological resources. The implementation of Mitigation Measures 3.5-2 requiring ground disturbance activities to be halted, a qualified archaeologist to be retained, and mitigation measures for the handling of any resource to be implemented, would ensure that this potential impact is reduced to a ***less than significant*** level.

TRIBAL RESOURCES

According to the NAHC, there are no known sacred lands within the Plan Area. Consultation requests were made to Native American Tribes pursuant to SB 18 and AB 52 to ascertain the potential for tribal cultural resources to occur within the area. To date, three responses have been received and are summarized below.

- On August 26, 2019 Mr. Charley, tribal secretary for the Dunlap Band of Mono Indians, responded via phone that the Specific Plan is outside the Tribe's interest and that they would not be commenting or requesting consultation. Mr. Charley recommended contacting Big Sandy or Table Mountain Rancheria for comments.
- On August 6, 2019, Mr. Pennell, Cultural Resources Director of the Table Mountain Rancheria, responded with by letter stating that the Tribe is interested in the Specific Plan and requested any cultural resource reports received from the record search. Mr. Pennell requested that the City contact the Tribal office to coordinate a discussion and meeting date for the Specific Plan. On 10/7/2019 Cogstone replied to Mr. Pennell with the results of the cultural records search.
- On September 19, 2019 Mr. Alec of the Kings River Choinumni Farm Tribe, responded via phone that the Tribe has no concerns with the Specific Plan.

While no specific resources have been identified through consultation with affiliated tribes, it is possible that unknown tribal cultural resources may be present within the Plan Area. Site-specific development projects would be reviewed on a project-by-project basis pursuant to CEQA, which would include AB 52 consultation that could lead to the identification of potential site specific tribal resources. All future development projects would be required to comply with local policies, ordinances, and applicable permitting procedures related to protection of tribal resources. These include policies included in the proposed Specific Plan that consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources; and require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. Impacts would be reduced to a less-than-significant level with implementation of Mitigation Measure 3.5-2. Compliance with the State and local guidelines would provide an opportunity to identify, disclose, and avoid or minimize the disturbance of and impacts to a tribal resource through tribal consultation and CEQA review

procedures. Therefore, impacts related to tribal resources would be considered ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-1: *The City shall require project applicants for future projects with intact extant building(s) more than 45 years old to provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations shall be included as part of the technical study. All work shall be performed by a qualified architectural historian meeting Secretary of the Interior Standards. The historic resource technical study shall be submitted to the City for review prior to any site disturbance within the vicinity of the building(s).*

Mitigation Measure 3.5-2: *If cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features) are discovered during the course of construction within the Specific Plan Area, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Fresno shall be notified, and a qualified archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery.*

The City of Fresno shall consider mitigation recommendations presented by the qualified archaeologist for any unanticipated discoveries and future project proponents shall carry out the measures deemed feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project proponent shall be required to implement any mitigation necessary for the protection of cultural resources.

Impact 3.5-2: Specific Plan implementation may disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)

There are no human remains or known burial sites identified in the Plan Area. Additionally, there are no human remains or known burial sites that have been identified in the Plan Area on maps and files maintained by the SSJVIC. There have been 36 previous cultural resource studies that examined portions of the Plan Area and no human remains or known burial sites were documented. In addition to the SSJVIC records search, a variety of sources (e.g., NRHP, CRHR, CHRI, CHL, and CPHI) were consulted to obtain information regarding the cultural context of the Plan Area, and no human remains or known burial sites were identified within the Plan Area.

It is not anticipated that future ground disturbing activities associated with future development projects within the Plan Area would result in impacts to human remains or known burial sites given that none are believed to be present. If during ground disturbance activities human remains are discovered, activities would be halted in accordance with Mitigation Measure 3.5-3 and appropriate steps taken to identify the remains and proper treatment. Compliance with Mitigation Measure 3.5-3 would ensure that this potential impact is reduced to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-3*: If human remains are found during ground disturbance activities associated with implementation of the Specific Plan, there shall be no further excavation or disturbance within 50 feet of the discovery and a qualified archeological monitor and the coroner of Fresno County shall be contacted as stated in Health and Safety Code Section 7050.5. If it is determined that the remains are Native American, the coroner shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD may then make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in Public Resources Code section 5097.98. The landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance if:*

a) *the Native American Heritage Commission is unable to identify a MLD or the MLD failed to make a recommendation within 24 hours after being notified by the commission;*
b) *the descendent identified fails to make a recommendation; or*
c) *the landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*

This section describes the regional geology, site geology, faults and seismicity, seismic hazards, and non-seismic hazard conditions in the regional and the Plan Area. The purpose of this section is to disclose and analyze the potential impacts related to geology and soils associated with development of the proposed Specific Plan. Information in this section is based in part on the following documents, reports, and studies:

- *2000 Fresno County General Plan Background Report* (County of Fresno, 2000);
- *Fresno General Plan* (City of Fresno, 2014);
- *Draft Master Environmental Impact Report General Plan and Development Code Update, City of Fresno, Fresno County, California* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- *Fresno Municipal Code* (City of Fresno, 2007);
- *Geologic Hazards Investigation, Fresno General Plan Update* (Krazen and Associates, 2012);
- *Fresno County Multi-Hazard Mitigation Plan* (County of Fresno, 2018);
- *Cultural and Paleontological Resource Assessment for the Fresno West Area Specific Plan Project* (Cogstone, October 2019 – included in **Appendix D**; and
- *Web Soil Survey* (NRCS, 2019).

One comment was received during the public review period for the Notice of Preparation regarding this topic from Cathy Caples (August 2019). The portion of this comment letter which relates to this topic is addressed within this section. Full comments received are included in **Appendix A**.

3.6.1 ENVIRONMENTAL SETTING

REGIONAL GEOLOGY

The Plan Area is in the Great Valley Geomorphic Province, which is about 400 miles long and 50 miles wide between the Coast Ranges and Sierra Nevada. The Plan Area is in the San Joaquin Valley, the southerly of two large valleys comprising the province; the Sacramento Valley is the northerly valley. The San Joaquin Valley is surrounded by the Sierra Nevada to the east, the Coast Ranges to the west, the Tehachapi Mountains to the south, and the Sacramento Valley to the north.[1] The Fresno Metropolitan area is set on gently southwest-sloping alluvial fans and plains formed by the San Joaquin and Kings rivers.[2]

[1] California Geological Survey (CGS). 2002, December. Note 36: California Geomorphic Provinces. Available at: http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/Pages/index.aspx.

[2] City of Fresno, 2014. Master Environmental Impact Report General Plan and Development Code Update City of Fresno, Fresno County, California, Section 5.6, Geology and Soils, July 22. https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/Sec-05-06-Geo-Fresno-MEIR.pdf, accessed September 3, 2019.

Great Valley Geomorphic Province

The Great Valley is an alluvial plain drained by the Sacramento and San Joaquin rivers, which join and enter San Francisco Bay. The eastern border is the west-sloping Sierran bedrock surface, which continues westward beneath alluvium and older sediments. The western border is underlain by east-dipping Cretaceous and Cenozoic strata that form a deeply buried synclinal trough, lying beneath the Great Valley along its western side.

SITE GEOLOGY

Soil Survey

A Web Soil Survey was completed for the Plan Area using the Natural Resources Conservation Service (NRCS) Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-1. Table 3.6-1 identifies the type and range of soils found in the Plan Area.

TABLE 3.6-1: PLAN AREA SOILS

NAME	*ACRES IN PLAN AREA*	*PERCENT OF PLAN AREA*
Exeter loam	215.7	3.1%
Exeter sandy loam	1,227.6	17.5%
Exeter sandy loam, shallow	150.2	2.1%
Hanford gravelly sandy loam	15.0	0.2%
Hanford sandy loam, benches	17.3	0.2%
Hesperia fine sandy loam, moderately deep	1.7	0.0%
Pollasky fine sandy loam, 2-9% slopes	2.6	0.0%
Pollasky sandy loam, 9-15% slopes	5.3	0.1%
San Joaquin loam, 0-3% slopes	213.4	3.0%
San Joaquin loam, shallow, 0-3% slopes	757.6	10.8%
San Joaquin sandy loam, 0-3% slopes, MLRA 17	1,523.4	21.7%
San Joaquin sandy loam, shallow, 0-3% slopes	2,872.8	41.0%
Water	12.1	0.2%

SOURCE: NRCS WEB SOIL SURVEY, 2019.

Hanford sandy loam. This soil is located on approximately 32.3 acres on the northern corner of the Plan Area (see Figure 3.6-1). Hanford soils consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans at elevations of 150 to 3,500 feet. Slopes range from 0 to 15 percent. The climate is dry subhumid mesothermal with hot, dry summers and cool, moist winters.

Exeter Loam. This soil is located throughout the plan area, particularly on the eastern half, covering approximately 1,593.5 acres of the Plan area (see Figure 3.6-1). The Exeter series consists of moderately deep to a duripan, moderately well drained soils that formed in alluvium mainly from granitic sources. Exeter soils are on alluvial fans and stream terraces and have slopes of 0 to 9 percent. This soil is used for irrigated cropland growing oranges, olives and deciduous orchards,

vineyards and row crops. It is also used for dairy and cattle production and building site development. Vegetation in uncultivated areas is mainly annual grasses and forbs. Moderately well drained; very slow to medium runoff; moderately slow permeability above the duripan. Permeability of the duripan is very slow.

Hesperia Sandy Loam. This soil is located on approximately 1.7 acres on the northern corner of the Plan Area (see Figure 3.6-1). The Hesperia series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks. Hesperia soils are on alluvial fans, valley plains and stream terraces and have slopes of 0 to 9 percent. Used for desert range, and for production of irrigated orchards, row crops, field crops, grain, hay, pasture and grapes. Native vegetation consists of creosotebush in the high desert and sparse annuals in the valley. Well drained; negligible to low runoff, moderately rapid permeability.

Pollasky Sandy Loam. This soil is located on approximately 7.9 acres on the northern portion of the Plan Area (see Figure 3.6-1). The Pollasky series consists of moderately deep, well drained, moderately coarse textured Regosols formed in the residuum from softly to moderately consolidated arkosic sediments. They occur on undulating to steep dissected terraces under annual grasses and forbs. They have brown, slightly acid sandy loam A horizons and pale brown to yellowish brown, slightly acid to neutral, sandy loam C horizons abruptly overlying consolidated granitic sediments. Pollasky soils occur at elevations below 500 feet to semiarid mesothermal climate having a mean annual precipitation ranging from about 9 to 16 inches with hot, dry summers and cool, moist winters. The Pollasky series is mapped along the eastern edge of the San Joaquin Valley of California where it is moderately extensive. Used as annual range and dry farmed small grain, usually barley, with limited sprinkler irrigated pasture.

San Joaquin Loam. This soil is located throughout the entirety of the plan area on approximately 5,367.2 acres (see Figure 3.6-1). The San Joaquin series consists of moderately deep to a duripan, well and moderately well drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. They are on undulating low terraces with slopes of 0 to 9 percent. Well and moderately well drained; medium to very high runoff; very slow permeability. Some areas are subject to rare or occasional flooding. Typically used as cropland and livestock grazing; crops are small grains, irrigated pasture and rice; vineyards, fruit and nut crops.

FAULTS AND SEISMICITY

Faults and Fault Systems

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch

to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The State of California designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.6-2 presents the California fault activity rating system.

TABLE 3.6-2: FAULT ACTIVITY RATING

FAULT ACTIVITY RATING	*GEOLOGIC PERIOD OF LAST RUPTURE*	*TIME INTERVAL*
Active (A)	Holocene	Within last 11,700 Years
Potentially Active (PA)	Quaternary	Age Undifferentiated
Inactive (I)	Pre-Quaternary	Greater than 1.6 Million Years

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, FAULT ACTIVITY MAP OF CALIFORNIA.

No active faults are mapped within the City of Fresno.[3] Active faults are those showing evidence of surface displacement within the last 11,000 years.[4] The nearest faults to the Plan Area include the Nunez fault, located approximately 50 miles to the southwest, and the San Joaquin fault, located approximately 50 miles to the west of the Plan Area (see Figure 3.6-2). The San Andreas fault zone is located approximately 60 miles to the southwest of the Plan Area (see Figure 3.6-2).

Alquist-Priolo Special Study Zone

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. The Plan Area does not have surface expression of active faults and fault rupture is not anticipated.

The nearest Alquist-Priolo Earthquake Fault Zone to the Plan Area is along the Nunez Fault about 50 miles to the southwest (see Figure 3.6-2).

Seismicity

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. The total seismic energy release for a fault source is sometimes partitioned between two different recurrence models, the characteristic and truncated Gutenberg-Richter (G-R) magnitude-frequency distributions. These models incorporate our knowledge of the range of magnitudes and relative frequency of different magnitudes for a particular fault. The partition of moment and the weights for multiple models are given in the following summary.

[3] U.S. Geologic Survey, 2019.

[4] California Geological Survey, 2019. Alquist-Priolo Earthquake Fault Zoning Act, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed September 3, 2019.

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

The California Building Standards Code (CBSC) places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

TABLE 3.6-3: RICHTER MAGNITUDE SCALE FOR EARTHQUAKES

RICHTER MAGNITUDE	*EFFECTS OF INTENSITY*
0.1 – 0.9	Earthquake shaking not felt
1.0 – 2.9	Shaking felt by those at rest.
3.0 – 3.9	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	Felt by everyone indoors, the duration of shaking can be estimated by most people. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed, railroads bent slightly. Dams, dikes and embankments damaged.
8.0 – 8.4	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed, railroads bent.
8.5 +	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

SOURCE: UNITED STATES GEOLOGICAL SURVEY.

SEISMIC HAZARDS

Seismic Ground Shaking

The Fresno region has historically been subject to low to moderate ground shaking. Two of the historic earthquakes that caused ground shaking in the region, the Owens Valley Earthquake of 1872 and the Coalinga Earthquake of 1983, each generated ground shaking of intensity VII in the region. Seismic ground shaking in the Plan Area is expected over the lifetime of the Specific Plan implementation.

Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Liquefaction potential in the City of Fresno is considered low to moderate.[5] No liquefaction has been observed in Fresno from any historic earthquake.[6] Additionally, liquefaction zones have not been identified in Fresno County by the State.[7]

Seismic Ground Settlement

Ground shaking can cause unconsolidated sediments to settle. Due to the nature of the soils underlying the City, and the history of low to moderate ground shaking, seismic settlement is not considered a significant hazard in the region.[8]

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Lateral spreading is not considered a substantial hazard in the region for the same reasons given for seismic ground settlement.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The potential for landslides is considered remote in the Plan Area, as the site has a relatively flat slope. Additionally, landslide zones have not been identified in Fresno County by the State.[9]

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[5] Krazen and Associates, Inc. June 15, 2012. Geologic Hazards Investigation, Fresno General Plan Update.

[6] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

[7] California Department of Conservation. CGS Information Warehouse: Regulatory Maps. Accessed May 27, 2002. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/

[8] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

[9] California Department of Conservation. CGS Information Warehouse: Regulatory Maps. Accessed May 27, 2002. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/

NON-SEISMIC HAZARDS

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. Soils underlying the Fresno region consist partly of clays that are considered slightly to moderately expansive.[10] The Plan Area is not mapped as having moderate to high expansion potential (County of Fresno, 2018).

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) are loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The Fresno County Multi-Hazard Mitigation Plan identifies two types of areas with moderate to high erosion potential: 1) certain soil types in the Sierra Nevada and foothills (both Sierra Nevada and Coast Ranges) on slopes generally over 30 percent, and 2) certain soil types in the western San Joaquin Valley and the Coast Ranges, both in western Fresno County. The Plan Area is not mapped in an area of moderate to high erosion potential (County of Fresno, 2018).

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. The Fresno region is not known to be subject to subsidence hazards. Areas of subsidence in Fresno County mapped in the Multi-Hazard Mitigation Plan are in western Fresno County over 20 miles west and southwest from the Plan Area (County of Fresno, 2018).

MINERAL RESOURCE CLASSIFICATION

Pursuant to Surface Mining and Reclamation Act (SMARA), the California State Mining and Geology Board oversees the mineral resource zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the

[10] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

known or inferred quantity of significant mineral resources. The four classifications are described in Table 3.6-4.

TABLE 3.6-4: MINERAL RESOURCE CLASSIFICATION SYSTEM

CLASSIFICATION	*DESCRIPTION*
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ classification.

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF MINES AND GEOLOGY, 2002.

MINERAL RESOURCES

Mineral resources include commercially viable oil and gas deposits, and nonfuel mineral resources deposits. Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate, including sand, gravel, and crushed stone. California is the largest producer of sand and gravel in the nation.

According to Fresno County's existing General Plan Background Report, Fresno County has been a leading producer of minerals because of the abundance and wide variety of mineral resources that are present in the county. Extracted resources include aggregate products (sand and gravel), fossil fuels (oil and coal), metals (chromite, copper, gold, mercury, and tungsten), and other minerals used in construction or industrial applications (asbestos, high-grade clay, diatomite, granite, gypsum, and limestone). Aggregate and petroleum have been historically considered the county's most significant extractive mineral resources.

The principal area for mineral resources in the City is located in and immediately adjacent to the San Joaquin River Corridor. However, the Plan Area is located outside of the immediate vicinity of the San Joaquin River corridor.

The City of Fresno permits mining only within the Mining (M) Overlay District (Citywide Development Code). The Plan Area does not include any land within the M Overlay District. MRZ-2 zones are those areas documented to have regionally significant mineral resources; the Plan Area is not within a MRZ-2 zone. The boundaries of the Plan Area are classified as MRZ-3, which are defined as potential, but unproven mineral resource reserves (State of California, Division of Mines and Geology, Open File Report 99-02).

LOCATION OF PERMITTED AGGREGATE MINES

The California Office of Mine Reclamation periodically publishes a list of qualified permitted aggregate mines regulated under SMARA that is generally referred to as the AB 3098 List. The Public Contract Code precludes mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates or other mined materials to State or local agencies. As of February 27,

2020, there are no aggregate mines on the AB 3098 list within the Plan Area. The closest mine is located approximately 0.5 miles west of the Plan Area (the Glamis Pit-Reclaimed Mine; Mine ID # 91-13-0094).

3.6.2 REGULATORY SETTING

The following is an overview of the State and local regulations that are applicable to the proposed Specific Plan.

STATE

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

California Building Standards Code

The California Building Standards Code (CBSC) is included in Title 24 of the California Code of Regulations (CCR) and includes the California Building Code (CBC). Under State law, all building standards must be centralized in Title 24 or they are not enforceable.

The CBSC is a compilation of three types of building criteria from three different origins:

- Building standards that have been adopted by State agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

The potential for seismic ground shaking is expected in California. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the CBSC. These seismic design provisions require enhanced structural integrity based on several risk parameters.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface

faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a Project site.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and Counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides

guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.

- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The Regional Water Quality Control Board (RWQCB) issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB issues general permits for stormwater runoff from construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

In accordance with the NPDES General Construction Permit requirements, a Storm Water Pollution Prevention Plan (SWPPP) is required for projects that disturb at least one acre of soil. The SWPPP must be submitted to the RWQCB.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities that would

occur as part of Specific Plan implementation would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> "*…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"*

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

> *"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"*

State Laws Pertaining to Paleontological Resources

Section 5097.5 of the California Public Resources Code prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any "vertebrate paleontological site, including fossilized footprints," on public lands, except where the agency with jurisdiction has granted express permission. "As used in this section, 'public lands' means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof."

Section 30244 of the California Public Resources Code requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

The California Administrative Code relating to the State Division of Beaches and Parks affords protection to geologic features and "paleontological materials" but grant the director of the State park system authority to issue permits for specific activities that may result in damage to such resources, if the activities are in the interest of the State park system and for State park purposes (California Administrative Code, Title 14, Section 4307–4309).

LOCAL

Fresno General Plan

The Fresno General Plan establishes the following objectives and policies directly related to geology and soils.

NOISE AND SAFETY ELEMENT

Objective NS-2: Minimize risks of property damage and personal injury posed by geologic and seismic risks.

> **Policy NS-2-a: Seismic Protection.** Ensure seismic protection is incorporated into new and existing construction, consistent with the Fresno Municipal Code.
>
> **Policy NS-2-b: Soil Analysis Requirement.** Identify areas with potential geologic and/or soils hazards, and require development in these areas to conduct a soil analysis and mitigation plan by a registered civil engineer (or engineering geologist specializing in soil geology) prior to allowing on-site drainage or disposal for wastewater, stormwater runoff, or swimming pool/spa water.

PUBLIC UTILITIES AND SERVICES ELEMENT

Objective PU-5: Preserve groundwater quality and ensure that the health and safety of the entire Fresno community is not impaired by use of private, on-site disposal systems.

> **Policy PU-5-a: Mandatory Septic Conversion.** Continue to evaluate and pursue where determined appropriate the mandatory abatement of existing private wastewater disposal (septic) systems and mandatory connection to the public sewage collection and disposal system.
>
> **Policy PU-5-b: Non-Regional Treatment.** Discourage, and when determined appropriate, oppose the use of private wastewater (septic) disposal systems, community wastewater disposal systems, or other nonregional sewage treatment and disposal systems within or adjacent to the Metropolitan Area if these types of wastewater treatment facilities would cause discharges that could result in groundwater degradation.

Fresno Municipal Code

The City of Fresno has incorporated and adopted the 2016 CBC with the City's amendments as Municipal Code Section 11-102, referred to as the Fresno Building Code.

A preliminary soils report is required under Municipal Code Section 12-1022 for every subdivision for which a final map is required. Grading and erosion control requirements are set forth in Section 12-1023.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Specific Plan will have a significant impact on geology, soils, and seismicity if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; and/or
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; and/or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

There would be ***no impact*** associated with the use of septic tanks or alternative wastewater disposal systems, since septic tanks or alternative wastewater systems would not be implemented within the Plan Area as part of Specific Plan implementation. Therefore, this issue will not be addressed further.

Additionally, consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on mineral resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State; and/or
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

IMPACTS AND MITIGATION

Impact 3.6-1: Specific Plan implementation would not directly or indirectly cause potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure. (Less than Significant)

The Plan Area is not within an Alquist-Priolo Special Study Zone. There are no known faults (active, potentially active, or inactive) that traverse the city. Faults with known or estimated activity during the Holocene are generally located in the San Francisco Bay Area to the west, or in the Lake Tahoe area to the east. However, the CBSC places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

There is the potential for groundshaking caused by seismic activity anywhere in California, including the Plan Area. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the CBC. Design in accordance with these standards would reduce any potential impact to a ***less than significant*** level. Refer to Impact 3.6-3 for a discussion of impacts related to landslides, lateral spreading, subsidence, and liquefaction.

Impact 3.6-2: Specific Plan construction and implementation has the potential to result in substantial soil erosion or the loss of topsoil. (Less than Significant with Mitigation)

Although the Plan Area is not mapped in an area of moderate to high erosion potential, soil erosion and the loss of topsoil is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

As noted above in the Regulatory Setting, the future construction activities that would occur as part of Specific Plan implementation would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ). Construction activities associated with implementation of the Specific plan, would be required to comply with all requirements set forth in the NPDES permit for construction activities, including preparation of a SWPPP containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency.

Nevertheless, in accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 requires an approved SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are existing regulatory requirements. Additionally, as discussed in Section 3.3, Air Quality, construction activities would be subject to the San Joaquin Valley Air Pollution Control District rules and regulations pertaining to dust control. Specifically, Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measure to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

Implementation of Mitigation Measures 3.6-1, and compliance with the Dust Control Plan required by SJVAPCD Rule 8021, would ensure that construction during Specific Plan implementation would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.6-1*: Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation for each phase of the Project, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Fresno and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Impact 3.6-3: Specific Plan implementation has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Specific Plan implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse. (Less than Significant with Mitigation)

LIQUEFACTION

As stated above, the Plan Area is not located within an area mapped by the State as having the potential for liquefaction. Liquefaction potential in the City of Fresno is considered low to moderate and liquefaction has not been observed in Fresno from any historic earthquake. Additionally, liquefaction zones have not been identified in Fresno County by the State.[11] Nevertheless, Mitigation Measure 3.6-2 is included below. This measure requires that future project proponents in the Plan Area complete and submit a final geotechnical evaluation of the soils at a design-level, as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2.

LATERAL SPREADING

Lateral spreading is not considered a substantial hazard in the region. However, since the potential for liquefaction is low to moderate within the Plan Area, the potential for lateral spreading is also present. As such, Mitigation Measure 3.6-2 is included below. This measure requires that future project proponents in the Plan Area complete and submit a final geotechnical evaluation of the soils at a design-level, as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2.

LANDSLIDES

As noted previously, landslide zones have not been identified in Fresno County by the State.[12] The Plan Area is essentially flat; therefore, the potential for a landslide within the Plan Area is virtually non-existent.

SUBSIDENCE

Areas of subsidence in Fresno County mapped in the Multi-Hazard Mitigation Plan are in western Fresno County over 20 miles west and southwest from the Plan Area.[13] The Fresno region is not known to be subject to subsidence hazards. Areas of subsidence in Fresno County mapped in the

[11] California Department of Conservation. CGS Information Warehouse: Regulatory Maps. Accessed May 27, 2002. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/

[12] California Department of Conservation. CGS Information Warehouse: Regulatory Maps. Accessed May 27, 2002. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/

[13] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

Multi-Hazard Mitigation Plan are in western Fresno County over 20 miles west and southwest from the Plan Area (County of Fresno, 2018).

CONCLUSION

The Plan Area does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. There is a potential for liquefaction, liquefaction induced settlement, and lateral spreading. However, through the implementation of Mitigation Measure 3.6-2, implementation of the Specific Plan would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.6-2*: Prior to earthmoving activities associated with future development activities within the Plan Area , a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

Impact 3.6-4: The Specific Plan would not be located on expansive soil creating substantial risks to life or property. (Less than Significant)

Soils underlying the Fresno region consist partly of clays that are considered slightly to moderately expansive.[14] The Plan Area is not mapped as having moderate to high expansion potential.[15]

The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. Mitigation Measure 3.6-2, presented above, provides the requirement for a final geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm

[14] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

[15] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

drainage and building plans, are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. With the implementation of Mitigation Measure 3.6-2 (requiring a final Geotechnical Evaluation and implementation of site recommendations), implementation of the Specific Plan would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.6-2**.*

Impact 3.6-5: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource. (Less than Significant with Mitigation)

Although no paleontological resources have been recorded within the Plan Area, unknown resources may be present. It is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities.

Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, State, or federal criteria. Implementation of Mitigation Measure 3.6-3 would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. This mitigation measure would reduce this impact to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.6-3: *If any paleontological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find.*

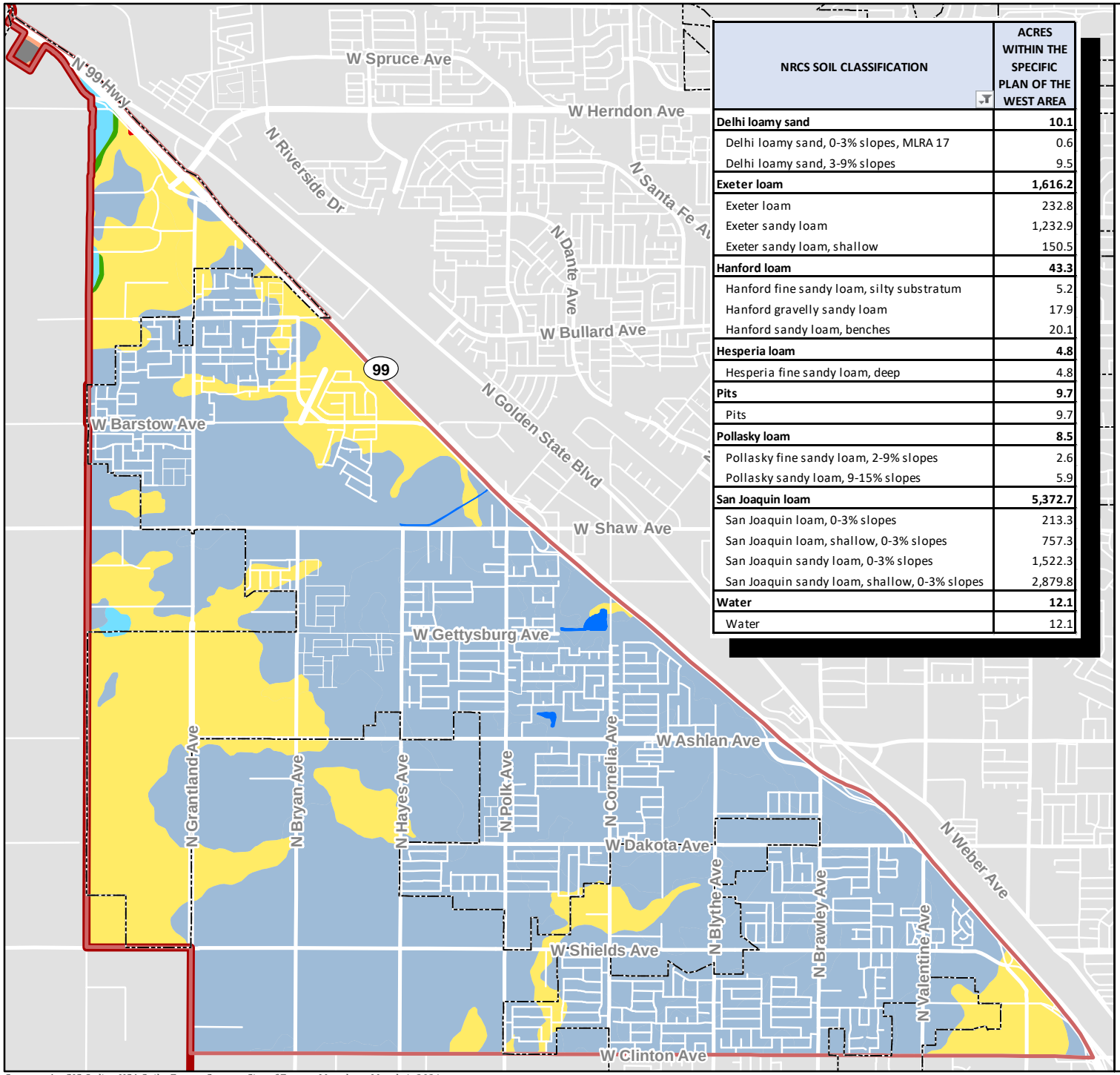
Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating within the Plan Area, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology.

Impact 3.6-6: Specific Plan implementation would not have the potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. (Less than Significant)

The City of Fresno permits mining only within the Mining (M) Overlay District (Citywide Development Code). Moreover, the boundaries of the Plan Area are classified as MRZ-3, which are defined as potential, but unproven mineral resource reserves (State of California, Division of Mines

and Geology, Open File Report 99-02). MRZ-2 zones are those areas documented to have regionally significant mineral resources.

As of February 27, 2020, there are no aggregate mines on the AB 3098 list within the Plan Area. The closest mine is located approximately 0.5 miles west of the Plan Area (the Glamis Pit-Reclaimed Mine; Mine ID # 91-13-0094). Therefore, implementation of the proposed Project would have a ***less than significant*** impact relative to this environmental topic.



NRCS SOIL CLASSIFICATION	ACRES WITHIN THE SPECIFIC PLAN OF THE WEST AREA
Delhi loamy sand	**10.1**
Delhi loamy sand, 0-3% slopes, MLRA 17	0.6
Delhi loamy sand, 3-9% slopes	9.5
Exeter loam	**1,616.2**
Exeter loam	232.8
Exeter sandy loam	1,232.9
Exeter sandy loam, shallow	150.5
Hanford loam	**43.3**
Hanford fine sandy loam, silty substratum	5.2
Hanford gravelly sandy loam	17.9
Hanford sandy loam, benches	20.1
Hesperia loam	**4.8**
Hesperia fine sandy loam, deep	4.8
Pits	**9.7**
Pits	9.7
Pollasky loam	**8.5**
Pollasky fine sandy loam, 2-9% slopes	2.6
Pollasky sandy loam, 9-15% slopes	5.9
San Joaquin loam	**5,372.7**
San Joaquin loam, 0-3% slopes	213.3
San Joaquin loam, shallow, 0-3% slopes	757.3
San Joaquin sandy loam, 0-3% slopes	1,522.3
San Joaquin sandy loam, shallow, 0-3% slopes	2,879.8
Water	**12.1**
Water	12.1

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 3.6-1. Soil Types

BOUNDARIES

- Specific Plan of the West Area
- Fresno City Limits
- Fresno Sphere of Influence

MAP UNIT GROUP

- Delhi loamy sand
- Exeter loam
- Hanford loam
- Hesperia loam
- Pits
- Pollasky loam
- San Joaquin loam
- Water

N

0 ¼ ½

Miles

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: ArcGIS Online USA Soils; Fresno County; City of Fresno. Map date: March 1, 2021.

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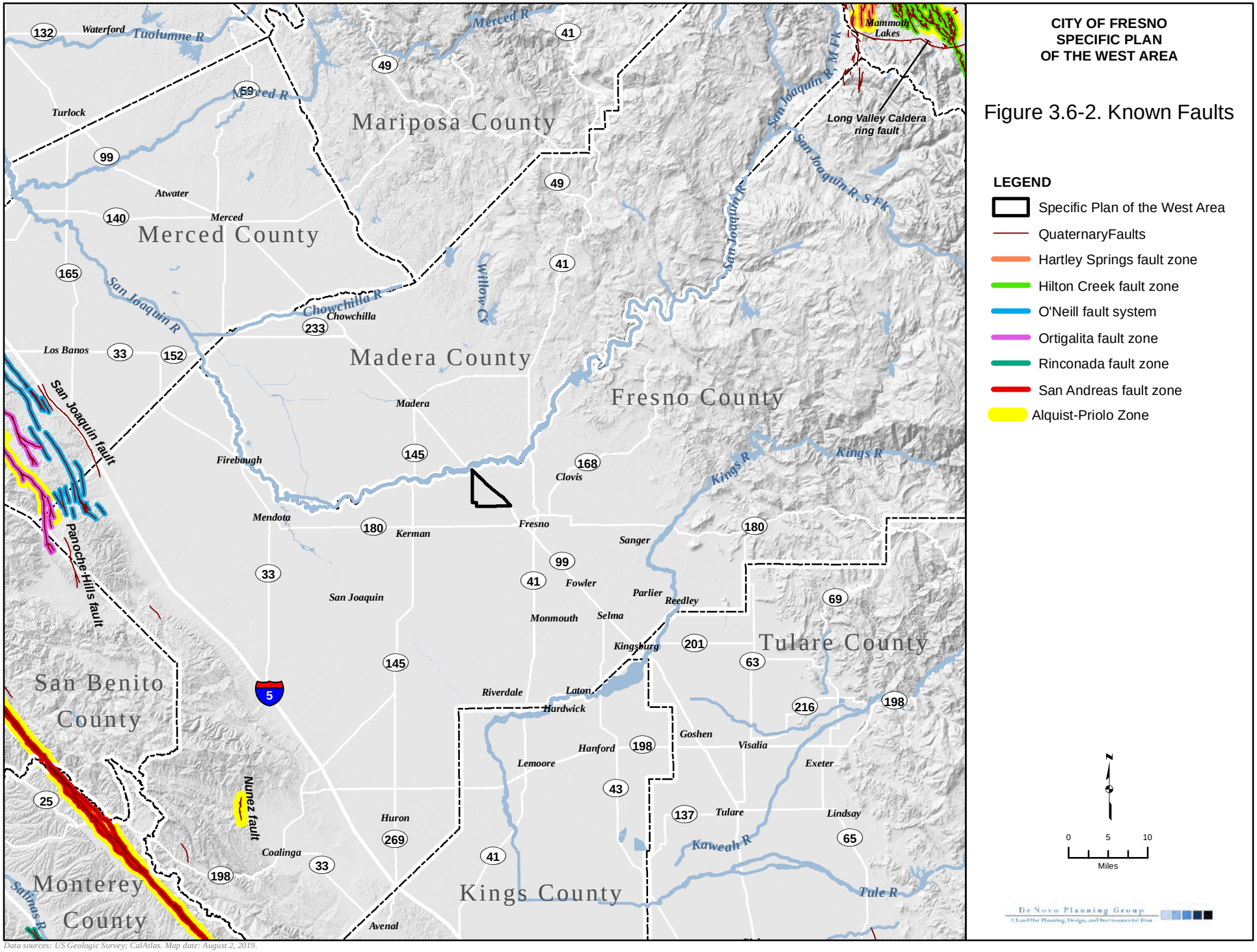

Data sources: US Geologic Survey; CalAtlas. Map date: August 2, 2019.

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This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the greenhouse gas (GHG), climate change, and energy conservation impacts in this section focuses on the proposed Specific Plan's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed project. Disclosure and discussion of the Specific Plan's estimated energy usage and greenhouse gas emissions are provided.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the San Joaquin Air Pollution Control District (SJVPACD) (July 15, 2019), and Cathy Caples (August 1, 2019). Each of the comments related to this topic are addressed within this section. Full comments received are included in **Appendix A**.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2020).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern,

respectively. California produced 440 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2016 (California Air Resources Board, 2018a).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out of-state sources) (15%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Air Resources Board, 2020c).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation through decreases in precipitation, thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with

saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2018, California's per capita energy usage was ranked fourth-lowest in the nation (U.S. EIA, 2020b). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and limited nuclear generation resources with a plan to increase renewables and the elimination of nuclear power in 2025. In 2018, about 28% of the electricity supply comes from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by renewable energy including hydro and wind . States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2020a). In 2016, approximately 50 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 25 percent of the State's utility-scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 14 percent of the State's utility-scale net electricity generation came from hydroelectric generation, and nuclear energy powered an additional 11 percent. The amount of electricity generated from coal negligible (approximately 0.2 percent) (U.S. EIA, 2020a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was

246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2020b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2018, electricity consumption in Fresno County was 7,651 GWh (California Energy Commission, 2018).

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

Natural Gas/Propane

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California (California Public Utilities Commission, 2021). In 2018, California gas utilities were estimated to deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions (California Public Utilities Commission, 2021). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the Fresno County area, including the City of Fresno. In 2018, natural gas consumption in Fresno County was 347 million therms (California Energy Commission, 2018).

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC §§ 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and California Air Resources Board (CARB), the United States Environmental Protection Agency (USEPA) developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing

CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Saf. Code, § 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

Effective January 1, 2017, SB 32 (Stats. 2016, ch. 249) added a new section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by the year 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Saf. Code, § 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In April 2015, Governor Brown issued another Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below

1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In September 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. In the 2015 legislative session, the Legislature passed Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed in more detail below). This legislation added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Statute Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In September 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, § 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources. (Pub. Utility Code, § 399.11, subd (a) [subsequently amended].) As described in the Legislative Counsel's Digest, Senate Bill 1078 required "[e]ach electrical corporation … to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical

corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year."

In September 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, § 399.11, subd (a) [subsequently amended].)

In April 2011, the Legislature, in a special session, enacted Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1), which set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, § 399.11 et seq. [subsequently amended].)

In 2015, the Legislature enacted Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed above). It increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, § 399.11, subd (a); see also § 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

In March 2012, Governor Brown had issued an Executive Order, B-16-12, which embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed the State government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "ZEV ready";
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, the Legislature enacted, and the Governor signed, Senate Bill 100 (Stats. 2018, ch. 312), which revise the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy

resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by the year 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficiently allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In July 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health & Saf. Code, § 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, §§ 1900, 1961, and 1961.1 et seq.)

In January 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, §§ 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Electric Car Mandate

The transportation sector, including all passenger cars and light trucks, heavy-duty trucks, off-road vehicles, and the fuels needed to power them, is responsible for more than half of California's greenhouse gas emissions. In 2020, Governor Newsom issued an Executive Order, N-79-20, which calls for the elimination of new internal combustion passenger vehicles by 2035. Existing vehicles that run on fossil fuel would be allowed to keep operating. The executive order will not prevent Californians from owning gasoline-powered cars or selling them on the used car market.

Innovative Clean Transit Rules for Public Transportation

The Innovative Clean Transit Regulation is the first of its kind to support these programs. It was adopted in December 2018 to replace the Fleet Rule for Transit Agencies. The regulation requires all public transit agencies to gradually transition to a 100-percent zero-emission bus fleet and encourages them to provide innovative first and last-mile connectivity and improved mobility for transit riders.

Through the deployment of zero-emission technologies, the ICT regulation will provide significant benefits across the state, including:

- Reduce NOx and GHG emissions for all Californians, especially transit-dependent and disadvantaged communities. The majority of these benefits will be in the State's most populated and impacted areas where transit buses are most prevalent
- Increase penetration of the first wave of zero-emission heavy-duty technologies into applications that are well suited to their use to further achieve emission reduction benefits
- Save energy and reduce dependency on petroleum and other fossil fuels
- Expand zero-emission vehicle industry to bring high quality green jobs to local communities and trained workforce to California
- Provide other societal benefits by encouraging improved mobility and connectivity with zero-emission transportation modes and reduced growth in light-duty vehicle miles traveled.

Cap and Trade Program

On October 20, 2011, in a related action, CARB adopted the final cap-and-trade program for California. (See California Code of Regulations, Title 17, §§ 95801-96022.) The California cap-and-trade program has created a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 guidance published by CARB, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions

while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO2e), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 $MTCO_2e$ per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the cap-and-trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

In early 2017, the Legislature enacted, and the Governor signed, AB 398 (Stats. 2017, ch. 135), which extended the life of the existing Cap and Trade Program through December 2030.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for the years 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

AB 32 SCOPING PLAN

In December 2008, CARB adopted the Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons

(MMT) CO_2e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO_2e under a business-as-usual scenario. This is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO_2e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan also includes CARB recommended GHG reductions for each emissions sector of the State GHG inventory. CARB estimates the largest reductions in GHG emissions would be by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (26.1 MMT CO_2e);
- the Low Carbon Fuel Standard (15.0 MMT CO_2e);
- energy efficiency measures in buildings and appliances (11.9 MMT CO_2e); and
- renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e).

In 2011, CARB adopted a cap-and-trade regulation. The cap-and-trade program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The cap-and-trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the State's GHG emissions.

With regard to land use planning, the Scoping Plan expects that reductions of approximately 3.0 MMT CO_2e will be achieved through implementation of Senate Bill (SB) 375, which is discussed further below.

2014 SCOPING PLAN UPDATE

In response to comments on the 2008 Scoping Plan, and AB 32's requirement to update the Scoping Plan every five years, CARB revised and reapproved the Scoping Plan, and prepared the First Update to the 2008 Scoping Plan in 2014 (2014 Scoping Plan). The 2014 Scoping Plan contains the main strategies California will implement to achieve a reduction of 80 MMT of CO_2e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 MMT of CO_2e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount of GHG reductions CARB recommends for each emissions sector of the State's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the ACC program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 SB 32 SCOPING PLAN

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response to these two pieces of legislation, CARB adopted an updated Scoping Plan in December 2017. The document represents a second update to the scoping plan to reflect the 2030 target of reducing statewide GHG emissions by 40

percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) –
    - Estimated 85% of passenger vehicles will be ZEV and Plug-in Hybrid Electric Vehicles (PHEV) by 2045;
    - Estimated 77% of heavy-duty fleet will be ZEV by 2045.
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2019 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.

- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2019 Title 24 standards. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years. The 2019 Title 24 standards include the requirement by the California Public Utilities Commission (CPUC) Energy Efficiency Strategic Plan for net zero energy consumption for new residential development starting in 2020 and will ultimately incorporate requirements for net zero in new non-residential development by 2030.

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. This will reduce greenhouse gas emissions by 700,000 metric tons over three years, equivalent to taking 115,000 fossil fuel cars off the road. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN CODE)

In 2008, the California Building Standards Commission (CBSC) adopted Part 11 of CCR Title 24, titled the California Green Building Standards Code (CALGreen Code) which became effective on August 1, 2009 as a voluntary code. The 2010 CALGreen Code was the first mandatory edition, took effect on January 1, 2011, and is now a part of the CBSC 3-year update cycle. The 2019 CALGreen Code standards became effective on January 1, 2020. The CALGreen Code establishes mandatory measures for residential and non-residential building construction and encourages sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

CEQA Direction

In 2008, the Schwarzenegger administration, through the Office of Planning and Research (OPR), issued Guidance regarding assessing significance of GHGs in California Environmental Quality Act (CEQA) documents; that Guidance stated that the adoption of appropriate significance thresholds was a matter of discretion for the lead agency. The OPR Guidance states:

> "[T]he global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions. To this end, OPR has asked the CARB technical staff to recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. Until such time as state guidance is available on thresholds of significance for GHG emissions, we recommend the following approach to your CEQA analysis."
>
> **Determine Significance**
>
> - When assessing a project's GHG emissions, lead agencies must describe the existing environmental conditions or setting, without the project, which normally constitutes the baseline physical conditions for determining whether a project's impacts are significant.
> - As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a "significant impact," individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.
> - The potential effects of a project may be individually limited but cumulatively considerable. Lead agencies should not dismiss a proposed project's direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence. Documentation of available information and analysis should be provided for any project that may significantly contribute new GHG emissions, either individually or cumulatively, directly or indirectly (e.g., transportation impacts).
> - Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project.

The OPR Guidance did not require Executive Order S-3-05 (by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels) to be used as a significance threshold under CEQA. Rather, OPR recognized that,

until the CARB establishes a statewide standard, selecting an appropriate threshold was within the discretion of the lead agency.

In 2010, the California Natural Resources Agency added section 15064.4 to the CEQA Guidelines, providing new legal requirements for how agencies should address GHG-related impacts in their CEQA documents. As amended in early 2019, section 15064.4 provides as follows:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
>
> (1) Quantify greenhouse gas emissions resulting from a project; and/or
>
> (2) Rely on a qualitative analysis or performance-based standards.
>
> (b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:
>
> (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
>
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
>
> (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the

> agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.
>
> (c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Section 15126.4, subdivision (c), provides guidance on how to formulate mitigation measures addressing GHG-related impacts:

> Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:
>
> (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
>
> (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;
>
> (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
>
> (4) Measures that sequester greenhouse gases;
>
> (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

California Supreme Court Decisions

THE "NEWHALL RANCH" CASE

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (hereafter referred to as the Newhall Ranch Case).

Because of the importance of the Supreme Court as the top body within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in CEQA documents, the opinion provides very important legal guidance to agencies charged with preparing EIRs.

The case involved a challenge to an EIR prepared by the California Department of Fish and Wildlife (CDFW) for the Newhall Ranch development project in Los Angeles County, which consists of approximately 20,000 dwelling units as well as commercial and business uses, schools, golf courses, parks and other community facilities in the City of Santa Clarita.

In relation to GHG analysis, the Newhall Ranch Case illustrates the difficulty of complying with statewide GHG reduction targets at the local level using CEQA to determine whether an individual project's GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or statement of overriding consideration. The EIR utilized compliance with AB 32's GHG reduction goals as a threshold of significance and modelled its analysis on the CARB's business-as-usual (BAU) emissions projections from the 2008 Scoping Plan. The EIR quantified the project's annual emissions at buildout and projected emissions in 2020 under a BAU scenario, in which no additional regulatory actions were taken to reduce emissions. Since the Scoping Plan determined a reduction of 29 percent from BAU was needed to meet AB 32's 2020 reduction goal, the EIR concluded that the project would have a less-than-significant impact because the project's annual GHG emissions were projected to be 31 percent below its BAU estimate.

The Supreme Court concluded that the threshold of significance used by the EIR was permissible; however, the BAU analysis lacked substantial evidence to demonstrate that the required percentage reduction from BAU is the same for an individual project as for the entire State. The court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the Supreme Court determined that the EIR's GHG analysis was not sufficient to support the conclusion that GHG impacts would be less than significant.

In addition, the Supreme Court provided the following guidance regarding potential alternative approaches to GHG impact assessment at the project level for lead agencies:

1. The lead agency determination of what level of GHG emission reduction from business-as-usual projection that a new land development at the proposed location would need to achieve to comply with statewide goals upon examination of data behind the Scoping Plan's business-as-usual emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions (the same issues with CEQA compliance addressed in this case);

2. The lead agency may use a project's compliance with performance based standards – such as high building energy efficiency – adopted to fulfill a statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation (See Guidelines Section 15064.4(a)(2), (b)(3); see also

Guidelines Section 15064(h)(3)). A significance analysis would then need to account for the additional GHG emissions – such as transportation emissions – beyond the regulated activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as a Climate Action Plan or a SB 375 metropolitan regional transportation impact Sustainable Communities Strategy) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to Guidelines 15183.5(a)-(b) for land use and Public Resources Code Section 21155.2 and 21159.28 and Guidelines Section 15183.5(c) for transportation.

3. The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of significance of 1,100 MT CO_2E in annual emission for CEQA GHG emission analysis on new land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (See Guidelines Section 15064.7).

THE SANDAG CASE

In *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (*SANDAG)*, the Supreme Court addressed the extent to which, if any, an EIR for a Regional Transportation Plan (RTP) with a Sustainable Communities Strategy (SCS) must address the proposed project's consistency with the 2050 target set forth in Executive Order S-03-05 (i.e., 80 percent below 1990 levels). The Court held that SANDAG did not abuse its discretion by failing to treat the 2050 GHG emissions target as a threshold of significance. The Court cautioned, however, that its decision applies narrowly to the facts of the case and that the analysis in the challenged EIR should not be used as an example for other lead agencies to follow going forward. Notably, the RTP itself covered a planning period that extended all the way to 2050.

The Court acknowledged the parties' agreement that "the Executive Order lacks the force of a legal mandate binding on SANDAG[.]" (*Id*. at p. 513.) This conclusion was consistent with the Court's earlier decision in *Professional Engineers in California Government v. Schwarzenegger* (2010) 50 Cal.4th 989, 1015, which held the Governor had acted in excess of his executive authority in ordering the furloughing of State employees as a money-saving strategy. In that earlier case, which is not mentioned in the *SANDAG* decision, the Court held that the decision to furlough employees was legislative in character, and thus could only be ordered by the Legislature, and not the Governor, who, under the State constitution, may only exercise executive authority. In *SANDAG*, the Court thus impliedly recognized that Governors do not have authority to set statewide legislative policy, particularly for decades into the future. Even so, however, the Court noted, and did not question, the parties' agreement that "the Executive Order's 2050 emissions reduction target is grounded in sound science." (3 Cal.5th at p. 513.) Indeed, the Court emphasized that, although "the Executive Order 'is not an adopted GHG reduction plan' and that 'there is no legal requirement to use it as a

threshold of significance,'" the 2050 goal nevertheless "expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate.

This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG's regional transportation plan." (*Id*. at p. 515.) Towards the end of the decision, the Court even referred to "the state's 2050 climate goals" as though the 2050 target from E.O. S-03-05 had some sort of standing under California law. (*Id*. at p. 519.) The Court seemed to reason that, because the Legislature had enacted both AB 32 and SB 32, which followed the downward GHG emissions trajectory recommended in the Executive Order, the Legislature, at some point, was also likely to adopt the 2050 target as well: "SB 32 … reaffirms California's commitment to being on the forefront of the dramatic greenhouse gas emission reductions needed to stabilize the global climate." (*Id*. at p. 519.) Finally, the Court explained that "planning agencies like SANDAG must ensure that CEQA analysis stays in step with evolving scientific knowledge and state regulatory schemes." (*Ibid*.)

In sum, the Court recognized that the Executive Order did not carry the force of law, but nevertheless considered it to be part of "state climate policy" because the Legislature, in enacting both AB 32 and SB 32, seems to be following both the IPCC recommendations for reducing GHG emissions worldwide and evolving science. Nothing in the decision, however, suggests that all projects, regardless of their buildout period, must address the 2050 target or treat it as a significance threshold.

LOCAL

Fresno General Plan

The Fresno General Plan includes the following objectives and policies that pertain directly to air quality, greenhouse gases, and energy.

URBAN FORM, LAND USE AND DESIGN ELEMENT

Objective UF-1: Emphasize the opportunity for a diversity of districts, neighborhoods, and housing types.

> **Policy UF-1-c: Identifiable City Structure.** Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of prominent east-west and north-south transit-oriented, mixed-use corridors with distinctive and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.
>
> **Policy UF-1-e: Unique Neighborhoods.** Promote and protect unique neighborhoods and mixed use areas throughout Fresno that respect and support various ethnic, cultural and historic enclaves; provide a range of housing options, including furthering affordable housing opportunities; and convey a unique character and lifestyle attractive to Fresnans.

Support unique areas through more specific planning processes that directly engage community members in creative and innovative design efforts.

Objective UF-12: Locate roughly one-half of future residential development in infill areas – defined as being within the City on December 31, 2012 – including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one site or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Policy UF-12-e: Access to Activity Centers. Promote adoptions and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Update the Development Code to include use regulations and standards to allow for mixed-uses and shared parking facilities, including multi-story and underground parking facilities, within Activity Centers.

Objective UF-14: Create an urban form that facilitates multi-modal connectivity.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major streets and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Objective LU-2: Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and redevelopable land uses within the City Limit where urban services are available considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Consider the adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, affordable housing and walkable access to transit stops.

Policy LU-6-d: Neighborhood and Community Commercial Center Design. Plan for neighborhood mixed use and community commercial uses to implement the Urban Form concepts of the General Plan, promote the stability and identity of neighborhood and community shopping areas, and allow efficient access without compromising the operational effectiveness of the street system.

- Neighborhoods will be anchored by community commercial centers with a mix of uses that meet the area's needs and create a sense of place.
- Community commercial centers will be located within Activity Centers.

Policy LU-6-f: Auto-Oriented Commercial Uses. Direct highway-oriented and auto-serving commercial uses to locations that are compatible with the Urban Form policies of the General Plan. Ensure adequate buffering measures for adjacent residential uses noise, glare, odors, and dust.

Policy LU-8-b: Access to Public Facilities. Ensure that major public facilities and institutions have adequate multi-modal access and can be easily reached by public transit.

RESOURCE CONSERVATION AND RESILIENCY ELEMENT

Objective RC-4: In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.

Policy RC-4-a: Support Regional Efforts. Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD' efforts to monitor and control air pollutants from both stationary and mobile

sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

Policy RC-4-b: Conditions of Approval. Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.

Policy RC-4-c: Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

Policy RC-4-d: Forward Information. Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.

Policy RC-4-e: Support Employer-Based Efforts. Support and promote employer implementation of staggered work hours and employee incentives to use carpools, public transit and other measures to reduce vehicular use and traffic congestion.

Policy RC-4-f: Municipal Operations and Fleet Actions. Continue to control and reduce air pollution emissions from vehicles owned by the City operations and municipal operations and facilities by undertaking the following:

- Expand the use of alternative fuel, electric, and hybrid vehicles in City fleets.
- Create preventive maintenance schedules that will ensure efficient engine operation.
- Include air conditioning recycling and charging stations in the City vehicle maintenance facilities, to reduce freon gases being released into the atmosphere and electrostatic filtering systems in City maintenance shops, when feasible or when required by health regulations.
- Use satellite corporation yards for decentralized storage and vehicle maintenance.
- Convert City-owned emergency backup generators to natural gas fuels whenever possible, and
- Create an advanced energy storage system.

Policy RC-4-g: FAX Actions. Continue efforts to improve Fresno Area Express (FAX) bus transit system technical performance, reduce emission levels, streamline system operations, and implement BRT where supportive land uses are proposed by Figure LU-1: Land Use Diagram.

Policy RC-4-h: Airport Actions. Support Airport efforts to develop and maintain programs and policies to support City, State and Federal efforts to achieve and maintain air quality standards.

Policy RC-4-j: All Departments. Continue to develop and implement in all City departments, operational policies to reduce air pollution.

Policy RC-4-k: Electric Charging. Develop standards to facilitate electric charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes widespread.

Policy RC-8-j: Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

HEALTHY COMMUNITIES ELEMENT

Objective HC-3: Create healthy, safe, and affordable housing.

Policy HC-3-d: Green Standards for Affordable Housing. Provide appropriate incentives for affordable housing providers, agencies, non-profit and market rate developers to use LEED and CalGreen Tier 1 or Tier 2 standards or third party equivalents.

Policy HC-3-f: New Drive-Through Facilities. Include in the Development Code design review to reduce vehicle emissions resulting from queued idling vehicles at drive-through facilities in proximity to residential neighborhoods.

MOBILITY AND TRANSPORTATION ELEMENT

Objective MT-1: Create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes**.**

Policy MT-1-f: Match Travel Demand with Transportation Facilities. Designate the types and intensities of land uses at locations such that related travel demands can be accommodated by a variety of viable transportation modes and support Complete Neighborhoods while avoiding the rerouting of excessive or incompatible traffic through local residential streets.

Policy MT-1-g: Complete Streets Concept Implementation. Provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-I and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that mitigation to maintain this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.

- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.
- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.
- Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.

Policy MT-2-b: Reduce Vehicle Miles Traveled and Trips. Partner with major employers and other responsible agencies, such the San Joaquin Valley Air Pollution Control District and the Fresno Council of Governments, to implement trip reduction strategies, such as eTRIP, to reduce total vehicle miles traveled and the total number of daily and peak hour vehicle trips, thereby making better use of the existing transportation system.

Policy MT-2-c: Reduce VMT through Infill Development. Provide incentives for infill development that would provide jobs and services closer to housing and multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).

Policy MT-2-g: Transportation Demand Management and Transportation System Management. Pursue implementation of Transportation Demand Management and Transportation System Management strategies to reduce peak hour vehicle traffic and supplement the capacity of the transportation system.

Objective MT-4: Establish and maintain a continuous, safe, and easily accessible bikeways system throughout the metropolitan area to reduce vehicle use, improve air quality and the quality of life, and provide public health benefits.

Policy MT-4-b: Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.

Policy MT-4-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers.

Policy MT-5-a: Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in established neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes.

Policy MT-5-b: Sidewalk Requirements. Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.

Policy MT-8-c: New Development Facilitating Transit. Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX's comments in decision-making.

City of Fresno GHG Reduction Plan

The City of Fresno adopted its first GHG Reduction Plan (GHG Plan) in December 2014. The GHG Plan established a target of reducing per capita GHG emissions in the city by 21.7 percent below 2020 business-as-usual (BAU) levels by 2020 and includes GHG reduction measures designed to achieve the reduction target. The GHG Plan is considered a "Qualified Plan," according to CEQA Guidelines §15183.5.2.

It should be noted that, since adoption of the GHG Plan, two significant regulations/decisions have been established. First, on September 28, 2016, Governor Brown signed Senate Bill (SB) 32 into law that sets a Statewide goal of reducing GHG emissions to 40 percent below 1990 levels by 2030. Additionally, on November 30, 2015, the California Supreme Court published its decision on the Newhall Ranch Specific Plan invalidating the Environmental Impact Report (EIR) for a variety of reasons, including the use of 29 percent below business-as-usual (BAU) as a threshold to determine significance of GHG emissions under CEQA without any supporting evidence.

The City of Fresno recently released an updated version of the GHG Plan (the GHG Plan Update) for public comment along with the City's Recirculated Draft General Plan Program (PEIR), to ensure conformity with the mandates of California Supreme Court in the Newhall Ranch case and the State of California's latest GHG regulations. The final version of the GHG Plan Update was adopted on September 30, 2021.

The GHG Plan Update re-evaluates the City's GHG reduction targets and existing reduction strategies from the 2014 GHG Plan. New goals and supporting measures are proposed to reflect and ensure compliance with changes in the local and State policies and regulations such as SB 32 and California's 2017 Climate Change Scoping Plan. The City's GHG inventory, based on the most recent data available for the year 2016 is evaluated and the future growth in emissions for the BAU and adjusted BAU (ABAU) scenarios (the ABAU scenario takes into account the State policies) for the years 2020, 2030, and 2035 are projected. The 2020 and 2030 forecast years in the GHG Plan Update are

consistent with the goals identified in Assembly Bill (AB) 32 and SB 32, which identify Statewide GHG reduction targets by 2020 and 2030. The 2035 forecast year correspond to the City's General Plan horizon year and will allow the City to develop long-term strategies to continue GHG reductions.

The GHG inventory for the City of Fresno in the updated GHG Plan is summarized in Table 3.7-1. Table 3.7-2 provides the City's Adjusted Business-as-Usual (ABAU) Emissions forecast, and Table 3.7-3 provides the State-Aligned GHG Emissions Reduction Targets by Year.

TABLE 3.7-1: CITY OF FRESNO GREENHOUSE GAS EMISSIONS INVENTORY FOR 2016 AND BUSINESS-AS-USUAL (BAU) PROJECTIONS

EMISSIONS SECTOR	*2016*	*2020*	*2030*	*2035*
Transportation	1,520,052	1,594,888	1,798,498	1,909,852
Commercial Energy	524,838	557,142	627,373	657,379
Residential Energy	479,371	514,053	579,546	603,951
Fugitive Emissions	270,130	288,573	335,316	357,008
Solid Waste	119,167	127,303	147,923	157,493
Industrial Energy	10,055	10,506	11,528	12,035
Agriculture Energy	20	20	20	20
Total	**2,923,633**	**3,092,486**	**3,500,204**	**3,697,738**

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.
SOURCE: LSA ASSOCIATES, 2021

TABLE 3.7-2: CITY OF FRESNO ADJUSTED BUSINESS-AS-USUAL (ABAU) GREENHOUSE GAS EMISSIONS

EMISSIONS SECTOR	*2016*	*2020*	*2030*	*2035*
Transportation	1,520,052	1,170,329	1,131,034	1,072,955
Commercial Energy	524,838	355,121	290,950	255,226
Residential Energy	479,371	324,760	190,210	124,904
Fugitive Emissions	270,130	144,287	167,658	178,504
Solid Waste	119,167	127,303	147,923	157,493
Industrial Energy	10,055	10,506	11,528	12,035
Agriculture Energy	20	20	20	20
Total	**2,923,633**	**2,132,326**	**1,939,325**	**1,801,137**

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.
SOURCE: LSA ASSOCIATES, 2021

TABLE 3.7-3: CITY OF FRESNO STATE-ALIGNED GHG EMISSION REDUCTION TARGETS BY YEAR

EMISSIONS SECTOR	*2016*	*2020*	*2030*	*2035*
BAU Emissions (MT CO_2e)	2,923,633	3,092,486	3,500,204	3,697,738
Adjusted BAU Emissions (MT CO_2e)	2,923,633	2,132,326	1,939,325	1,801,137
State-Aligned Target (Percent change from 1990)	-	0	-40	-50
State-Aligned Target (Percent change from 2010)	-	-15	-49	-58
State-Aligned Emissions Goal (MT CO_2e)	-	3,183,348	1,910,009	1,591,674
Reductions from Adjusted BAU needed to meet the State-Aligned Target (MT CO_2e)	-	Target Met	29,316	209,463

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.
SOURCE: LSA ASSOCIATES, 2021

3.7.3 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed Specific Plan would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan).

The City of Fresno developed its first GHG Plan in 2014. More recently, the City of Fresno released an updated version of the GHG Plan (the GHG Plan Update) for public comment along with the City's Recirculated Draft General Plan EIR. The GHG Plan Update was adopted on September 30, 2021. This document will ensure conformity with the mandates of California Supreme Court in the Newhall Ranch case and the State of California's latest GHG regulations. The GHG Plan Update re-evaluates the City's GHG reduction targets and existing reduction strategies from the 2014 GHG Plan. The City's GHG inventory, based on the most recent data available for the year 2016 is evaluated and the future growth in emissions for the BAU and adjusted BAU (ABAU) scenarios (the ABAU scenario takes into account the State policies) for the years 2020, 2030, and 2035 are projected. The 2020 and 2030 forecast years are consistent with the goals identified in Assembly Bill (AB) 32 and SB 32, which identify Statewide GHG reduction targets by 2020 and 2030. The 2035 forecast year corresponds to the City's General Plan horizon year and will allow the City to develop long-term strategies to continue GHG reductions. Therefore, the proposed project is evaluated in comparison with the existing GHG Plan as well as with the forthcoming GHG Plan Update (where applicable).

THRESHOLDS OF SIGNIFICANCE (ENERGY CONSERVATION)

Consistent with Appendices F and G of the CEQA Guidelines, energy-related impacts are considered significant if implementation of the Specific Plan would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In order to determine whether or not the proposed Specific Plan would result in a significant impact on energy use, this EIR includes an analysis of proposed Specific Plan energy use, as provided under *Impacts and Mitigation Measures* below.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Specific Plan implementation could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. (Less than Significant with Mitigation)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

The short-term construction-related and long-term operational GHG emissions associated with future buildout of the Plan Area allowed under the proposed Specific Plan were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2016.3.2). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e), based on the global warming potential of the individual pollutants.

SHORT-TERM CONSTRUCTION GHG EMISSIONS

Estimated unmitigated GHG emissions associated with construction of the proposed project are summarized in Table 3.7-4. These emissions include all worker vehicle, vendor vehicle, hauler vehicle, and off-road construction vehicle GHG emissions. For the purposes of this analysis, based on the anticipated buildout year, the proposed project is assumed to commence construction in 2021 and finish in 2035. It should be noted that this schedule is an approximation and may change over time. A regularized construction schedule was utilized for modelling purposes for the sake of simplicity.

TABLE 3.7-4: CONSTRUCTION GHG EMISSIONS (UNMITIGATED AVERAGE MT CO_2E/YEAR)

YEAR	BIO- CO_2	NON-BIO- CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
2020	0	101,058	101,058	9	0	101,272
2021	0	143,582	143,582	12	0	144,053
2022	0	150,529	150,529	12	0	150,819
2023	0	145,922	145,922	8	0	146,126
2024	0	143,930	143,930	8	0	144,133
2025	0	140,375	140,375	8	0	140,576
2026	0	138,019	138,019	8	0	138,218
2027	0	135,633	135,633	8	0	135,829
2028	0	133,051	133,051	8	0	133,243
2029	0	131,733	131,733	8	0	131,922
2030	0	130,187	130,187	7	0	130,371
2031	0	128,822	128,822	7	0	129,003
2032	0	128,168	128,168	7	0	128,348
2033	0	126,226	126,226	7	0	126,401
2034	0	125,418	125,418	7	0	125,591
2035	0	8,077	8,077	0	0	8,080

SOURCES: CALEEMOD (V.2016.3.2)

OPERATIONAL GHG EMISSIONS

Estimated GHG emissions associated with the proposed project is summarized in Table 3.7-5, below.

TABLE 3.7-5: OPERATIONAL GHG EMISSIONS (UNMITIGATED METRIC TONS/YEAR)

CATEGORY	BIO-CO_2	NBIO-CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
Area	0	53,549	53,549	2	1	53,877
Energy	0	365,420	365,420	14	4	367,057
Mobile	0	1,536,405	1,536,405	112	0	1,539,212
Waste	23,325	0	23,325	1,378	0	57,787
Water	2,846	20,087	22,933	293	7	32,377
Total	**26,171**	**1,975,461**	**2,001,632**	**1,799**	**12**	**2,050,310**

SOURCES: CALEEMOD (V.2016.3.2)

The significance thresholds for GHG emissions should be related to compliance with AB 32 and SB 32, and the City of Fresno, as lead agency, has chosen to evaluate the project's conformity with the City's f GHG Reduction Plan Update to determine consistency with this CEQA impact. The rationale for using this threshold is outlined in the previous subsection, entitled "Thresholds of Significance".

As stated under the previous subsection, entitled "Thresholds of Significance", the GHG Plan is considered a "Qualified Plan," according to CEQA Guidelines §15183.5.2. The GHG Plan Update is also considered a "Qualified Plan," according to CEQA Guidelines §15183.5.2. Project consistency with the GHG Plan Update ensures conformity with the mandates of California Supreme Court in the Newhall Ranch case and the State of California's latest GHG regulations.

The GHG Plan Update re-evaluates the City's GHG reduction targets and existing reduction strategies from the 2014 GHG Plan. New goals and supporting measures are included to reflect and ensure compliance with changes in the local and State policies and regulations such as SB 32 and California's 2017 Climate Change Scoping Plan. The City's GHG inventory, based on the most recent data available for the year 2016 is evaluated and the future growth in emissions for the BAU and adjusted BAU (ABAU) scenarios (the ABAU scenario takes into account the State policies) for the years 2020,

2030, and 2035 are projected. The 2020 and 2030 forecast years are consistent with the goals identified in Assembly Bill (AB) 32 and SB 32, which identify Statewide GHG reduction targets by 2020 and 2030. The 2035 forecast year correspond to the City's General Plan horizon year and will allow the City to develop long-term strategies to continue GHG reductions.

This GHG Plan Update provides a description of General Plan policies that support a reduction in GHGs from all sources within the City's ability to control or influence. These strategies enhance the effectiveness of State strategies by ensuring that the city is developed in ways that minimize emissions. In order to reach the long-term reduction targets, the City would also need to implement local reduction measures. These measures encourage Vehicle Miles Traveled (VMT) reductions through mixed use and infill development, transportation demand management, development and penetration of electric vehicles (EVs), energy efficiency enhancement and conservation, water conservation, and increased waste diversion and recycling strategies. Public education and outreach would play a crucial role in educating stakeholders about the importance of implementing these measures.

Analysis of GHG emissions and potential climate change impacts for new development is required under CEQA. The GHG Plan Update provides strategies and guidelines for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. A GHG Reduction Plan Consistency Checklist (Checklist) is presented to provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

Finally, the GHG Plan Update in itself is not enough to meet the reduction goals without a commitment to implementation and recurring monitoring. The GHG Plan Update identifies the process for implementing and monitoring the GHG reduction strategies. Through successful implementation of this GHG Plan Update, the City will demonstrate the potential economic, social, and environmental benefits of reducing GHG emissions and providing environmental stewardship within the community.

CONCLUSION

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change. Additionally, the implementation of the mitigation measures presented in *Section 3.2: Air Quality* of this EIR would further reduce the overall annual GHG emissions associated with the proposed project. Lastly, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The project would be consistent with the current version of the City GHG Reduction Plan, which is considered a "Qualified Plan," according to CEQA Guidelines §15183.5, thereby allowing for streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. Moreover, the project would be required to be consistent with the adopted version of the GHG Plan Update, including with

its Project Consistency Checklist, as described by Mitigation Measure 3.7-1, below. The GHG Plan Update would also be considered a "Qualified Plan," according to CEQA Guidelines §15183.5.

Therefore, with implementation of Mitigation Measure 3.7-1, the proposed project would not generate GHG emissions, directly and indirectly, that would have a significant impact on the environment. The mitigation measure below would reduce this impact to ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.7-1: *Prior to the City's approval of the project (i.e. the Specific Plan) as well as individual development projects within the Specific Plan Area, the Director of the City Planning and Development Department, or designee, shall confirm that the Specific Plan and each individual development project is consistent with the 2021 GHG Reduction Plan Update, and shall implement all measures deemed applicable to the Specific Plan and each individual development project through the GHG Reduction Plan Update-Project Consistency Checklist (Appendix B of the GHG Reduction Plan Update).*

Impact 3.7-2: Specific Plan implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (Less than Significant)

The CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project is a large-scale Specific Plan, and incorporates residential, commercial, public/institutional, and open space uses. The amount of energy used by the proposed project during operation would directly correlate with the number, size, and type of project buildings, the energy efficiency of associated building equipment and appliances, and outdoor lighting, and energy use associated with other on-site buildings and activities. Other project energy uses include fuel used by vehicle trips generated during project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by project maintenance activities during project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed project, for the unmitigated and mitigated scenarios, as provided by

applicable modelling software (i.e. CalEEMod v2016.3.2 and the CARB EMFAC2017). Additional assumptions and calculations are provided within **Appendix B** of this EIR.

ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed project would be used primarily to generate energy for on-site buildings, lighting, and water pumping, treatment, and conveyance. As shown in the following tables, "Energy" is one of the categories that was modeled for GHG emissions. The total unmitigated and mitigated GHG emissions generated from the "Energy" category in buildout year 2035 is 367,057 MT CO_2e. The following discussion includes a more detailed breakdown of energy consumption in terms of natural gas and electricity consumption. The proposed project would consider effective ways to encourage alternative energy use throughout the Specific Plan Area, as described by mitigation measure provided in *Section 3.2: Air Quality* of this EIR.

Natural Gas: Unmitigated natural gas energy consumption for Year 2035 is estimated to be 1,904,254,144 kBTU (as provided by the CalEEMod results). See **Appendix B** of this EIR for further detail.

Electricity: Unmitigated electricity energy consumption for Year 2035 is estimated to be 907,952,145 kWh (as provided by the CalEEMod results). See **Appendix B** of this EIR for further detail.

ON-ROAD VEHICLES (OPERATION)

The proposed project would generate vehicle trips during its operational phase. A description of project operational on-road mobile energy usage is provided below.

According to the VMT Analysis prepared for the proposed project (Kittelson & Associates, 2020), and as described in more detail in *Section 3.14: Transportation and Circulation* of this EIR, the project would generate approximately 991,667 ADT. In order to calculate operational on-road vehicle energy usage and emissions, De Novo Planning Group used fleet mix data from the CalEEMod (v2016.3.2) output for the proposed project, Year 2035 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2017, weighted average MPG factors for gasoline and diesel were derived. Therefore, upon full buildout, the proposed project would generate operational vehicle trips that would use a total of approximately 75,063,072 gallons of gasoline and 25,808,784 gallons of diesel per day, or 27,398,021,200 gallons of gasoline and 9,420,206,008 gallons of diesel per year.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed project would also generate on-road vehicle trips during project construction (from construction workers and vendors travelling to and from the Plan Area). De Novo Planning Group estimated the vehicle fuel consumed during these trips based the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2035 gasoline and diesel MPG factors provided by EMFAC2017 (year 2035 factors were used to represent the buildout year). For the sake of simplicity, it was assumed that all construction worker

light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel). Table 3.7-6 describes gasoline and diesel fuel consumed during each construction phase (in aggregate).

As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed project would occur during the building construction phase. There is no feasible mitigation available that would reduce on-road mobile vehicle GHG emissions generated by the project construction activities (requiring the use of electric construction vehicles was deemed infeasible, given price and availability concerns). The Plan Area is relatively flat, so no hauling was assumed for grading. Additionally, hauling for demolition activities were assumed to be minimal. See **Appendix B** of this EIR for a detailed accounting of construction on-road vehicle fuel usage estimates.

TABLE 3.7-6: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	*# OF DAYS*	*TOTAL DAILY WORKER TRIPS[A]*	*TOTAL DAILY VENDOR TRIPS[A]*	*TOTAL HAULER WORKER TRIPS[A]*	*TOTAL GALLONS OF GASOLINE FUEL[B]*	*TOTAL GALLONS OF DIESEL FUEL[B]*
Demolition	20	15	0	0	89	123,433
Site Preparation	65	18	0	0	455	0
Grading	65	20	0	0	505	0
Underground Utilities	65	30	0	0	525	0
Paving	85	6	0	0	495	0
Building Construction	3,833	65,164	24,601	0	4,853,381	6,397,974
Architectural Coating	3,656	13,033	0	0	925,867	0
Total	**7,789**	**N/A**	**N/A**	**N/A**	**5,781,317**	**6,521,407**

NOTE: [A] PROVIDED BY CALEEMOD OUTPUT. [B]SEE APPENDIX B OF THIS EIR FOR FURTHER DETAIL
SOURCE: CALEEMOD (V.2016.3.2); EMFAC2017.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the construction phase of the proposed project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the proposed project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed project would use a total of approximately 31,752 gallons of diesel fuel for off-road construction vehicles. Detailed calculations are provided in **Appendix B** of this EIR.

OTHER

The proposed project could also use other sources of energy not identified here. Examples of other energy sources include alternative and/or renewable energy (such as solar PV) and/or on-site

stationary sources (such as on-site diesel generators) for electricity generation. However, these sources of energy are not planned at this time.

CONCLUSION

The proposed project would use energy resources for the operation of project buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed project, and from off-road construction activities associated with the proposed project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed project would be responsible for conserving energy, to the extent feasible, and relies heavily on reducing per capita energy consumption to achieve this goal, including through statewide and local measures.

The proposed project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E has achieved more than a 33% mix of renewable energy resources by 2020, and is required to achieve a 60% mix of renewable energy resources by 2030. Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the proposed project. These regulations would require the proposed project buildings to achieve a high level of energy efficiency. For example, part 6 of the latest Title 24 building energy efficiency standards would require improvements for attics, walls, water heating, and lighting, as compared with the previous version of these standards. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

Furthermore, as described previously, the implementation of the mitigation measures provided in *Section 3.2: Air Quality* of this Draft EIR would reduce project energy usage (including from electricity, natural gas, and on-road vehicle gasoline and diesel sources). Overall, the incorporation of mitigation measures would ensure that the proposed project would avoid and reduce inefficient, wasteful, and unnecessary consumption of energy. The proposed project would comply with all existing energy standards, including those established by the City of Fresno, the Air District (i.e. SJVAPCD) and the State of California, and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by the *CEQA Guidelines*. This is a ***less than significant*** impact.

Impact 3.7-3: Specific Plan implementation would not generate a cumulative impact on climate change from increased project-related greenhouse gas emissions. (Less than Significant and Less than Cumulatively Considerable)

As the California Supreme Court has emphasized, all CEQA analyses of the environmental effects of GHG emissions are inherently cumulative in character. "[B]ecause of the global scale of climate change, any one project's contribution is unlikely to be significant by itself. With respect to climate change, an individual project's emissions will most likely not have any appreciable impact on the global problem by itself, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of greenhouse gases is 'cumulatively considerable' in light of the global problem, and thus significant.'" (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219, quoting (Crockett, *Addressing the Significance of Greenhouse Gas Emissions Under CEQA: California's Search for Regulatory Certainty in an Uncertain World* (July 2011) 4 Golden Gate U. Envtl. L.J. 203, 207–208.) Thus, the analysis below considers the entire planet as a backdrop while focusing on whether the proposed project's incremental contribution to worldwide GHG emissions is cumulatively considerable.

In California, there has been extensive legislation passed with the goal of reducing GHG emissions. The legislative goals are as follows: 1) 1990 levels by 2020 and 2) 40% below 1990 levels by 2030. An additional goal -- 80% below the 1990 levels by the year 2050 – was set by Governor Schwarzenegger through Executive Order S-03-05. An even more ambitious goal of achieving carbon neutrality "as soon as possible, and no later than 2045," was set by Governor Brown through Executive Order B-55-18. To achieve these legislative and executive goals, the CARB has developed regional GHG emission reduction targets for the automobile and light truck sectors (the largest single source of GHG emissions) for 2020 and 2040. The regional GHG emission reduction targets for each region in California were established by the CARB.

As described in Impact 3.7-2, implementation of the Specific Plan is consistent with the current version of the City GHG Reduction Plan, which is considered a "Qualified Plan," according to CEQA Guidelines §15183.5. Additionally, as required by Mitigation Measure 3.7-1, the City will be required to demonstrate that Specific Plan is consistent with the 2021 GHG Plan Update , thereby allowing for streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. Therefore, the proposed project would not generate GHG emissions, directly and indirectly, that would have a significant impact on the environment. Moreover, the Specific Plan incorporates goals and policies that emphasize compact, walkable communities, and where incorporated into the design of the proposed project, would help minimize GHG emissions generated by the proposed project. Further, the proposed project would be required to implement mitigation measures that are intended to reduce GHG emissions to the maximum extent feasible. The State of California continues to implement measures that are intended to reduce emissions on a State-wide scale (i.e. vehicle fuel efficiency standards in fleets, low carbon fuels, etc.) that are consistent with AB 32 and SB 32. These types of statewide measures will benefit the proposed project (and city as a whole) in the long-term

as they come into effect; however, the City does not have the jurisdiction to create far-reaching (i.e. statewide) measures to reduce GHG emissions. On a project-by-project case, the City of Fresno evaluates a project and the potential to impose project-specific mitigation, which has been done through this GHG analysis. For these reasons, implementation of the Specific Plan would have a ***less than significant*** and less than ***cumulatively considerable contribution*** impact to GHGs.

This section describes the physical setting, hazards assessment, hazardous material sites, fire hazards, regulatory setting, and impacts that are expected related to hazards and hazardous materials. This section is based in part on the following documents, reports, and studies:

- *Cortese List Data Resources* (Cal EPA, 2019);
- *Draft Master Environmental Impact Report General Plan and Development Code Update, City of Fresno, Fresno County, California* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- *Envirostor Data Management System* (California DTSC, 2019);
- *Fresno County Airport Land Use Compatibility Plan* (Fresno County Airport Land Use Commission, 2018).
- *Fresno General Plan* (City of Fresno, 2014);
- *Fresno Municipal Code* (City of Fresno, 2007);
- *GeoTracker* (California State Water Resources Board, 2019); *and*
- *Web Soil Survey (NRCS, 2019).*

One comment was received during the public review period for the Notice of Preparation regarding this topic from Cathy Caples (August 2019). The portion of this comment letter which relates to this topic is addressed within this section. Full comments received are included in Appendix A.

3.8.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location

The Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to State Route 99. See Figure 2.0-1 for the regional location map and Figure 2.0-2 for the Plan Area vicinity map. Figures 2.0-1 and 2.0-2 found in Section 2.0 illustrate the regional location and vicinity map.

Existing Site Uses

Large portions of the Plan Area are improved with existing residential, public facilities, commercial, mixed use, undeveloped rural land, and agricultural uses. These uses are spread throughout the entire Plan Area. Agricultural uses are primarily located in the western portion of the Plan Area. The developed uses are aggregated in the central and eastern portions of the Plan Area.

A portion of the Plan Area is located within the City of Fresno City limits, and a portion is within unincorporated Fresno County (within the City's Sphere of Influence [SOI]). The City of Fresno General Plan designates the existing Plan Area as: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, General Commercial, Recreation Commercial, Office, Business Park, Light

Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Community Park, Open Space – Ponding Basin, Neighborhood Park, Open Space, Public/Quasi-Public Facility, Special School, Elementary School, Elementary, Middle & High School, and High School. See Figure 2.0-4 for the existing City General Plan land use designations.

Existing Surrounding Uses

Existing surrounding land uses include State Route 99; the historic communities of Herndon and Highway City; incorporated areas of the City of Fresno to the northeast; incorporated areas of the City of Fresno to the east (including mostly industrial uses); unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels); and unincorporated Fresno County to the west (including farmland and rural residential uses).

Site Topography

The Plan Area is relatively flat with natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level. A large amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels.

Site Soils

A Web Soil Survey was completed for the Plan Area using the Natural Resources Conservation Service (NRCS) Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.8-1. Table 3.8-1 identifies the type and range of soils found in the Plan Area.

TABLE 3.8-1: PLAN AREA SOILS

NAME	*ACRES IN PLAN AREA*	*PERCENT OF PLAN AREA*
Exeter loam	215.7	3.1%
Exeter sandy loam	1,227.6	17.5%
Exeter sandy loam, shallow	150.2	2.1%
Hanford gravelly sandy loam	15.0	0.2%
Hanford sandy loam, benches	17.3	0.2%
Hesperia fine sandy loam, moderately deep	1.7	0.0%
Pollasky fine sandy loam, 2-9% slopes	2.6	0.0%
Pollasky sandy loam, 9-15% slopes	5.3	0.1%
San Joaquin loam, 0-3% slopes	213.4	3.0%
San Joaquin loam, shallow, 0-3% slopes	757.6	10.8%
San Joaquin sandy loam, 0-3% slopes, MLRA 17	1,523.4	21.7%
San Joaquin sandy loam, shallow, 0-3% slopes	2,872.8	41.0%
Water	12.1	0.2%

SOURCE: NRCS WEB SOIL SURVEY, 2019.

HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.

- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are several categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

"Recognized Environmental Conditions" is one of the terms used to identify environmental liability within the context of a Phase I Environmental Sites Assessment (ESA). The American Society for Testing and Materials (ASTM) defines the recognized environmental condition in the E1527-13 standard as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions."

Adjoining Properties

The Plan Area is bounded on the north and east by Highway 99, to the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues.

Historical Use Information

Historical information was reviewed to develop a history of the previous uses within the Plan Area and surrounding area, in order to evaluate the Plan Area and adjoining properties for evidence of environmental concerns. Standard historical sources reviewed during the preparation of this report included the following, as available:

ENVIRONMENTAL RECORDS AND DATABASES

De Novo Planning Group performed a search of local, state, and federal agency databases for the Plan Area and known contaminated sites in the vicinity.

The USEPA Toxic Release Inventory (TRI) does not list data on disposal or other releases of toxic chemicals in the Plan Area (USEPA, 2017). The nearest TRI site is located east of the Union Pacific Railroad tracks, along North Brawley Avenue.

The California Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. There are four sites listed in the database within the Plan Area:

- West Shields Elementary School: This site is located at 4108 Shields Avenue, and is a part of the DTSC – Site Cleanup Program. The cleanup status is active as of 1/4/2017. A Phase 1 assessment was completed on this site on January 4, 2017. Past uses that caused contamination are not specified. The Potential materials (e.g. soil, water, etc.) affected were also not specified.

- Golden State Ranch Property: This site is located at Ashlan Avenue and Grantland Avenue, and the DTSC is the oversight agency for this site. The cleanup status is active as of 2/27/2002. Past uses that caused contamination include agricultural – row crops. No contaminants were found at this site.

- Parc West Development: This site is located at the intersection of Shields, Grantland, Garfield, and Gettysburg avenues. The cleanup status is currently inactive. Past uses that caused contamination included agricultural – orchard and agricultural – row crop uses. Potential contaminants of concern are under investigation, and the potential materials affected are soils.

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. The Plan Area does not have any active or planned solid waste facilities listed in the database.

There is a broad list of federal and state databases that provide information for sites with varying potential for risk from the possible existence of hazardous materials. There are numerous redundancies among these various database listings. Below is a brief summary of each.

National Priorities List: The National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites is USEPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas. No site listed in this database is located within the Plan Area. The closest site listed in this database is the Fresno Municipal Sanitary Landfill, located south of SR 180.

RCRIS System: The Resource Conservation and Recovery Information System (RCRIS) is a USEPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. No portion of the Plan Area is listed in this database.

CORRACTS: Corrective Action Report (CORRACTS) is a USEPA database that identifies hazardous waste handlers with RCRA corrective action activity. No portion of the Plan Area is listed in this database.

PADS System: PCB Activity Database System (PADS) is a USEPA database that identifies generators, transporters, commercial storers, and/or brokers and disposers of polychlorinated biphenyls (PCBs) who are required to notify USEPA of such activities. No portion of the Plan Area is listed in this database.

Cortese Database: The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks (USTs) having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (Cal EPA). No portion of the Plan Area is listed in this database.

GeoTracker: GeoTracker provides online access to environmental data and is the interface to the Geographic Environmental Information Management System, a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. GeoTracker has replaced past databases, such as the Leaking Underground Storage Tank Information System and the Underground Storage Tank (UST) database. Information on hazardous material sites provided by the GeoTracker database is provided in greater detail below.

Hazardous Material Sites

As noted above, the State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by the state, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements for providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires Cal EPA to annually update the Cortese List. DTSC is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

Searches of the GeoTracker database identified one active and one inactive hazardous material sites located within the Plan Area known to handle and store hazardous materials that are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping.

Table 3.8-2 displays the known hazardous material sites located within the Plan Area with a description of the type, status, and address. As shown, one active and one inactive site are located within the Plan Area, with the remaining sites are designated as completed, no action required, no further action, or not specified.

TABLE 3.8-2: GEOTRACKER KNOWN HAZARDOUS MATERIAL RELEASE SITES WITHIN THE PLAN AREA

SITE NAME	*TYPE*	*STATUS*	*ADDRESS*
7-Eleven #24180	LUST Cleanup Site	Completed	426 West Ashlan Avenue
AT&T California – SBR29	Permitted UST	--	4309 North Polk Avenue
Chevron #9-9093	LUST Cleanup Site	Completed	3996 Parkway Drive North
Di Redo Dry Yard	LUST Cleanup Site	Completed	6150 Shaw Avenue West
EZ Trip	LUST Cleanup Site	Completed	6639 Parkway Drive North
Former Sieberts' Oil Company	LUST Cleanup Site	Completed	2837 North Parkway Drive
Fresno Gas & Liquor	Permitted UST	--	3110 West Shields Avenue
Golden State Ranch Property	School Investigation	No Action Required	Ashlan Avenue/Grantland Avenue
Johnny Quik #175	Permitted UST	--	4395 West Ashlan Avenue
Jura Farms, Inc.	LUST Cleanup Site	Completed	5545 Dakota West
Moore Truck Lines	LUST Cleanup Site	Completed	3693 Parkway North
Parkway Mini-Mart	Permitted UST	--	
Proposed Constance-Sierra Elementary School	School Investigation	No Further Action	Northeast Corner of Constance and Sierra Avenues
Quick 'N' E-Z #19	Permitted UST	--	
Siebert's Oil Company	LUST Cleanup Site	Completed	2837 Parkway Drive North
Shop N Go, #607	Permitted UST	--	4245 West Ashlan
Sugahara Farm	LUST Cleanup Site	Completed	4108 Shields Avenue West
Vallee Food Store	LUST Cleanup Site	Completed	2414 Marks North
Westlake Proposed 430 Acre Development	Voluntary Cleanup	Inactive	Bounded by Shields, Grantland, Garfield, and Gettysburg
West Shields Elementary School	School Investigation	Active	4108 Shields Avenue

SOURCE: STATE WATER RESOURCES CONTROL BOARD GEOTRACKER (2019).

NOTE: -- = NOT SPECIFIED WITHIN THE GEOTRACKER DATABASE.

The **West Shields Elementary School** site has an active permitted underground storage tank (UST). The permitting agency for this site is the DTSC. On January 4, 2017, DTSC received the Phase I for review. This site is currently a vacant lot with native grasses. The site has been used for agricultural purposes from at least 1937 through at least 1998. Multiple structures were formerly located at the site. In 1993, remediation of petroleum hydrocarbon-impacted soil was performed after removing a 500-gallon single-walled gasoline UST from the site. In addition, a water well was observed within the southwest quadrant of the site. The Phase I concludes that the only recognized environmental condition (REC) at the site is the potential application of persistent herbicides and pesticides due to the historical agricultural use of the site. The Phase I identifies the UST removal activities as a historical REC and indicates that no additional investigation appears warranted at this time. Moreover, the Phase I identifies the following Site Development Issues: the potential presence of septic systems likely associated with the water well and the former on-site structures. The Phase I recommends properly abandoning and/or destroying the septic system and water well in accordance with all applicable state and local guidelines. On January 18, 2017, based on the provided information, DTSC determined that a Preliminary Environmental Assessment (PEA) is needed for the site. On August 4, 2017, DTSC conducted a site walk-through with the District and their consultant followed by the PEA scoping meeting. DTSC received the draft PEA Workplan on May 7, 2018 and issued comments on May 25, 2018. DTSC received the draft final PEA Workplan on June 23, 2018 and issued and approval letter or July 23, 2018. On September 4, 2018, DTSC conducted oversight

of the PEA fieldwork. DTSC received the draft PEA Report on 11 December 2018 and issued comments in a letter dated January 11, 2019. No subsequent information is available for the site.

The Inactive **Westlake Proposed 430 Acre Development** site is a voluntary (inactive) cleanup site. The DTSC is the lead agency for the site. A Preliminary Endangerment Assessment was planned for this former agricultural property. The site is proposed as a Planned Residential Community. The DTSC had a Voluntary Cleanup Agreement with the applicant for the Planned Residential Community. Potential media affected includes soils. Potential contaminants of concern are under investigation. Should the site be developed in the future, future cleanup activities would be required prior to development on this site, as applicable.

Emergency Response

The City of Fresno Fire Department provides fire prevention, suppression and investigation services, airport fire and rescue, urban search and rescue, response to medical emergencies (EMS), and response to hazardous materials incidents. The FFD service areas consists of the City of Fresno, and also includes extra-territorial services via contracts to provide services to the Fig Garden Fire Protection District, Fresno Yosemite International Airport, and surrounding areas through mutual aid and automatic aid requests.

Transportation of Hazardous Materials

The nearest roadway and transportation route approved for the transportation of explosives, poisonous inhalation hazards, and radioactive materials in the city is State Route 99.

WILDFIRE HAZARDS

Wildfires are a major hazard in the State of California. Wildfires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wildfires have a role in the County's ecosystem, wildfires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

Wildland fire hazards exist in varying degrees within the Plan Area. None of the Plan Area is located within or near to a State Responsibility Area (SRA). The Plan Area is located within a Local Responsibility Area (LRA). Most of the Plan Area is located in the "LRA Unzoned" Fire Hazard Severity Zone (FHSZ). However, small areas within the northern, central, and southern portions of the Plan Area are located in the "LRA Moderate" FHSZ. There are no very high fire hazard severity zones (VHFHSZ) located within or near the Plan Area.

3.8.2 REGULATORY SETTING

The following is an overview of the federal, State, and local regulations that are applicable to the proposed Specific Plan.

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the Environmental Protection Agency (EPA), Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the Act) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. The Act deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from Toxic Substances Control Act, including, among others, food, drugs, cosmetics and pesticides. The Toxic Substances Control Act addresses the production, importation, use, and disposal of specific chemicals including PCBs, asbestos, radon and lead-based paint.

Various sections of Toxic Substances Control Act provide authority to:

- Require, under Section 5, pre-manufacture notification for "new chemical substances" before manufacture
- Require, under Section 4, testing of chemicals by manufacturers, importers, and processors where risks or exposures of concern are found
- Issue Significant New Use Rules (SNURs), under Section 5, when it identifies a "significant new use" that could result in exposures to, or releases of, a substance of concern.
- Maintain the Toxic Substances Control Act Inventory, under Section 8, which contains more than 83,000 chemicals. As new chemicals are commercially manufactured or imported, they are placed on the list.
- Require those importing or exporting chemicals, under Sections 12(b) and 13, to comply with certification reporting and/or other requirements.
- Require, under Section 8, reporting and record-keeping by persons who manufacture, import, process, and/or distribute chemical substances in commerce.
- Require, under Section 8(e), that any person who manufactures (including imports), processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment to immediately inform EPA, except where EPA has been adequately informed of such information. EPA screens all Toxic Substances Control Act b§8(e) submissions as well as voluntary "For Your Information" (FYI) submissions. The latter are not required by law, but are submitted by industry and public interest groups for a variety of reasons.

The Emergency Planning and Community Right-To-Know Act

The Emergency Planning and Community Right-To-Know Act (also known as Title III of the Federal Superfund Amendments and Reauthorization Act, or "SARA III") (42 United States Code 11001, et seq.), was established by the EPA to allow for emergency planning at the state and local level regarding chemical emergencies, to provide notification of emergency release of chemicals, and to address community right-to-know regarding hazardous and toxic chemicals. SARA III was designed to increase community access and knowledge about chemical hazards as well as facilitate the creation and implementation of state/Native American tribe emergency response commissions, responsible for coordinating certain emergency response activities and for appointing local emergency planning committees. Section 1910.1200(c) Title 29 of the CFR defines "chemicals or hazardous materials" for the purposes of SARA III.

Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 United States Code 136, et seq.) was originally passed in 1947. It has been amended several times, most extensively in 1972, and most recently by the Food Quality Protection Act of 1996. The purpose of FIFRA is to establish federal jurisdiction over the distribution, sale, and use of pesticides. It also gives EPA the authority to study the effects of pesticide use. Other key provisions of FIFRA require pesticide applicators to pass a licensing examination for status as "qualified applicators," create a review and registration process for new pesticide products, and ensure thorough and understandable labeling that includes instructions for use.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Hazardous Materials Release Response Plans and Inventory Program Business Plan

When hazardous materials are improperly handled or stored, they can result in a threat to employees, public health, and/or the contamination of the environment. State and Federal Community Right-to-Know laws were passed in 1984. These laws allow public access to information

about the types and amounts of chemicals being used at local businesses. The laws also require businesses to plan and prepare for a chemical emergency through the preparation of a Hazardous Materials Inventory that is certified annually and a Hazardous Materials Business Plan that is certified tri-annually. Businesses are inspected at least once every three years by a Certified Unified Program Agencies (CUPA) inspector to verify compliance with the California Health and Safety Code and California Code of Regulations.

A Business Emergency Response Plan and Inventory is required of any facility which handles hazardous materials or waste in amounts greater than:

- 55 gallons for liquids;
- 500 pounds for solids; or
- 200 cubic feet for compressed gases.

On October 8, 2011, Governor Brown signed Assembly Bill (AB) 408. AB 408 amends the Health & Safety Code Chapter 6.95, Section 25503.5 hazardous materials inventory reporting thresholds. With passage of this legislation, inventory reporting quantities were changed as follows:

1. For a solid or liquid hazardous material that is classified as a hazard solely as an irritant or sensitizer, the new reporting quantity is 5,000 pounds.
2. For a hazardous material that is a gas, at standard temperature and pressure, and for which the only health and physical hazards are simple asphyxiation and the release of pressure, the new reporting quantity is 1,000 cubic feet. (Reporting of gases in a cryogenic state remains unchanged).
3. For oil-filled electrical equipment that is not contiguous to an electrical facility, the new reporting quantity for the oil is 1,320 gallons.

California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

California Government Code Section 65962.5

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with CEQA. Government Code § 65962.5 was originally enacted in 1985, and per subsection (g), the effective date of the changes called for under the amendments to this section was January 1, 1992. While Government Code Section 65962.5 refers to the preparation of a "list," many changes have occurred related to web-based information access since 1992 and this information is now largely available on the Internet sites of the responsible organizations. Those requesting a copy of the

Cortese "list" are now referred directly to the appropriate information resources contained on the Internet web sites of the boards or departments that are referenced in the statute.

Section 65962.5(a)(1) requires that DTSC "shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection, a list of all the following: ….(1) [a]ll hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code ("HSC")."

The hazardous waste facilities identified in HSC § 25187.5 are those where DTSC has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Occupational Safety and Health Act

The Occupational Safety and Health Act of 1970 (OSH Act) was passed to prevent workers from being killed or otherwise harmed at work. The law requires employers to provide their employees with working conditions that are free of known dangers. The OSH Act created the Occupational Safety and Health Administration (OSHA), which sets and enforces protective workplace safety and health standards. OSHA also provides information, training and assistance to employers and workers.

The California Division of Occupational Safety and Health, better known as Cal/OSHA, protects and improves the health and safety of workers in California and the safety of passengers riding on elevators, amusement rides, and tramways – through the following activities:

- Setting and enforcing standards;
- Providing outreach, education, and assistance; and
- Issuing permits, licenses, certifications, registrations, and approvals.

LOCAL

Fresno General Plan

The Fresno General Plan establishes the following objectives and policies directly related to hazards and hazardous materials.

NOISE AND SAFETY ELEMENT

Objective NS-4: Minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.

> **Policy NS-4-a:** Processing and Storage. Require safe processing and storage of hazardous materials, consistent with the California Building Code and Uniform Fire Code, as adopted by the City.

Policy NS-4-b: Coordination. Maintain a close liaison with the Fresno County Environmental Health Department, Cal-EPA Division of Toxics, and the State Office of Emergency Services to assist in developing and maintaining hazardous material business plans, inventory statements, risk management prevention plans, and contingency/emergency response action plans.

Policy NS-4-c: Soil and Groundwater Contamination Reports. Require an investigation of potential soil or groundwater contamination whenever justified by past site uses. Require appropriate mitigation as a condition of project approval in the event soil or groundwater contamination is identified or could be encountered during site development.

Policy NS-4-d: Site Identification. Continue to aid federal, State, and County agencies in the identification and mapping of waste disposal sites (including abandoned waste sites), and to assist in the survey of the kinds, amounts, and locations of hazardous wastes.

Policy NS-4-e: Compliance with County Program. Require that the production, use, storage, disposal, and transport of hazardous materials conform to the standards and procedures established by the County Division of Environmental Health. Require compliance with the County's Hazardous Waste Generator Program, including the submittal and implementation of a Hazardous Materials Business Plan, when applicable.

Policy NS-4-f: Hazardous Materials Facilities. Require facilities that handle hazardous materials or hazardous wastes to be designed, constructed, and operated in accordance with applicable materials and waste management laws and regulations.

Policy NS-4-g: Hazmat Response. Include policies and procedures appropriate to hazardous materials in the City's disaster and emergency response preparedness and planning, coordinating with implementation of Fresno County's Hazardous Materials Incident Response Plan.

Policy NS-4-h: Household Collection. Continue to support and assist with Fresno County's special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.

Policy NS-4-i: Public Information. Continue to assist in providing information to the public on hazardous materials.

Objective NS-5: Protect the safety, health, and welfare of persons and property on the ground and in aircraft by minimizing exposure to airport-related hazards.

Policy NS-5-a: Land Use and Height. Incorporate and enforce all applicable Airport Land Use Compatibility Plans (ALUCPs) through land use designations, zoning, and development standards to support the continued viability and flight operations of Fresno's airports and to protect public safety, health, and general welfare.

- Limit land uses in airport safety zones to those uses listed in the applicable ALUCPs as compatible uses, and regulate compatibility in terms of location, height, and noise.

- Ensure that development, including public infrastructure projects, within the airport approach and departure zones complies with Part 77 of the Federal Aviation Administration Regulations (Objects Affecting Navigable Airspace), particularly in terms of height.

Policy NS-5-b: Airport Safety Hazards. Ensure that new development, including public infrastructure projects, does not create safety hazards such as glare from direct or reflective sources, smoke, electrical interference, hazardous chemicals, fuel storage, or from wildlife, in violation of adopted safety standards.

Policy NS-5-c: Avigation Easements. Employ avigation easements in order to secure and protect airspace required for unimpeded operation of publicly owned airports.

Policy NS-5-d: Disclosure. As a condition of approval for residential development projects, require sellers to prepare and provide State Department of Real Estate Disclosure statements to property buyers notifying of noise and safety issues related to airport operations.

Policy NS-5-e: Planned Expansion. Allow for the orderly expansion and improvement of publicly-owned airports, while minimizing adverse environmental impacts associated with these facilities.

- Periodically update airport facility master plans in accordance with FAA regulations.

- Require land use within the boundaries of the Fresno-Yosemite International Airport and Chandler Downtown Airport to conform to designations and policies specified in adopted City of Fresno compatible land use plans.

- Provide local jurisdictions surrounding the City's publicly owned airports with specific guidelines for effectively dealing with the presence and operation of these airports.

Objective NS-6: Foster an efficient and coordinated response to emergencies and natural disasters.

Policy NS-6-a: County Multi-Jurisdiction Hazard Mitigation Plan. Adopt and implement the Fresno County Multi-Jurisdiction Hazard Mitigation Plan and City of Fresno Local Hazard Mitigation Plan Annex.

Policy NS-6-b: Disaster Response Coordination. Maintain coordination with other local, State, and Federal agencies to provide coordinated disaster response.

Policy NS-6-c: Emergency Operations Plan. Update the City's Emergency Operations Plan periodically, using a whole community approach which integrates considerations for People with access and functional needs in all aspects of planning.

Policy NS-6-d: Evacuation Planning. Maintain an emergency evacuation plan in consultation with the Police and Fire Departments and other emergency service providers, which shows potential evacuation routes and a list of emergency shelters to be used in case of catastrophic emergencies.

Policy NS-6-e: Critical Use Facilities. Ensure critical use facilities (e.g., City Hall, police and fire stations, schools, hospitals, public assembly facilities, transportation services) and other structures that are important to protecting health and safety in the community remain operational during an emergency.

- Site and design these facilities to minimize their exposure and susceptibility to flooding, seismic and geological effects, fire, and explosions.
- Work with the owners and operators of critical use facilities to ensure they can provide alternate sources of electricity, water, and sewerage in the event that regular utilities are interrupted in a disaster.

Policy NS-6-f: Emergency Vehicle Access. Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, hard standing areas, and vertical clearance.

Policy NS-6-g: Emergency Preparedness Public Awareness Programs. Continue to conduct programs to inform the general public, including people with access and functional needs, of the City's emergency preparedness and disaster response procedures.

PUBLIC UTILITIES AND SERVICES ELEMENT

Objective PU-2: Ensure that the Fire Department's staffing and equipment resources are sufficient to meet all fire and emergency service level objectives and are provided in an efficient and cost effective manner.

Policy PU-2-a: Unify Fire Protection. Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing automatic aid agreements, will lead to the eventual unification of fire protection services in the greater Fresno area.

Policy PU-2-b: Maintain Ability. Strive to continually maintain the Fire Department's ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings and in other high-density residential and commercial development throughout the city.

Policy PU-2-c: Rescue Standards. Develop appropriate standards, as necessary, for rescue operations, including, but not limited to, confined space, high angle, swift water rescues, and the unique challenges of a high speed train corridor.

Policy PU-2-d: Station Siting. Use the General Plan, community plans, Specific Plans, neighborhood plans, and Concept Plans, the City's Geographic Information Systems (GIS) database, and a fire station location program to achieve optimum siting of future fire stations.

Policy PU-2-e: Service Standards. Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:

- *First Unit on Scene* – First fire unit arriving with minimum of three firefighters within 5 minutes and 20 seconds from the time the unit was alerted to the emergency incident.
- *Effective Response Force* – Provide sufficient number of firefighters on the scene of an emergency within 9 minutes and 20 seconds from the time of unit alert to arrival. The effective response force is measured as 15 firefighters for low risk fire incidents and 21 firefighters for high risk fire incidents and is the number of personnel necessary to complete specific tasks required to contain and control fire minimizing loss of life and property.

Objective PU-3: Enhance the level of fire protection to meet the increasing demand for services from an increasing population.

Policy PU-3-a: Fire Prevention Inspections. Develop strategies to enable the performance of annual fire and life safety inspection of all industrial, commercial, institutional, and multi-family residential buildings, in accordance with nationally recognized standards for the level of service necessary for a large Metropolitan Area, including a self-certification program.

Policy PU-3-b: Reduction Strategies. Develop community risk reduction strategies that target high service demand areas, vulnerable populations (e.g. young children, older adults, non-English speaking residents, persons with disabilities, etc.), and high life hazard occupancies

Policy PU-3-c: Public Education Strategies. Develop strategies to re-establish and enhance routine public education outreach to all sectors of the community.

Policy PU-3-d: Review Development Applications. Continue Fire Department review of development applications, provide comments and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.

Policy PU-3-e: Building Codes. Adopt and enforce amendments to construction and fire codes, as determined appropriate, to systematically reduce the level of risk to life and property from fire, commensurate with the City's fire suppression capabilities.

Policy PU-3-f: Adequate Infrastructure. Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.

Policy PU-3-g: Cost Recovery. Continue to evaluate appropriate codes, policies, and methods to generate fees or other sources of revenue to offset the ongoing personnel and maintenance costs of providing fire prevention and response services.

Fresno Municipal Code

Various provisions of the City of Fresno Municipal Code are relevant to hazards and hazardous materials, including portions of Chapter 15, Chapter 10, and Chapter 11. Discussion of these relevant portions of the Fresno Municipal Code are provided below.

Chapter 15 of the Fresno Municipal Code replaced the former development code in its entirety. It establishes new zone districts, permitted uses, development standards, and procedures in a contemporary, well-organized, and comprehensive manner. The new code reflects contemporary planning and business practices and sets clear criteria for new development. Proposals that conform to the new vision will have a streamlined approval process designed to boost economic development. In addition, infill development will be more feasible in Fresno under the new Development Code, designed for balanced growth in the future.

Article 25 (Performance Standards) of the Citywide Development Code (CDC) has the following purposes: 1) Establish permissible limits and allow objective measurement of nuisances, hazards, and objectionable conditions; and 2) Ensure that all uses will provide necessary control measures to protect the community from nuisances, hazards, and objectionable conditions. The General Standard of Article 25 is stated as follows: "Land or buildings shall not be used or occupied in a manner creating any dangerous, injurious, or noxious conditions, chemical fires, explosive, blight, or other hazards that could adversely affect the surrounding area."

Article 27 (Standards for Specific Uses and Activities) of the CDC states: "The purpose of this article is to establish standards for specific uses and activities that are permitted or conditionally permitted in some or all districts. These provisions are supplemental standards and requirements to minimize the impacts of these uses and activities on surrounding properties and to protect the health, safety, and welfare of their occupants and of the general public." This article specifies regulation governing the operation of various types of facilities and activities, including hazardous waste management facilities, recycling facilities, and hazardous materials storage activities.

Section 15-2727, Development of Former Landfill Sites and Hazardous Sites, states "A Conditional Use Permit shall be required for the development of all former Landfill Sites and other sites deemed hazardous, regardless of the proposed use. As part of the application, the applicant shall at a minimum, provide a geotechnical report that provides a complete analysis of on-site soil conditions, fault hazards, underground water conditions, and recommendations as well as a post-closure plan that outlines remediation measures. Applicants shall comply with all State and federal regulations related to operation, post-closure remediation, and monitoring."

Separately, Chapter 10, Regulations Regarding Public Nuisances and Real Property Conduct and Use, includes:

Article 14, Hazardous Spills Expense Recovery. The intent of Article 14 is stated as follows: "Surface waters, groundwater, soils, vegetation, and atmosphere inside the City of Fresno are susceptible to damage from the handling, storage, use, processing and disposal of hazardous material and the expense incurred by the taxpayers as a result of the City of Fresno or its Designee having to respond in an emergency to protect life, property and the environment when there has been a release of hazardous materials should be recovered from the person responsible for the emergency." In conjunction with Chapter 15, Article 27 of the City of Fresno Municipal Code, Article 14 pertains to the recovery of expenses associated with hazardous spills. Specifically, the code states that "Any person causing a release or threatened release which results in an emergency action shall be liable to the City of Fresno for the recoverable costs resulting from the emergency action."

Additionally, Chapter 11, Building Permits and Regulations, includes Article 2, Section 11-218, Debris and Excavations, which requires of demolition projects that the permit holder properly cap the sanitary sewer house connection, and to properly fill or otherwise protect all basements, cellars, septic tanks, wells, and other excavations, and said lot or parcel shall be left level and in a condition to be disked for control of weeds.

Fire Department Hazardous Materials Response Team

The City of Fresno Fire Department recognizes the potential for a large chemical release to occur which could expose thousands of people to hazardous or toxic vapors. The City of Fresno Fire Department Hazardous Materials Response Team (HMRT) has embraced an all-hazards approach to emergency response to ensure that the City receives effective protection from the risk of hazardous materials releases.

Emergency Operations Plan

In addition to emergency response to hazardous materials incidents, both the City of Fresno and the County of Fresno implement programs to facilitate emergency preparedness for other types of incidents within the Plan Area. Specifically, the City of Fresno has an Emergency Operations Plan that describes what the City's actions will be during a response to an emergency. This plan also describes the role of the Emergency Operations Center (EOC) and the coordination that occurs between the EOC, City departments, and other response agencies. The plan establishes a requirement for the emergency management organization to mitigate any significant emergency disaster affecting the City of Fresno. The plan also identifies the policies, responsibilities, and procedures required to protect the health and safety of City communities, public and private property, and the environmental effects of natural or technological disasters. In addition, the plan establishes the operation concepts and procedures associated within initial response operations (field response) to emergencies, the extended response operations (City of Fresno Emergency Operations Center Activities), and the recovery process. Furthermore, the plan complies with the State of California Emergency Operations Plan "Cross Walk" checklist for determining whether an emergency plan has addressed critical elements of California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).

Fresno County Environmental Health Department

The Fresno County Environmental Health Department maintains a Hazardous Materials Management Plan/Hazardous Materials Business Plan (HMMP/HMBP). The HMMP/HMBP describes agency roles, strategies and processes for responding to emergencies involving hazardous materials. The Environmental Health Department maintains a Hazardous Materials Database and Risk and Flood Maps available to the public on its website.

Fresno County Multi-Jurisdictional Hazard Mitigation Plan

The Fresno County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) (May 2018), aims to reduce or eliminate long-term risk to people and property from hazards. Fresno County, along with 17 participating jurisdictions, including the City of Fresno, prepared the MJHMP to demonstrate the community's commitment to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources.

Certified Unified Program Agency (CUPA)

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The Fresno County Department of Environmental Health is the CUPA designated for Fresno County. The Fresno County Department of Environmental Health is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement. The Fresno County Environmental Health Division (FCEHD) is the local CUPA.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Specific Plan will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Additionally, consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from wildfire if it is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and if the proposed project will:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Specific Plan implementation has the potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)

The unauthorized releases of hazardous materials into the environment could create environmental impacts to properties, the natural environment, and human health. The significance of these impacts could vary according to the release location and the quantity and nature of the substance released. Hazardous releases can occur in areas that treat, store, transport and use hazardous materials; however, certain areas are at higher risk for releases. In the event of an unauthorized release of hazardous materials/substances, emergency response measures must be implemented to mitigate potential risks and ensure the protection of human health and the natural environment.

CONSTRUCTION PHASE IMPACTS

Construction activities would occur in phases through the implementation of the Specific Plan. Construction equipment and materials would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use

of these materials at a construction site will pose a reasonable risk of release into the environment if not properly handled, stored, and transported.

Additionally, properties within the Plan Area may have residual soil (and potentially groundwater) contamination that may require remediation. Also, potentially hazardous building materials (e.g., asbestos containing materials, lead-based paint, etc.) could be encountered during demolition of existing structures to accommodate new development. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources.

Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice. Residual concentrations of pesticides may be present in soil as a result of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides in farm soils. Of highest concern relative to agrichemicals are chemicals such as chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE). Other chemicals may also be present due to other built-up uses. As described in the Environmental Setting, there is a historical record of soil contamination at the Proposed Constance-Sierra Elementary School site, the Westlake Proposed 430 Acre Development, and the West Shields Elementary School site, each of which are at differing levels of cleanup status. Therefore, there is the potential for other sites to have experienced contamination or have a history of hazardous materials being used as part of previous or current operations. Implementation of the Specific Plan could involve the transport, use, or disposal of hazardous materials associated with future construction and/or remediation activities. The transport of hazardous materials and any potential remediation activities would be subject to existing federal, State, and local regulations. Additionally, the proposed project would also be required to implement Mitigation Measures 3.8-1 through 3.8-10, which provide requirements for any ground disturbance activities within 50 feet of a well; require Phase I and Phase II site assessments, and other remediation activities including surveys and assessments, cleanup plans, programs, and activities, as applicable; and requires actions to ensure that developing a property within the Plan Area does not present an unacceptable risk to human health, if applicable, through the use of an Environmental Site Management Plan (ESMP). Therefore, the potential for existing or new hazards within the Plan Area or generated by the proposed project is limited. Additional requirements include those related to evaluation of potential asbestos and lead prior to planned renovation or demolition of residential and/or commercial structures in the Plan Area, and soil sampling for hazardous materials. Implementation of Mitigation Measures 3.8-1 through 3.8-10 would reduce potential impacts that could occur due to the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment associated with construction activities within the Plan area to a ***less than significant*** level.

OPERATIONAL PHASE IMPACTS

The operational phase of implementation of the Specific Plan would occur after construction is completed and business operators/employees, and residents move in to occupy the structures and

facilities on a day-to-day basis. Hazardous waste generators in the Plan Area include industries, businesses, public and private institutions, and households. Facilities that store, use or handle hazardous materials above reportable amounts are required to prepare and file a Hazardous Materials Business Plan (Business Plan) for the safe storage and use of chemicals. In the event of an emergency, firefighters, health officials, planners, public safety officers, health care providers and others rely on the Business Plan. Implementation of the Business Plan should prevent or reduce damage to the health and safety of people and the environment if a hazardous material is released.

The FCEHD, as the local CUPA, is responsible for administering/overseeing compliance with the Hazardous Materials Business Plan requirements, as well as other related regulatory programs such as those involving USTs, hazardous waste generation, hazardous waste treatment and disposal facility permitting, and hazardous materials releases.

Implementation of the proposed Specific Plan would result in the continued use and storage of hazardous materials, including common cleaning products, building maintenance products, paints and solvents, and other similar items. Routinely used hazardous materials, however, would not be of the type or occur in sufficient quantities to pose a significant hazard to public health and safety or to the environment. It is anticipated that some facilities within the Specific Plan area would use certain classes of hazardous materials that require risk management plans to protect surrounding land uses. Future development also would result in continued generation of hazardous waste by certain facilities. Therefore, the transport of hazardous materials could occur during future operational activities. However, transport of hazardous materials would be subject to existing federal, State, and local regulations, as well as cooperation with the local CUPA and the City of Fresno Fire Department (FFD).

Implementation of the Specific Plan will allow for the development of a wide variety of land uses, including Low Density Residential, Medium Low Density Residential, Medium Density Residential, Medium High Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, Recreation Commercial, General Commercial, Regional Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Pocket Park, Neighborhood Park, Community Park, Open Space, Ponding Basin, Public Facility, Church, Special School, Elementary School, Elementary, Middle & High School, High School, and Fire Station uses, as well as the required transportation and utility improvements.

Each of these uses will likely use a variety of hazardous materials commonly found in urban areas including: paints, cleaners, and cleaning solvents. There could be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by Fresno County Environmental Health Division and the FFD. In addition, Mitigation Measure 3.8-1 requires that, prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to Fresno County Environmental Health Division (CUPA) for review and approval. This would further reduce the potential for a significant impact to this topic. Compliance with the applicable regulations, as well as implementation of the following mitigation measures, as appropriate, would ensure that the implementation of the Specific Plan would have a ***less than significant*** impact relative to this issue.

MITIGATION MEASURE(S)

Mitigation Measure 3.8-1*: Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to Fresno County Environmental Health Division (CUPA) for review and approval. If during the construction process the applicant or their subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).*

Mitigation Measure 3.8-2*: Prior to initiation of any ground disturbance activities within 50 feet of a well, the applicant shall hire a licensed well contractor to obtain a well abandonment permit from Fresno County Environmental Health Department, and properly abandon the on-site wells, pursuant to review and approval of the City Engineer and the Fresno County Environmental Health Department.*

Mitigation Measure 3.8-3*: Prior to the issuance of a grading permit, the property owners and/or developers of properties shall ensure that a Phase I ESA (performed in accordance with the current ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process [E 1527]) shall be conducted for each individual property prior to development or redevelopment to ascertain the presence or absence of Recognized Environmental Conditions (RECs), Historical Recognized Environmental Condition (HRECs), and Potential Environmental Concerns (PECs) relevant to the property under consideration. The findings and conclusions of the Phase I ESA shall become the basis for potential recommendations for follow-up investigation, if found to be warranted.*

Mitigation Measure 3.8-4*: In the event that the findings and conclusions of the Phase I ESA for a property result in evidence of RECs, HRECs and/or PECs warranting further investigation, the property owners and/or developers of properties shall ensure that a Phase II ESA shall be conducted to determine the presence or absence of a significant impact to the subject site from hazardous materials.*

The Phase II ESA may include but may not be limited to the following: (1) Collection and laboratory analysis of soils and/or groundwater samples to ascertain the presence or absence of significant concentrations of constituents of concern; (2) Collection and laboratory analysis of soil vapors and/or indoor air to ascertain the presence or absence of significant concentrations of volatile constituents of concern; and/or (3) Geophysical surveys to ascertain the presence or absence of subsurface features of concern such as USTs, drywells, drains, plumbing, and septic systems. The findings and conclusions of the Phase II ESA shall become the basis for potential recommendations for follow-up investigation, site characterization, and/or remedial activities, if found to be warranted.

Mitigation Measure 3.8-5*: In the event the findings and conclusions of the Phase II ESA reveal the presence of significant concentrations of hazardous materials warranting further investigation, the property owners and/or developers of properties shall ensure that site characterization shall be conducted in the form of additional Phase II ESAs in order to characterize the source and maximum extent of impacts from constituents of concern. The findings and conclusions of the site*

characterization shall become the basis for formation of a remedial action plan and/or risk assessment.

Mitigation Measure 3.8-6*: If the findings and conclusions of the Phase II ESA(s), site characterization and/or risk assessment demonstrate the presence of concentrations of hazardous materials exceeding regulatory threshold levels, prior to the issuance of a grading permit, property owners and/or developers of properties shall complete site remediation and potential risk assessment with oversight from the applicable regulatory agency including, but not limited to, the CalEPA Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB), and Fresno County Environmental Health Division (FCEHD). Potential remediation could include the removal or treatment of water and/or soil. If removal occurs, hazardous materials shall be transported and disposed at a hazardous materials permitted facility.*

Mitigation Measure 3.8-7*: Prior to the issuance of a building permit for an individual property within the Plan Area with residual environmental contamination, the agency with primary regulatory oversight of environmental conditions at such property ("Oversight Agency") shall have determined that the proposed land use for that property, including proposed development features and design, does not present an unacceptable risk to human health, if applicable, through the use of an Environmental Site Management Plan (ESMP) that could include institutional controls, site-specific mitigation measures, a risk management plan, and deed restrictions based upon applicable risk-based cleanup standards. Remedial action plans, risk management plans and health and safety plans shall be required as determined by the Oversight Agency for a given property under applicable environmental laws, if not already completed, to prevent an unacceptable risk to human health, including workers during and after construction, from exposure to residual contamination in soil and groundwater in connection with remediation and site development activities and the proposed land use.*

Mitigation Measure 3.8-8*: For those sites with potential residual volatile organic compounds (VOCs) in soil, soil gas, or groundwater that are planned for redevelopment with an overlying occupied building, a vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into the proposed building, the project design shall include vapor controls or source removal, as appropriate, in accordance with Regional Water Quality Control Board (RWQCB), the Department of Toxic Substances Control (DTSC) or the Fresno County Environmental Health Division (FCEHD) requirements. Soil vapor mitigations or controls could include passive venting and/or active venting. The vapor intrusion assessment as associated vapor controls or source removal can be incorporated into the ESMP.*

Mitigation Measure 3.8-9*: In the event of planned renovation or demolition of residential and/or commercial structures on the subject site, prior to the issuance of demolition permits, asbestos and lead based paint (LBP) surveys shall be conducted in order to determine the presence or absence of asbestos-containing materials (ACM) and/or LBP. Removal of friable ACM, and non-friable ACMs that have the potential to become friable, during demolition and/or renovation shall conform to the standards set forth by the National Emissions Standards for Hazardous Air Pollutants (NESHAPs).*

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the responsible agency on the local level to enforce the National Emission Standards for Hazardous Air Pollutants (NESHAPs) and shall be notified by the property owners and/or developers of properties (or their designee(s)) prior to any demolition and/or renovation activities. If asbestos-containing materials are left in place, an Operations and Maintenance Program (O&M Program) shall be developed for the management of asbestos containing materials.

Mitigation Measure 3.8-10*: Prior to the import of a soil to a particular property within the Plan Area as part of that property's site development, such soils shall be sampled for toxic or hazardous materials to determine if concentrations exceed applicable Environmental Screening Levels for the proposed land use at such a property, in accordance with Regional Water Quality Control Board (RWQCB), the Department of Toxic Substances Control (DTSC) or the Fresno County Environmental Health Division (FCEHD) requirements.*

Impact 3.8-2: Specific Plan implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (Less than Significant)

The Specific Plan has the potential for the routine transport, use, or disposal of hazardous materials, as described under Impact 3.8-1. There are several schools located within the Plan Area. These schools include: Glacier Point Middle School, Harvest Elementary School, Herndon-Barstow Elementary School, Teague Elementary School, John Steinbeck Elementary School, Central High School (East Campus), and Justin Garza High School. Other schools located within 0.25 miles from the Plan Area include James K. Polk Elementary School and Hanh Phan Tilley Elementary School. In addition, new schools are anticipated to be developed near to the Plan Area over time. However, as provided under Impact 3.8-1, with implementation of Mitigation Measures 3.8-1 through 3.8-10, potential risks associated with the routine transport, use, or disposal of hazardous materials resulting from implementation of the Specific Plan would be reduced to a less than significant level. For example, Mitigation Measure 3.8-1 requires businesses generating hazardous waste to comply with a HMBP and to register with the CUPA, as appropriate. Mitigation Measure 3.8-2 provides requirements for any ground disturbance activities within 50 feet of a well. Additional requirements are provided in Mitigation Measures 3.8-3 through 3.8-10, such as Phase I and Phase II site assessments, and other remediation activities including surveys and assessments, cleanup plans, programs, and activities, as applicable. Therefore, the potential for existing or new hazards within the Plan Area or generated by the proposed project to affect nearby schools is limited. Moreover, compliance with the applicable General Plan objectives and policies would ensure that the Specific Plan implementation would have a limited potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste with one-quarter of an existing school. Therefore, implementation of the Specific Plan would have a ***less than significant*** impact with respect to emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school.

Impact 3.8-3: Specific Plan implementation would not result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. (Less than Significant)

The Plan Area is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Implementation of the Specific Plan would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-4: Specific Plan implementation would not result in safety hazards for people residing or working in the Plan Area as a result of public airport or public use airport. (Less than Significant)

There are no documented public airports or public use airports within two miles of the Plan Area, and the Plan Area is not located within an airport land use plan. The closest public or public use airport is the Fresno Chandler Executive Airport, located approximately 2.5 miles to the south of the Plan Area, at its closest point. Therefore, implementation of the Plan would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-5: Specific Plan implementation would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

Future construction activities within the Plan Area could affect access along nearby roadways during construction, as short-term, temporary lane closures may occur. However, emergency access would be required to remain open and accessible at all times. Future applicants would be required to provide alternate route (i.e. detour) plans with a tentative schedule of planned closures prior to the beginning of construction to ensure that activities would not impede emergency access. These plans would be subject to review and approval by the City of Fresno Public Works Department, the Fresno Fire Department, and the Fresno Police Department. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency.

Separately, the proposed project would develop new roadways within the Plan Area. However, the new roadways would be required to comply with the City's police and fire standards for emergency access. Specifically, new roadways within the Plan Area would also be subject to review and approval by the City of Fresno Public Works Department, the Fresno Fire Department, and the Fresno Police Department and would provide increased access to and within the Plan Area. Therefore, roadways within the Plan Area would not impair the implementation of or physically interfere with any adopted emergency response plan or emergency evacuation plan. Moreover, the proposed project would not conflict with the goals and objectives of the Fresno County's Multi-Hazard Mitigation Plan. For example, Objective 1.3 of the Fresno County Multi-Hazard Mitigation Plan requires the improvement of transportation corridors to allow for better evacuation routes for the public and better access for emergency responders. Implementation of the Specific Plan would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-6: Specific Plan implementation would not have the potential to expose people or structures to a risk of loss, injury or death from wildland fires, or result in any other wildfire impact. (Less than Significant)

HAZARDS RELATED TO WILDLAND FIRES

The Plan Area is not located in or near to any SRA or land classified as VHFHSZs. Small areas within the northern, central, and southern portions of the Plan Area are identified as having a moderate potential for wildland fires. According to the Fresno General Plan, the City is largely urbanized or working agricultural land without steep topographies; thus, wildland fire threats are minimal. Although Fresno is proximate to high and very high fire hazard designated areas, the City is largely categorized as little or no threat or moderate fire hazard, which is largely attributed to paved areas. Implementation of the Specific Plan would result in increased urbanization of the area; including increased paved area. Future development would be required to comply with the current fire code (i.e. included in the Fresno Fire Code Section as established by the City of Fresno Fire Department), as well as all applicable City Municipal Code requirements. For example, City Municipal Code Chapter 11, Article 1 provides building code requirements, and City Municipal Code Chapter 10, Article 5 describes the City's fire prevention requirements including adoption of the 2019 California Fire Code. Therefore, implementation of the Specific Plan would have a ***less than significant*** impact with regards to the potential to expose people or structures to a risk of loss, injury, or death from wildland fires.

This section describes the regulatory setting, regional hydrology and water quality impacts that are likely to result from Specific Plan implementation, and measures to reduce potential impacts to water quality. This section is based in part on the following documents, reports and studies:

- *Fresno General Plan* (City of Fresno, 2014);
- *Draft Master Environmental Impact Report General Plan and Development Code Update, City of Fresno, Fresno County, California* (City of Fresno, 2014);
- *California's Groundwater Update 2020* (Department of Water Resources [DWR], 2020);
- *Web Soil Survey* (NRCS, 2019);
- *Specific Plan of the West Area Water Supply Assessment* (West Yost Associates, 2022, see **Appendix F** of this EIR);
- *City of Fresno Specific Plan for the West Area Utility Background Summary* (West Yost Associates, 2022, see **Appendix D** of this EIR).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Fresno Metropolitan Flood Control District (FMFCD) (August 1, 2019), Cathy Caples (August 1, 2019), and California Department of Water Resources (July 19, 2019). Each of the comments related to this topic are addressed within this section. Full comments received are included in **Appendix A**.

3.9.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

Fresno County is located in the San Joaquin River watershed. The San Joaquin River is about 300 miles long. It begins in the Sierra Nevada mountain range on California's eastern border. The river runs down the western slope of the Sierra and flows roughly northwest through the Central Valley, to where it meets the Sacramento River at the Sacramento-San Joaquin Delta, a 1,000-square-mile maze of channels and islands that drains more than 40 percent of the state's lands (SJRGA 2013).

Because the Central Valley receives relatively little rainfall (12 to 17 inches a year, falling mostly October through March), snowmelt runoff from the mountains is the main source of fresh water in the San Joaquin River. Over its 300-mile length, the San Joaquin River is fed by many other streams and rivers, most notably the Stanislaus, Tuolumne and Merced rivers.

Most of the surface water in the upper San Joaquin River is stored and diverted at Millerton Lakes' Friant Dam, near Fresno. From Friant Dam, water gravity flows north through the Madera Canal and south through the Friant-Kern canal to irrigation districts and other water retailers, which then deliver the water directly to the end users in the southern portion of the watershed.

In the central and northern portions of the watershed, many agricultural and municipal users receive water from irrigation districts, such as the Modesto, Merced, Oakdale, South San Joaquin and Turlock Irrigation Districts. That water is provided through diversions from rivers that are tributary to the San Joaquin, such as the Mokelumne, Stanislaus, Tuolumne and Merced rivers.

Climate

The summer climate is hot and sub-humid with warm, dry summers, and cool, moist winters. In the entire San Joaquin Valley Air Basin (SJVAB), daily summer high temperatures average 95 degrees. Over the last 30 years, temperatures in the SJVAB averaged 90 degrees or higher for 106 days a year, and 100 degrees or higher for 40 days a year.

The daily summer temperature variation can be as high as 30 degrees. In winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Average high temperatures in the winter are in the 50s, but lows in the 30s and 40s can occur on days with persistent fog and low cloudiness. The average daily low winter temperature is 45 degrees.

Precipitation in Fresno occurs mostly as rain during the months of November through April. According to the City's General Plan EIR, annual rainfall between 1948 and 2012 averaged 10.89 inches, but is variable. Recorded annual rainfall has ranged from a low of 3.01 inches to a high of 21.61 inches.

Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.9-1: STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

WATERSHED LEVEL	*APPROXIMATE SQUARE MILES (ACRES)*	*DESCRIPTION*
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALIFORNIA DEPARTMENT OF WATER RESOURCES, 2012.

Additionally, the United States Geological Survey (USGS) maintains a national database of watersheds in the United States. The USGS maintains a hierarchical system of hydrologic units, with

each unit assigned a Hydrologic Unit Code (HUC). There are currently six levels in the hierarchy, represented by HUC codes from 2 to 12 digits long, called regions, subregions, subbasins, watersheds, and subwatersheds. Each level in the hierarchy is nested within the previous level. Table 3.9-2 shows the system's hydrologic unit levels and their characteristics.

TABLE 3.9-2: USGS WATERSHED HIERARCHY NAMING CONVENTION

HYDROLOGIC UNIT	*LEVEL*	*DIGIT*	*NUMBER OF HUCS*	*NAME*
Region	1	2	22	Two-Digit Hydrologic Unit
Subregion	2	4	219	Four-Digit Hydrologic Unit
Basin	3	6	378	Six-Digit Hydrologic Unit
Subbasin	4	8	2,283	Eight-Digit Hydrologic Unit
Watershed	5	10	17,828	Ten-Digit Hydrologic Unit
Subwatershed	6	12	97,442	Twelve-Digit Hydrologic Unit

SOURCE: UNITED STATES GEOLOGICAL SURVEY, WATERSHED BOUNDARY DATASET, 2016.

The southern and eastern portion of the Plan Area is located in the Gates Lake subwatershed, a swath of the northern portion of the Plan Area is located in the Town of Rolinda-James Bypass subwatershed, and the northern point of the Plan Area is located in the Kennedy Owens Canal-James Bypass subwatershed. The "subwatershed" (i.e. twelve-digit hydrologic unit) represents the most fine-grained level of data available for watersheds from the USGS. Figure 3.9-1 provides a map of these subwatersheds within the Plan Area.

Hydrologic Region

Fresno County is located in the Tulare Lake Hydrologic Region. The Tulare Lake Hydrologic Region covers approximately 10.9 million acres (17,000 square miles) and includes all of Kings and Tulare counties and most of Fresno and Kern counties. Significant geographic features include the southern half of the San Joaquin Valley, the Temblor Range to the west, the Tehachapi Mountains to the south, and the southern Sierra Nevada to the east. The region has 12 distinct groundwater basins and seven subbasins of the San Joaquin Valley Groundwater Basin. Groundwater has historically been important to both urban and agricultural uses, accounting for 41 percent of the region's total annual supply and 35 percent of all groundwater use in the State. Groundwater use in the region represents about 10 percent of the State's overall supply for agricultural and urban uses. In general, groundwater quality throughout the Tulare Lake Hydrologic Region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are high total dissolved solids, nitrate, arsenic, and organic compounds.

Groundwater

The City of Fresno is located in the northern part of the Kings Subbasin of the San Joaquin Valley Groundwater Basin Area. The San Joaquin Valley Groundwater Basin is un-adjudicated and currently in overdraft. A basin management plan has been developed and the Department of Water Resources (DWR) has listed the basin as a high priority.

The following section describes the Kings Subbasin, including its water-bearing formations, water levels, and water quality. Much of the following information has been incorporated from the City's 2015 Urban Water Management Plan (UWMP). Except where noted, the description of the sub-basin

is based largely on information provided in the 2016 DWR Bulletin 118 Interim Update, in which the groundwater basin description was last updated in December 2016.

The Kings Subbasin is not adjudicated and there are no legal restrictions to groundwater pumping. The Kings Subbasin is generally bounded on the north by the San Joaquin River; on the west by the Fresno Slough; on the south by the Kings River and Cottonwood Creek; and on the east by the Sierra foothills. The upper several hundred feet within the Kings Subbasin generally consists of highly permeable, coarse-grained deposits, which are termed older alluvium. Coarse-grained stream channel deposits, associated with deposits by the ancestral San Joaquin and Kings Rivers, underlie much of the northwest portions of the City. Below the older alluvium to depths ranging from about 600 to 1,200 feet below ground surface, the finer-grained sediments of the Tertiary-Quaternary continental deposits are typically encountered. Substantial groundwater has been produced and utilized from these depths by the City; however, deeper deposits located in the southeastern and northern portions of the City have produced less groundwater. There are also reduced deposits in the northern and eastern portions of the City, at depths generally below 700 or 800 feet, which are associated with high concentrations of iron, manganese, arsenic, hydrogen sulfide, and methane gas. Groundwater at these depths does not generally provide a significant source for municipal supply wells. The City's average groundwater depth in 2015 is approximately 130 below the ground surface.

Groundwater quality is a concern because the groundwater basin has several major contaminant plumes involving organic compounds, inorganic compounds, solvents, pesticides, and other contaminants. A number of the City's wells are currently being treated or blended to address various contaminants. The total well capacity, when the City's Water Master Plan was written, was approximately 460 million gallons per day (mgd).

According to the Utility Background Summary completed for the Specific Plan, groundwater within the Kings Subbasin generally meets primary and secondary drinking water standards[1] for municipal water use. However, groundwater contamination has caused the City to close over 30 wells and to construct well-head treatment facilities to other wells. Wellhead treatment for 1,2- Dibromo-3-chloropropane; ethylene dibromide; 1-2-3 trichloropropane; volatile organic compounds (including trichlorethylene, tetrachloroethylene), nitrate, manganese, radon, chloride, and iron are required in some areas of the City. Nitrates are a significant cause of groundwater contamination in the City.

[1] EPA has established National Primary Drinking Water Regulations (NPDWRs) that set mandatory water quality standards for drinking water contaminants. These are enforceable standards called "maximum contaminant levels (MCLs) which are established to protect the public against consumption of drinking water contaminants that present a risk to human health. An MCL is the maximum allowable amount of a contaminant in drinking water which is delivered to the consumer.

In addition, EPA has established National Secondary Drinking Water Regulations (NSDWRs) that set non-mandatory water quality standards for 15 contaminants. EPA does not enforce these "secondary maximum contaminant levels" (SMCLs). They are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered to present a risk to human health at the SMCL. (EPA website, https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals)

Nitrates come primarily from on-site wastewater treatment systems (septic tanks and leach fields) and fertilizer. Water contaminated with nitrate is difficult to treat. A transmission grid main (TGM) system on a half-mile grid decreases water quality variation between wells. While most wells discharge directly to the TGM system, there are some that are treated or blended first to address specific water quality issues. Twelve well sites City-wide have de-aeration facilities where groundwater is pumped to a tank to allow for de-aeration before entering the TGM (West Yost, 2014). With wellhead treatment and/or blending, the water supplied by the City meets all the primary and secondary drinking water standards for municipal water use and is safe and healthy to consume.

As part of a partnership of local municipal water purveyors, irrigation districts, a flood control district, and the overlying county, the Fresno Area Regional Groundwater Management Plan (FARGMP) was prepared in conformance with AB 3030 and SB 1938. The objectives of the FARGMP have been developed to monitor, protect, and sustain groundwater within the region. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006. The City of Fresno falls within the North Kings Groundwater Sustainability Agency (NKGSA). As a high priority basin, the Kings Subbasin must be managed under a Groundwater Sustainability Plan (GSP) by January 31, 2020. The NKGSA completed the GSP on January 28, 2020.

LOCAL SETTING

The Plan Area is relatively flat with natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level. A large amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels.

Groundwater

The Plan Area is underlain by the Kings subbasin, which, along with six other sub-basins, comprises the San Joaquin Valley Groundwater Basin. According to the Utility Background Summary completed for the Specific Plan, until 2004, groundwater was the sole source of potable water supply for the City. As of 2018, there were approximately 260 operational groundwater wells with a total production of 25,000 million gallons per year.

GROUNDWATER WELLS IN THE PLAN AREA

The Plan Area is served by eight active wells, as summarized in Table 3.9-3. As shown, the total well pumping capacity of the wells in the Plan Area is 13,510 gallons per minute (gpm).

TABLE 3.9-3: PLAN AREA WELL CAPACITY

WELL NUMBER	*PUMP HORSEPOWER*	*RATED CAPACITY (GPM)[1]*
Well 104	125	1,500
Well 138	125	1,800
Well 169	200	2,400
Well 171-1	60	600
Well 171-2	150	1,750
Well 192	150	2,000
Well 358 (has backup power)	200	2,100
Well 364	100	1,000
Total Well Pumping Capacity (GPM)		**13,150**

NOTE: [1] PUMP CAPACITY AND BACKUP POWER INFORMATION PROVIDED BY CITY STAFF (GPM = GALLONS PER MINUTE).
SOURCE: UTILITY BACKGROUND REPORT, WEST YOST ASSOCIATES, 2022.

GROUNDWATER QUALITY

According to the Utility Background Summary completed for the Specific Plan, the Plan Area tends to have better ground water quality than the City as a whole, with only a small portion of the Plan Area (near State Route 99) having nitrates in excess of the allowable limit of 45 mg/L as NO_3 or 10 mg/L as NO_3N. Well 171-2 is the only well that requires treatment within the West Area, and uses granular activated carbon (GAC).

Drainage

The Fresno Metropolitan Flood Control District (FMFCD) has primary responsibility for managing the local stormwater flows for the City, as well as a large area beyond the City's boundaries. The City's stormwater drains to urban stormwater basins, where it is retained for groundwater recharge or pumped to local irrigation canals owned by Fresno Irrigation District (FID) and then conveyed away from the municipal area.

The City of Fresno is located in the alluvial fans of numerous foothill streams and creeks that drain the western slope of the Sierra Nevada foothills. These streams include Big Dry Creek, Alluvial Drain, Pup Creek, Dog Creek, Redbank Creek, Mud Creek, and Fancher Creek. The City has hot dry summers and cool mild winters, with temperatures of mid-90°F in the summer and 60°F in the winter. The precipitation averages 11 inches per year and occurs almost entirely in the fall, winter, and spring.

Regionally, the City is protected by the U.S. Army Corps of Engineers' (Corps) Redbank-Fancher Creeks Flood Control Project. This project includes dams, detention basins, and levees designed to control upstream flood flows to approximately the 200-year storm event. Major facilities of this project include levee systems, the Big Dry Creek, Fancher Creek, and Redbank Creek dams and reservoirs, and the Alluvial Drain, Redbank Creek, Pup Creek, Fancher Creek, Big Dry Creek, Pup Creek Enterprise, and Dry Creek Extension detention basins.

Locally, the FMFCD drainage system consists of approximately 680 miles of pipeline and more than 150 stormwater retention basins. The storm drainage pipeline system is designed to accept the peak flow rate of runoff from a two-year intensity storm event (a storm that has a 50 percent probability of occurring in any given year). When storm events occur that exceed the two-year intensity,

ponding begins to occur in the streets until the pipeline system can remove the water. In the event of larger storms, "major storm breakover", the FMFCD has planned for streets or other conveyance to move the excess runoff to the basins. The FMFCD facilities in the Plan Area are shown in Figure 3.9-2.

The drainage system discharges to a system of irrigation canals, creeks, and the San Joaquin River, but is designed to retain and infiltrate as much runoff as possible into the underlying groundwater aquifer. The local drainage service area is subdivided into over 160 drainage areas, most of which drain to a retention basin. Drainage channels within the Plan Area include:

- East Branch Victoria Canal
- Epstein Canal
- Herndon Canal
- Minor Thornton Ditch
- Silvia Ditch
- Teague School Canal
- Tracy Ditch
- West Branch Victoria Canal
- Wheaton Ditch
- Austin Ditch

The Plan Area is drained by 15 drainage watersheds, six of which are fully within the Plan Area, and nine of which drain to areas immediately south or west of the Plan Area. There are seven existing retention basins within the Plan Area and an additional five that serve the Plan Area. An additional basin is planned to serve the drainage shed in the far southwestern corner of the Plan Area. The Plan Area's storm drain system is shown on Figure 3.15-2 in Section 3.15, Utilities.

Flooding

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

Predicted flood conditions in the vicinity of the Plan Area are shown on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) but are largely based on hydraulic modeling performed in 1981 (FEMA, 2016). The entire Plan Area is designated unshaded Zone X - minimal flood hazard, and would not be expected to have a flood hazard up to the level of the 0.2-percent annual chance flood. Lands designated as unshaded Zone X are outside of the Special Flood Hazard Areas. Changes to land surfaces in these areas do not trigger map revisions and no flood insurance requirements are imposed on structures in these areas. Figure 3.9-3 shows the flood boundaries, as delineated by the FEMA FIRM and USACE.

Although the Plan Area's northern boundary is very near the San Joaquin River, the area is not within a Special Flood Hazard Area. Local flooding can occur for events larger than a two-year event, but runoff is generally contained in the streets or other breakover easements. Such flooding is not reflected on FEMA's maps. Improvements to storm drainage facilities are accomplished either as a part of privately funded on-site developments or as a part of the master plan, funded by drainage fees. FMFCD maintains an on-going update to the system hydraulic model for flood control and prepares a capital improvement plan update every five years.

Dam Failure

A small portion of the Plan Area located in the northernmost point is located within the dam failure inundation area for the Friant Dam. Potential inundation from the Friant Dam is shown in Figure 3.9-4. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The Fresno County Multi-Hazard Mitigation Plan outlines the mitigation strategy for reducing potential losses identified in Chapter 4, Risk Assessment, of the Plan.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which can produce significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

The current drainage system in the Plan Area discharges to a system of irrigation canals, creeks, and the San Joaquin River, but is designed to retain and infiltrate as much runoff as possible into the underlying groundwater aquifer.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

The primary surface water features within the vicinity of the Plan Area are the San Joaquin River and Millerton Lake. Both water features are considered Section 303(d) impaired waterbodies. The portion of the San Joaquin River nearest the Plan Area appears on the State Water Resources Control Board's (SWRCB's) Impaired Water Bodies/303(d) List for invasive species (non-native fish species). Millerton Lake is included on the Impaired Water Bodies/303(d) List for mercury.

3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the State and nation (including Fresno County), including the Federal Emergency Management Agency, the US Environmental Protection Agency, the State Water Resources Control Board, and the nine Regional Water Quality Control Boards, including the Central Valley Regional Water Quality Control Board. The following is an overview of the federal, State and local regulations that are applicable to the proposed Specific Plan.

FEDERAL

Clean Water Act

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. Section 402(p) requires that stormwater discharges associated with an industrial activity, a discharge from a municipal separate storm sewer system serving a population of 250,000 or more, or a discharge associated with a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000, that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

Federal Emergency Management Agency

The City of Fresno is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of

protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the DWR and FEMA to insure the proper implementation of FEMA floodplain management regulations.

National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and its implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years, and are therefore to be updated regularly. The SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

The City of Fresno is a co-permittee with the FMFCD, the County of Fresno, the City of Clovis, and California State University Fresno in the Phase 1 NPDES Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). This Phase 1 MS4 Permit requires that the City and its co-permittees implement water quality and watershed protection measures for all development projects. The waste discharge requirements contained in the NPDES Permit have been designed to be consistent with the water quality standards and goals established in the Central Valley RWQCB's Basin Plan. The Phase 1 MS4 Permit prohibits discharges from violating applicable water quality standards or creating a nuisance or water quality impairment in receiving waters.

STATE

California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the States, although this does establish certain guidelines for the States to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from States with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
>
> > (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
> >
> > (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
> >
> > (3) A person operating, or proposing to construct, an injection well.
>
> (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

State Water Resources Control Board

The SWRCB is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-001-DWQ-DWQ) for small municipal separate storm sewer systems.

LOCAL

Fresno General Plan

The Fresno General Plan establishes the following policies relative to hydrology and water quality:

NOISE AND SAFETY ELEMENT

Objective NS-3: Minimize the risks to property, life, and the environment due to flooding and stormwater runoff hazards.

Policy NS-3-a: Stormwater Drainage and Flood Control Master Plan. Support the full implementation of the FMFCD Storm Drainage and Flood Control Master Plan, the completion of planned flood control and drainage system facilities, and the continued maintenance of stormwater and flood water retention and conveyance facilities and capacities. Work with the FMFCD to make sure that its Storm Drainage and Flood Control Master Plan is consistent with the General Plan.

Policy NS-3-b: Curb and Gutter Installation. Coordinate with Fresno Metropolitan Flood Control District (FMFCD) to install curbing, gutters, and other drainage facilities with priority to existing neighborhoods with the greatest deficiencies and consistent with the Storm Drainage and Flood Control Master Plan.

Policy NS-3-c: Dual Use Facilities. Support multiple uses of flood control and drainage facilities as follows:

- Use, wherever practical, FMFCD facilities for groundwater management and recharge; and
- Promote recreational development of ponding basin facilities located within or near residential areas, compatible with the stormwater and groundwater recharge functions.

Policy NS-3-d: Landscaped Buffer. City will support the development of FMFCD ponding basins including the landscaping and irrigation for the top one third of the side sloped areas consistent with the FMFCD Basin Design Criteria.

Policy NS-3-e: Pollutants. Work with FMFCD to prevent and reduce the existence of urban stormwater pollutants pursuant to the requirements of the National Pollution Discharge Elimination Systems Act.

Policy NS-3-f: **Flooding Emergency Response Plans.** Work with responsible agencies to update emergency dam failure inundation plans, evacuation plans and other emergency response plans for designated flood-prone areas, including the San Joaquin riverbottom.

Policy NS-3-g: Essential Facilities Siting Outside of Floodplains. Avoid siting emergency response and essential public facilities, such as fire and police stations, within a 100-year floodplain, unless it can be demonstrated that the facility can be safely operated and accessed during flood events.

Policy NS-3-h: Runoff Controls. Implement grading regulations and related development policies that protect area residents from flooding caused by urban runoff produced from events that exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities. Place all structures and/or flood-proofing in a manner that does not cause floodwaters to be diverted onto adjacent property, increase flood hazards to other property, or otherwise adversely affect other property.

Policy NS-3-i: New Development Must Mitigate Impact. Require new development to not significantly impact the existing storm drainage and flood control system by imposing conditions of approval as project mitigation, as authorized by law. As part of this process, closely coordinate and consult with the FMFCD to identify appropriate conditions that will result in mitigation acceptable and preferred by FMFCD for each project.

Policy NS-3-j: National Flood Insurance Program. Continue to participate in the National Flood Insurance Program (NFIP) by ensuring compliance with applicable requirements. Review NFIP maps periodically to determine if areas subject to flooding have been added or removed and make adjustments to the Land Use Diagram Figure LU-1.

Policy NS-3-k: 100-Year Floodplain Policy. Require developers of residential subdivisions to preserve those portions of development sites as open space that may be subject to 100-year flood events, unless the flood hazard can be substantially mitigated by development project design.

Policy NS-3-l: 200-Year Floodplain Protection. Promote flood control measures that maintain natural conditions within the 200-year floodplain of rivers and streams and, to the extent possible, combine flood control, recreation, water quality, and open space functions. Discourage construction of permanent improvements that would be adversely affected by periodic floods within the 200-year floodplain, particularly in the San Joaquin river bottom.

Policy NS-3-m: Flood Risk Public Awareness. Continue public awareness programs to inform the general public and potentially affected property owners of flood hazards and potential dam failure inundation. Remind households and businesses located in flood-prone areas of opportunities to purchase flood insurance.

Policy NS-3-n: Precipitation Changes. Work with FMFCD to evaluate the planned and existing stormwater conveyance system in light of possible changes to precipitation patterns in the future.

PUBLIC UTILITIES AND SERVICES ELEMENT

Objective PU-5: Preserve groundwater quality and ensure that the health and safety of the entire Fresno community is not impaired by use of private, on-site disposal systems.

Objective PU-8: Manage and develop the City's water facilities on a strategic timeline basis that recognizes the long life cycle of the assets and the duration of the resources, to ensure a safe, economical, and reliable water supply for existing customers and planned urban development and economic diversification.

Policy PU-8-f: Water Quality. Continue to evaluate and implement measures determined to be appropriate and consistent with water system policies, including prioritizing the use of groundwater, installing wellhead treatment facilities, constructing above-ground storage and surface water treatment facilities, and enhancing transmission grid mains to promote adequate water quality and quantity.

RESOURCE CONSERVATION AND RESILIENCE ELEMENT

Objective RC-6: Ensure that Fresno has a reliable, long-range source of drinkable water.

Policy RC-6-g: Protect Recharge Areas. Continue to protect areas of beneficial natural groundwater recharge by preventing uses that can contaminate soil or groundwater.

Policy RC-6-i: Natural Recharge. Support removal of concrete from existing canals and change the practice of lining new and existing canals with concrete to allow for natural recharge.

PARKS, OPEN SPACE, AND SCHOOLS ELEMENT

Objective POSS-6: Maintain and restore, where feasible, the ecological values of the San Joaquin River corridor.

Policy POSS-6-b: Effects of Stormwater Discharge. Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.

- Avoid discharge of runoff from urban uses to the San Joaquin River or other riparian corridors.
- Approve development on sites having drainage (directly or indirectly) to the San Joaquin River or other riparian areas only upon a finding that adequate measures for preventing pollution of natural bodies of water from their runoff will be implemented.

- Periodically monitor water quality and sediments near drainage outfalls to riparian areas. Institute remedial measures promptly if unacceptable levels of contaminant(s) occur.

Fresno Municipal Code

Chapter 6, Municipal Services and Utilities, Article 7, Urban Storm Water Quality Management and Discharge Control, of the Fresno Municipal Code establishes provisions regarding stormwater discharges. The purpose and intent of Article 7 is to ensure the health, safety, and general welfare of residents, and to protect the water quality of surface water and groundwater resources in a manner pursuant to and consistent with the Federal CWA by reducing pollutants in urban stormwater, discharges to the maximum extent practicable, and by effectively prohibiting non-stormwater discharges to the storm drain system.

Chapter 12, Impact Fees, Historic Resources, and Other Miscellaneous Topics, Section 12-2304, Development Application, Infrastructure Improvement Plans, and Building Permit Review and Processing Timelines, outlines the City's grading plan check process. The grading plan check process is a review process that requires anyone who develops property:

1. Properly grade their property in accordance with the California Building Code (CBC).
2. Submit a grading plan showing the proposed grading of the development.
3. Obtain approval of the FMFCD indicating conformance of the grading plan with the Storm Drainage Master Plan.
4. Obtain coverage under the NPDES Construction General Permit and comply with the requirements of the permit, including developing an erosion control site plan.

FMFCD Storm Drainage Master Plan

The Storm Drainage Master Plan contains proposed elevations for tops of curbs in undeveloped areas, delineation of storm drain inlet watershed areas, collection system pipeline alignments and sizes, and retention basin or urban detention (water quality) basin locations and geometry. The development of land in conformance with the Storm Drainage Master Plan ensures that development is graded to drain to storm drainage facilities that are designed to collect and dispose of stormwater from the planned development.

North Kings Groundwater Sustainability Agency Groundwater Sustainability Plan

The NKGSA finalized the Groundwater Sustainability Plan and submitted it to the DWR on January 28, 2020. The sustainability goal of the Kings Subbasin and the NKGSA is to ensure that by 2040 the basin is being managed to maintain a reliable water supply for current and future beneficial uses without experiencing undesirable results.

Water Quality Control Plan for the Sacramento-San Joaquin River Basin

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified

beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

IMPACTS AND MITIGATION

Impact 3.9-1: The Specific Plan would not violate water quality standards or waste discharge requirements during construction. (Less than Significant)

According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the NPDES permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. Future construction activities for the proposed Specific Plan would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"*

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

> *"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what*

should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a Specific Plan Area. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"

Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board and the City of Fresno as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the City of Fresno.

In accordance with the NPDES Stormwater Program, future development projects disturbing one or more acre within the Plan Area would be required to comply with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement.

CONCLUSION

Future development in accordance with the proposed Specific Plan would not violate water quality standards or waste discharge requirements during construction. Pursuant to the SWPPP that would be required for future projects that disturb one or more acres, the use of BMPs during construction activities would be required in order to reduce erosion, control sediment, and manage runoff from the Plan Area. The BMPs may include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. The use of these measures would prevent polluted, non-treated runoff from entering the nearby storm drains and waterways. The various RWQCBs have evaluated the effectiveness of the types of BMPs required by a SWPPP and have determined that BMPs are known to be effective in protecting

receiving waters[2]. Through compliance with future site-specific SWPPPs, the proposed Specific Plan would have a ***less than significant*** impact relative to this topic.

Impact 3.9-2: The Specific Plan would not violate water quality standards or waste discharge requirements during operation. (Less than Significant)

Section 303(d) of the federal Clean Water Act (CWA) requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

Waters that are listed under Section 303(d) of the CWA are known as “impaired.” The primary surface water features within the vicinity of the Plan Area are the San Joaquin River and Millerton Lake. Both water features are considered Section 303(d) impaired waterbodies. The portion of the San Joaquin River nearest the Plan Area appears on the SWRCB’s Impaired Water Bodies/303(d) List for invasive species (non-native fish species). Millerton Lake is included on the Impaired Water Bodies/303(d) List for mercury. Additionally, although outside of the Plan Area, surface water from the Kings River is delivered to the area for intentional groundwater recharge. Two portions of the lower reaches of the Kings River are considered impaired waterbodies: from Island Weir to Stinson and Empire Weirs and from Pine Flat Reservoir to Island Weir. The Island Weir to Stinson and Empire Weirs segment of the Kings River appears on the SWRCB’s Impaired Water Bodies/303(d) List for conductivity (salinity/total dissolved solids/chlorides/sulfates), molybdenum metals (other than mercury), and toxaphene (pesticide). The Pine Flat Reservoir to Island Weir segment of the Kings River appears on the SWRCB’s Impaired Water Bodies/303(d) List for alkalinity/carbonate as $CaCO_3$ (pH/Acidity/Caustic Conditions) and toxicity (total toxics).

The long-term operations of future development projects in the Plan Area could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Specific Plan would result in new impervious areas associated with roadways, driveways, parking lots, buildings, and landscape areas. Normal activities in developed areas include the use of various automotive petroleum products (i.e. oil, grease, and fuel), common household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

The majority of development allowed under the Specific Plan would be within areas currently developed with urban uses, and the amount and type of runoff generated by various future development and infrastructure projects would be similar to existing conditions. However, new development and infrastructure projects on lands that are used for agricultural operations, or are

[2] Refer to “Review of Stormwater Best Management Practices at Large Construction Sites” by the Los Angeles RWQCB; Available online:
http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/stormwater/bmp/largeconstreport-august-06.pdf

vacant and undeveloped, have the potential to result in increases in the amount of impervious surfaces throughout the Plan Area. The undeveloped and underdeveloped lands which do not contain impervious surfaces are scattered throughout the Plan Area, but are mainly located along the western and southern fringes. Future increases in impervious surfaces would result in increased urban runoff, pollutants, and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents could result in water quality impacts to onsite and offsite drainage flows to area waterways.

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific. This storm water can carry pollutants that can enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

In accordance with the NPDES Stormwater Program, an approved SWPPP would be required for future development projects in the Plan Area and designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. Such BMPs shall include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover or other equally or more effective measures. The BMPs and overall SWPPP are submitted to the RWQCB and the City of Fresno as part of the permitting process. The SWPPP is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the City of Fresno. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude equally or more effective new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB.

Due to future development and implementation of new infrastructure anticipated by the Specific Plan, the overall volume of runoff in Fresno could be increased compared to existing conditions. If the FMFCD drainage system is not adequately designed, Specific Plan buildout could result in localized higher peak flow rates. Localized increases in flow would be significant if increases exceeded system capacity or contribute to bank erosion. Each future development and infrastructure project is required to prepare a detailed project specific drainage plan and a SWPPP that will control storm water runoff and erosion, both during and after construction. If the project involves the discharge into surface waters, the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the CVRWQCB.

As described above, under the Regulatory Setting, the City is required to implement a range of measures and procedures when reviewing new development and infrastructure projects. Implementation of the City's General Plan policies and actions, as well as the City's adopted Municipal Code requirements, would ensure that water quality is preserved.

Chapter 6, Municipal Services and Utilities, Article 7, Urban Storm Water Quality Management and Discharge Control, of the Fresno Municipal Code establishes provisions regarding stormwater discharges. The purpose and intent of Article 7 is to ensure the health, safety, and general welfare of residents, and to protect the water quality of surface water and groundwater resources in a manner pursuant to and consistent with the Federal CWA by reducing pollutants in urban stormwater, discharges to the maximum extent practicable, and by effectively prohibiting non-stormwater discharges to the storm drain system. Chapter 12, Impact Fees, Historic Resources, and Other Miscellaneous Topics, Section 12-2304, Development Application, Infrastructure Improvement Plans, and Building Permit Review and Processing Timelines, outlines the City's grading plan check process. The grading plan check process is a review process that requires anyone who develops property:

1. Properly grade their property in accordance with the CBC.
2. Submit a grading plan showing the proposed grading of the development.
3. Obtain approval of the FMFCD indicating conformance of the grading plan with the Storm Drainage Master Plan.
4. Obtain coverage under the NPDES Construction General Permit and comply with the requirements of the permit, including developing an erosion control site plan.

While the primary regulatory mechanisms for ensuring that future development and infrastructure projects do not result in adverse water quality impacts are contained in the Fresno Municipal Code, the City of Fresno has developed the Specific Plan to include additional policies that, when implemented, will further reduce water pollution from construction, new development, and new infrastructure projects, and protect and enhance natural storm drainage and water quality features. The policies identified below include numerous requirements that would reduce the potential for Specific Plan implementation to result in increased water quality impacts.

CONCLUSION

The entire Plan Area is in areas served by FMFCD retention basins. Operation of projects developed under the proposed Specific Plan could generate the same categories of pollutants that construction could. Water quality treatment for post-construction discharges to stormwater in the FMFCD urban flood control system area is provided by retention basins. Land development in the FMFCD Master Plan Area is exempt from further water quality requirements provided that the FMFCD's Storm Water Quality Management Plan is implemented.

Storm drainage improvements are funded by local drainage fees paid by developments and are built by the FMFCD, by developers, or both. Basins are highly effective at reducing average concentrations of a broad range of contaminants, including several polyaromatic hydrocarbons, total suspended solids, and most metals. Pollutants are removed by filtration through soil, and thus don't reach the groundwater aquifer. Basins are built to design criteria exceeding Statewide Standard Urban Stormwater Mitigation Plan standards. The urban flood control system provides treatment for all types of development.

Additionally, compliance with the Specific Plan policies shown below would further ensure that water quality standards or waste discharge requirements are not violated during operation of future projects in the Plan Area. For example, adequate stormwater and flooding infrastructure would be required for new development. Through compliance with the FMFCD's Storm Water Quality Management Plan, City General Plan policies, City Municipal Code requirements, and proposed Specific Plan policies, the proposed Specific Plan would have a ***less than significant*** impact relative to this topic.

SPECIFIC PLAN POLICIES

IPR 3.2: *Continue to evaluate Capital Improvement Programs and update them to add missing infrastructure and to meet the demand for new development.*

IPR 3.3: *Continue to set appropriate conditions of approval for each new development proposal to ensure that water resource facilities are in place prior to construction and building occupancy.*

IPR 3.4: *Continue to plan for, install, and operate recycled water systems to benefit the West Area and to support local resource conservation goals.*

Impact 3.9-3: The Specific Plan would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. (Less than Significant)

The quantity of ground water in the San Joaquin Valley has been declining for decades, as evidenced by the substantial lowering of water levels in the aquifers. Impacts on groundwater in the Fresno area are an important consideration in any development plan. See Impact 3.15-6 in Section 3.15, Utilities, for further discussions regarding groundwater demand, groundwater supplies, groundwater recharge, and groundwater quality. Impacts related to groundwater supplies and interference with groundwater recharge are considered in two ways: (1) conversion of pervious surfaces (which allow for groundwater recharge), and (2) use of groundwater as a water supply (which reduces the amount of local groundwater supply).

GROUNDWATER RECHARGE

Future development projects in the Plan Area would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge in those areas. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

As noted previously, the FMFCD drainage system consists of approximately 680 miles of pipeline and more than 150 stormwater retention basins. The storm drainage pipeline system is designed to accept the peak flow rate of runoff from a two-year intensity storm event (a storm that has a 50

percent probability of occurring in any given year). The FMFCD storm drain and flood control system is designed to retain and infiltrate as much stormwater and urban runoff as possible.

The current drainage system in the Plan Area discharges to a system of irrigation canals, creeks, and the San Joaquin River, but is designed to retain and infiltrate as much runoff as possible into the underlying groundwater aquifer. Future development would include water quality BMPs, detention basins, and retention basins designed to minimize or eliminate increases in runoff from these new impervious surfaces entering existing surface water courses and existing storm drains. Peak runoff and total volume of runoff will be minimized by future development of storm drainage design which retains water to the maximum extent possible. Consequently, infiltration into the groundwater aquifers will be maximized to the extent possible through the storm drainage design.

Additionally, future development projects in the Plan Area may result in new rainwater infiltration and groundwater recharge with the development of new pervious surfaces and maintenance of existing pervious surfaces. The Specific Plan incorporates best practices to support sustainable development including bioswale/run-off collection and large permeable green surfaces (i.e., park and open space areas) that would reduce new impervious surfaces, rainwater infiltration, and support groundwater recharge. Future development would include storm water quality BMPs designed to minimize runoff from impervious surfaces entering existing storm drains and surface water courses. Peak runoff and total volume of runoff will be minimized by future development of storm drainage design which retains water to the maximum extent possible.

Further, the City's Recharge Fresno Program is intended to improve the pipelines and water system facilities that will capture, treat, and deliver water to Fresno homes and businesses, including surface water from the Sierra Nevada Mountains. This program has the following objectives: ensure a reliable and sustainable water supply for Fresno's present and future prosperity by increasing the available water supply; bring new, treated surface water from the Sierra Nevada Mountains to our community; improve natural and intentional groundwater recharge; maintain focus on conservation and its role in ensuring a sustainable water supply for Fresno; and ensure a safe and reliable water supply.

Future development of the Plan Area under the proposed land use plan will modify the movement of water across the land surface and the infiltration of rain water into the groundwater system. The aquifers underlying the Plan Area are impacted by several major contaminant plumes involving organic compounds, inorganic compounds, solvents, pesticides, and other contaminants. Future development projects in the Plan Area, if no means were provided to preserve infiltration of rainwater, would likely reduce net infiltration of rain water and runoff into the groundwater system and reduce the diluting effect of this fresh water supply. The net impact would be a further build-up of contaminants in the groundwater in the Kings Subbasin. However, the proposed Specific Plan would also likely decrease the amount of pesticides and other agricultural contaminants entering the groundwater from the Plan Area, due to elimination of agricultural activity in the Plan Area, including fertilizer application. Surface water quality detention basins and BMPs would also have the potential to add to groundwater contamination levels if they are not properly designed and sited. It is also noted that the City is in the process of planning and constructing a comprehensive Recycled Water System, which will include parts of the Plan Area. Many of the segments of the

overall System are either under construction or already completed, and a Water Reuse Master Plan is underway to evaluate all options and plan for the future use of recycled water throughout the city.

The FMFCDs Storm Water Quality Management Plan, City General Plan policies, City Municipal Code requirements, the Recharge Fresno program, and proposed Specific Plan policies include BMPs aimed at preserving water quality and groundwater recharge areas. The BMPs required as part of future development of the Plan Area are designed to infiltrate as much storm water runoff as practicable into the ground. A portion of the retained runoff will infiltrate into the ground, helping to replenish the aquifers. The required BMPs are designed to trap contaminants and to beneficially make use of nutrients in the vegetated swales and planted areas. In addition, application rates of fertilizers on urbanized areas is less than that typically used in intensive agriculture. The aggregate effect of the proposed Specific Plan will, therefore, be to decrease the loading of nutrients (in particular, nitrates) into the groundwater.

GROUNDWATER SUPPLIES

The proposed Specific Plan would be served from the City's existing and future water supplies. As discussed in Section 3.15, Utilities, the City currently receives water from four water supply sources: surface water from the FID Agreement for Kings River water, surface water from the U.S. Bureau of Reclamation (USBR) Central Valley Project (CVP) Friant Division Contract for San Joaquin River water, groundwater that is pumped from wells in the City, and recycled water (planned to be used for non-potable uses).

The City of Fresno forecasts that it will have sufficient water supplies for demands in its service area over the 2020 to 2040 period in normal, single-dry-year, and multiple-dry-year conditions. Additionally, the Specific Plan water demand is not expected to exceed the City's supplies in any normal, single dry, or multiple dry year between 2020 and 2040.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT

The Sustainable Groundwater Management Act (SGMA) directs DWR to identify groundwater basins and subbasins that are in conditions of critical overdraft. This designation is determined based upon the presence of "undesirable impacts" such as seawater intrusion, land subsidence, groundwater depletion, and chronic lowering of groundwater levels. Per DWR's current list of critically overdrafted basins, finalized in February 2019, the Kings Subbasin is designated as a critically overdrafted basin.

As part of the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, DWR is required to prioritize California groundwater basins to help identify, evaluate, and determine the need for additional groundwater level monitoring. Per the current CASGEM draft prioritization, completed in April 2019, the Kings Subbasin is a high priority subbasin.

The City has long made efforts toward offsetting the decline of groundwater levels and minimizing overdraft conditions through an active intentional recharge program that started in 1971. Through cooperative agreements with FMFCD and FID, the City has access to not only City-owned basins, but

also those of these two agencies. The City has averaged over 60,000 AFY the previous five years and plans to gradually increase recharge by about 540 AFY each year. However, during wet years the City will recharge more water when it is available to allow to the City to draw on additional groundwater during dry years when surface water is not available.

In short, SGMA is landmark legislation that, for the first time in the history of California, requires comprehensive groundwater management, with the mandatory goal of bringing all currently overdrafted basins into sustainable conditions by no later than 2040 or 2042, with five-year increments of progress starting in 2025 and 2027.

As noted previously, the FARGMP was prepared in conformance with AB 3030 and SB 1938. The objectives of the FARGMP have been developed to monitor, protect, and sustain groundwater within the region. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006. The City of Fresno falls within the NKGSA. As a high priority basin, the Kings Subbasin must be managed under a GSP by January 31, 2020. The NKGSA finalized the GSP and submitted it to the California DWR on January 28, 2020, ahead of the January 31, 2020 mandate. The FARGMP is discussed below.

GROUNDWATER MANAGEMENT PLAN

As noted previously, the FARGMP was prepared in conformance with AB 3030 and SB 1938. The objectives of the FARGMP have been developed to monitor, protect, and sustain groundwater within the region. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006. The City of Fresno falls within the NKGSA. As a high priority basin, the Kings Subbasin must be managed under a GSP by January 31, 2020. The NKGSA completed the GSP on January 28, 2020.

As discussed above, the Specific Plan would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the Plan may impede sustainable groundwater management of the basin. The Specific Plan includes park, open space, and ponding basin areas which would allow for infiltration of groundwater on-site. Existing City and FMFCD regulations require development in the Plan Area to address water quality and changes to the drainage pattern through BMPs and low impact development (LID) measures. LID measures and strategies can be used to meet the FMFCD's development standards and include use of bioretention/infiltration landscape areas, disconnected hydrologic flow paths, reduced impervious areas, functional landscaping, and grading to maintain natural hydrologic functions that existed prior to development, such as interception, shallow surface storage, infiltration, evapotranspiration, and groundwater recharge. Further, Recharge Fresno, a City program to improve the pipelines and water system facilities that will capture, treat and deliver water to Fresno homes and businesses, including surface water from the Sierra Nevada Mountains. Groundwater-related objectives of Recharge Fresno include: improve natural and intentional groundwater recharge, maintain focus on conservation and its role in ensuring a sustainable water supply for Fresno, and ensure a safe and reliable water supply.. These guiding documents and requirements would ensure that stormwater quality treatment measures are implemented and maintained throughout the life of the Specific Plan.

CONCLUSION

The required stormwater BMPs and retention basins would be designed to reduce runoff below that which occurs currently during storm events and ensure groundwater recharge from the Plan Area to the extent possible. Additionally, the Specific Plan water demand is not expected to exceed the City's supplies in any normal, single dry, or multiple dry year between 2020 and 2040, and the Plan would not conflict with the FARGMP. Further, the Specific Plan includes two policies, listed below, which would encourage nonporous surfaces for groundwater recharge and other design strategies to maximize recharge. Therefore, impacts related to groundwater recharge would be ***less than significant***.

SPECIFIC PLAN POLICIES

IPR 2.9: *Plant locally appropriate, drought-tolerant landscaping and, where possible, incorporate designs that can contribute to groundwater recharge, flood protection, and reduced urban heat island effects.*

IPR 3.1: *Encourage the incorporation of water conservation methods in new development, such as greywater systems, drought-resilient landscaping, and reduction of nonporous surfaces.*

Impact 3.9-4: The Specific Plan would not alter the existing drainage pattern in a manner which would result in substantial erosion or siltation on- or off-site, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (Less than Significant)

Future development would include water quality BMPs, detention basins, and retention basins designed to minimize or eliminate increases in runoff entering existing surface water courses and storm drains. Peak runoff and total volume of runoff will be minimized by the storm drainage design which retains water to the maximum extent possible.

The proposed Specific Plan will not alter drainage patterns in a manner which will cause flooding, erosion, or siltation. Surface runoff from the area will be managed via parcel-based LID measures, detention/retention basins, and flow reducing BMPs to prevent local flooding within the site. These features will also reduce peak flows from the Plan Area to receiving creeks and storm drains to amounts equal to or less than flows under existing conditions. Sediment in the stormwater flows will be captured in detention ponds designed to prevent siltation. Flooding, erosion, or siltation is not anticipated by the proposed Specific Plan given the storm drain design requirements and best management practices that will be implemented.

The proposed Specific Plan would not alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff. With the implementation of the Specific Plan policies already presented above, compliance with existing regulatory requirements

which pertain to water quality and runoff, and with the design and construction of the improvements included in the proposed storm drainage system, the proposed Specific Plan would have a ***less than significant*** impact relative to this topic.

Impact 3.9-5: The Specific Plan would not release pollutants due to Plan Area inundation by flood hazard, tsunami, or seiche. (Less than Significant)

As shown in Figure 3.9-2, the entire Plan Area is designated unshaded Zone X - minimal flood hazard, and would not be expected to have a flood hazard up to the level of the 0.2-percent annual chance flood. Lands designated as unshaded Zone X are outside of the Special Flood Hazard Areas. Changes to land surfaces in these areas do not trigger map revisions and no flood insurance requirements are imposed on structures in these areas.

Although the Plan Area's northern boundary is very near the San Joaquin River, the area is not within a Special Flood Hazard Area. Local flooding can occur for events larger than a two-year event, but runoff is generally contained in the streets or other breakover easements. Such flooding is not reflected on FEMA's maps. Improvements to storm drainage facilities are accomplished either as a part of privately funded on-site developments or as a part of the master plan, funded by drainage fees. FMFCD maintains an on-going update to the system hydraulic model for flood control and prepares a capital improvement plan update every five years.

A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. Tsunami can cause catastrophic damage to shallow or exposed shorelines. The Plan Area is approximately 105 miles from the coast, which is sufficiently distant to preclude effects from a tsunami. Additionally, tsunami inundation maps show no risk of tsunami inundation for the Plan Area.

Seiches are changes or oscillations of water levels within a confined water body. Seiches are caused by fluctuation in the atmosphere, tidal currents or earthquakes. The effect of this phenomenon is a standing wave that would occur when influenced by the external causes. The Plan Area is not adjacent to any lakes that pose significant a risk from a seiche event.

A small portion of the Plan Area located in the northernmost point is located within the dam failure inundation area for the Friant Dam. Potential inundation from the Friant Dam is shown in Figure 3.9-3. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. The DSD is responsible for inspecting and monitoring these dams. The Fresno County Multi-Hazard Mitigation Plan outlines the mitigation strategy for reducing potential losses identified in Chapter 4, Risk Assessment, of the Plan.

Provided that the storm drain system and detention/retention facilities to be installed as part of the proposed development are adequately sized and properly installed and maintained, additional flooding and/or impedance or redirection of flows will not be induced by the proposed Specific Plan. As a result, the proposed Specific Plan would have a ***less-than-significant*** impact relative to this topic.

Impact 3.9-6: The Specific Plan would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (Less than Significant)

The Water Quality Control Plan for the Central Valley Region and the GSP are the two guiding documents for water quality and sustainable groundwater management in the Plan Area. Consistency with the two plans are discussed below.

WATER QUALITY CONTROL PLAN FOR THE CENTRAL VALLEY REGION

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where known.

As discussed in Impacts 3.9-1 and 3.9-2, impacts related to water quality during construction and operation of future projects in the Plan Area would be less than significant. Through compliance with future site-specific SWPPPs, the proposed project Specific Plan would have a less than significant impact relative to construction. Through compliance with the FMFCD's Storm Water Quality Management Plan, City General Plan policies, City Municipal Code requirements, and proposed Specific Plan policies, the proposed Specific Plan would have a less than significant impact relative to operation.

GROUNDWATER MANAGEMENT PLAN

As part of a partnership of local municipal water purveyors, irrigation districts, a flood control district, and the overlying county, the FARGMP was prepared in conformance with AB 3030 and SB 1938. The objectives of the FARGMP have been developed to monitor, protect, and sustain groundwater within the region. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006. The City of Fresno falls within the North Kings Groundwater Sustainability Agency (NKGSA). As a high priority basin, the Kings Subbasin must be managed under a GSP by January 31, 2020. The NKGSA completed the GSP on January 28, 2020.

As discussed in Impact 3.9-3, Specific Plan implementation would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the Specific Plan may impede sustainable groundwater management of the basin. The required stormwater BMPs and retention basins would be designed to reduce runoff below that which occurs currently during storm events and ensure groundwater recharge from the Plan Area to the extent possible. Additionally, the Specific Plan water demand is not expected to exceed the City's supplies in any normal, single dry, or multiple dry year between 2020 and 2040, and the Plan would not conflict with the FARGMP.

Further, the Specific Plan includes two policies, listed above, which would encourage nonporous surfaces for groundwater recharge and other design strategies to maximize recharge.

CONCLUSION

Overall, implementation of the proposed project would have a ***less than significant*** impact related to conflicts with the Basin Plan and the GSP.

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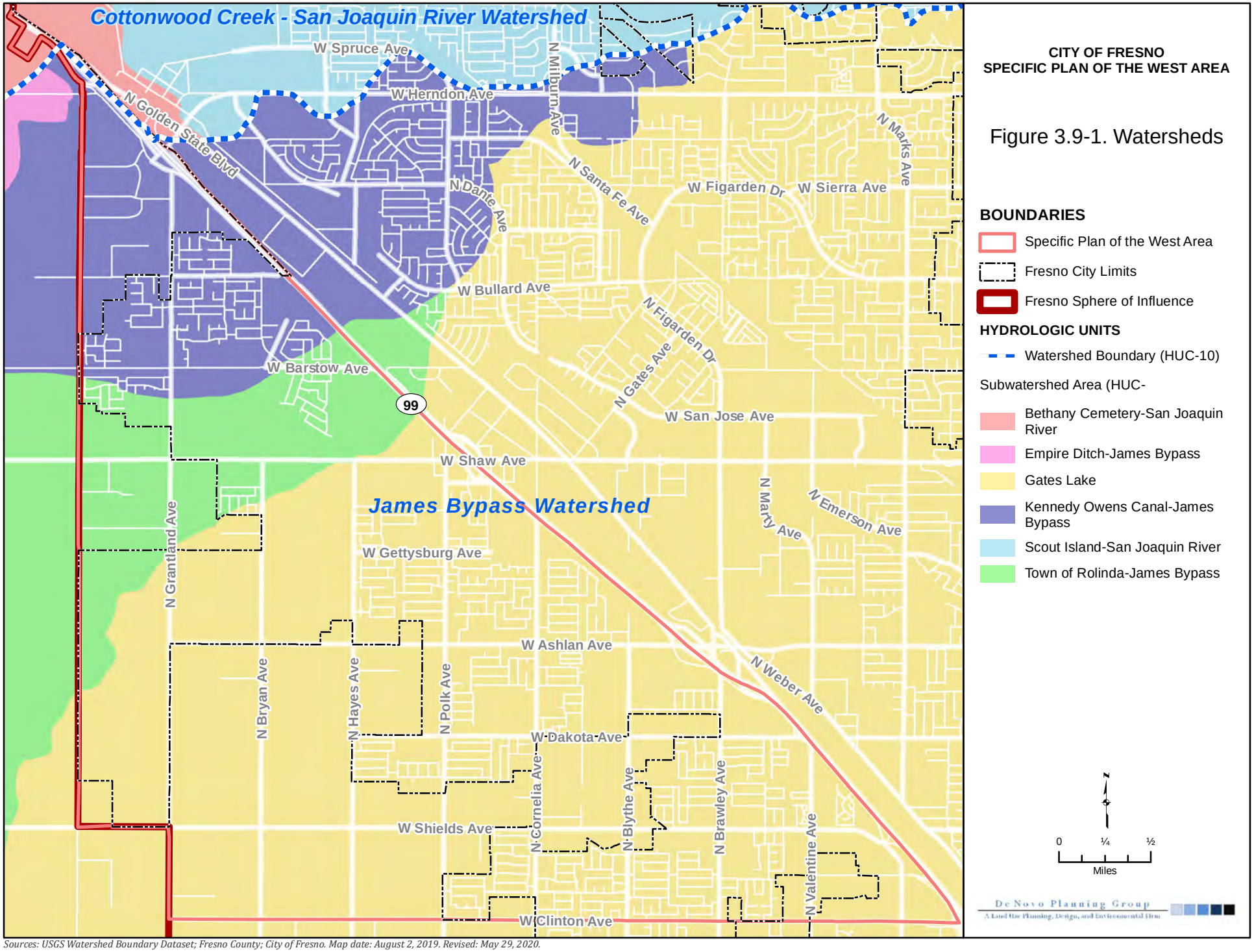

Sources: USGS Watershed Boundary Dataset; Fresno County; City of Fresno. Map date: August 2, 2019. Revised: May 29, 2020.

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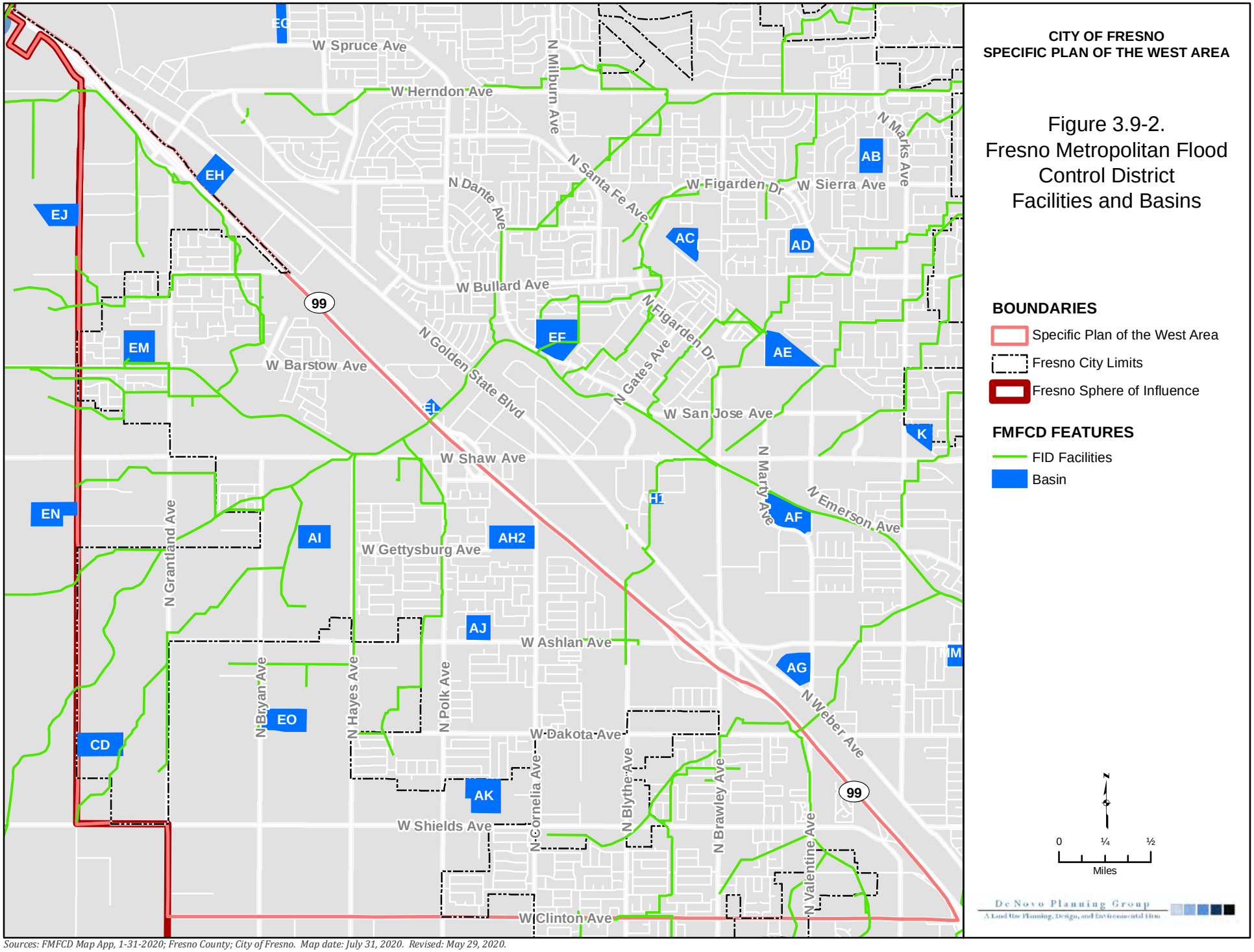

Sources: FMFCD Map App, 1-31-2020; Fresno County; City of Fresno. Map date: July 31, 2020. Revised: May 29, 2020.

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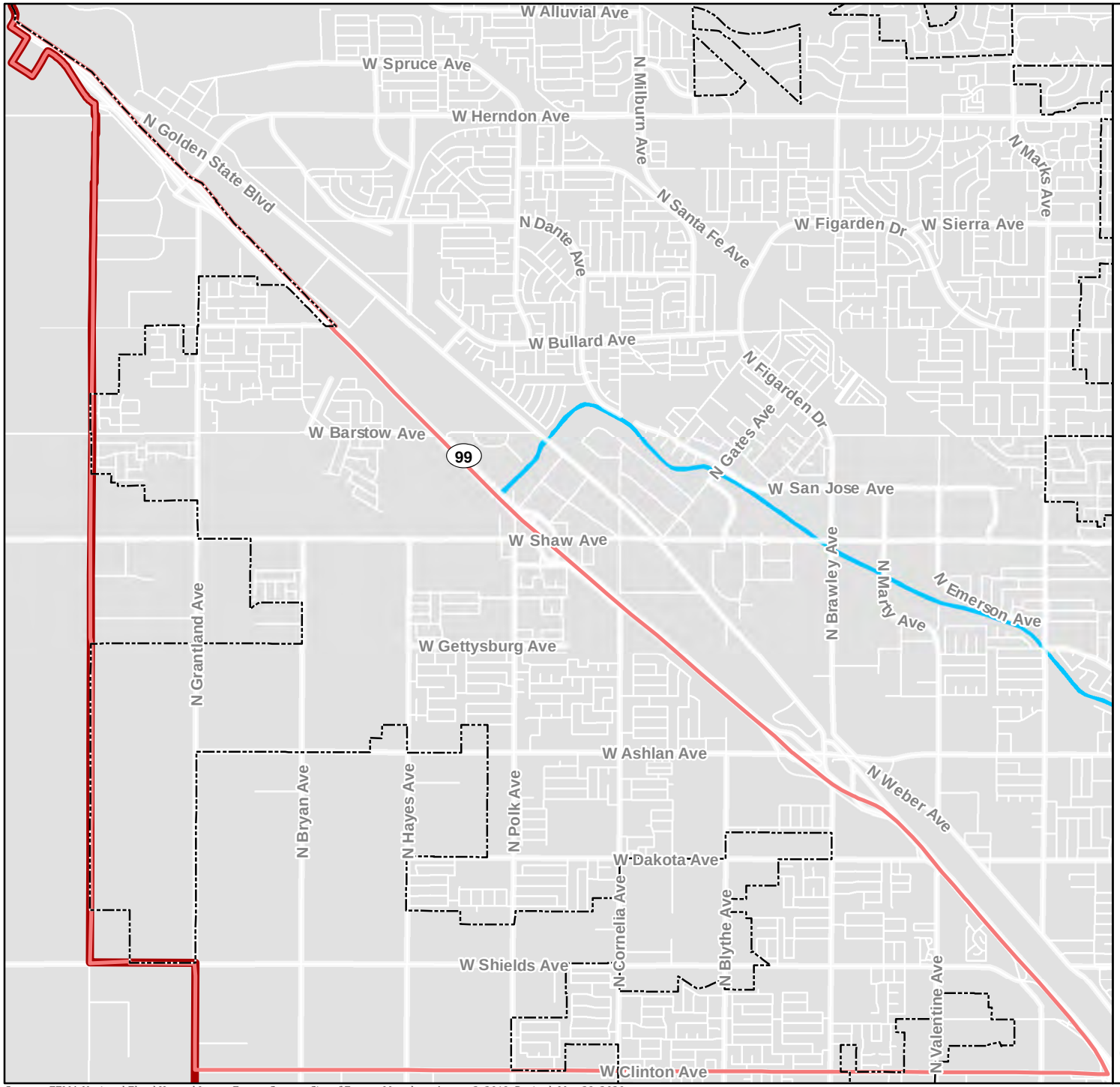
CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 3.9-3.
FEMA Flood Zones



BOUNDARIES

- Specific Plan of the West Area
- Fresno City Limits
- Fresno Sphere of Influence

FEMA FLOOD ZONE DESIGNATION

- 100-year Flood Zone
- Area of Minimal Flood Hazard

N

0 ¼ ½

Miles

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: FEMA National Flood Hazard Layer; Fresno County; City of Fresno. Map date: August 2, 2019. Revised: May 29, 2020.

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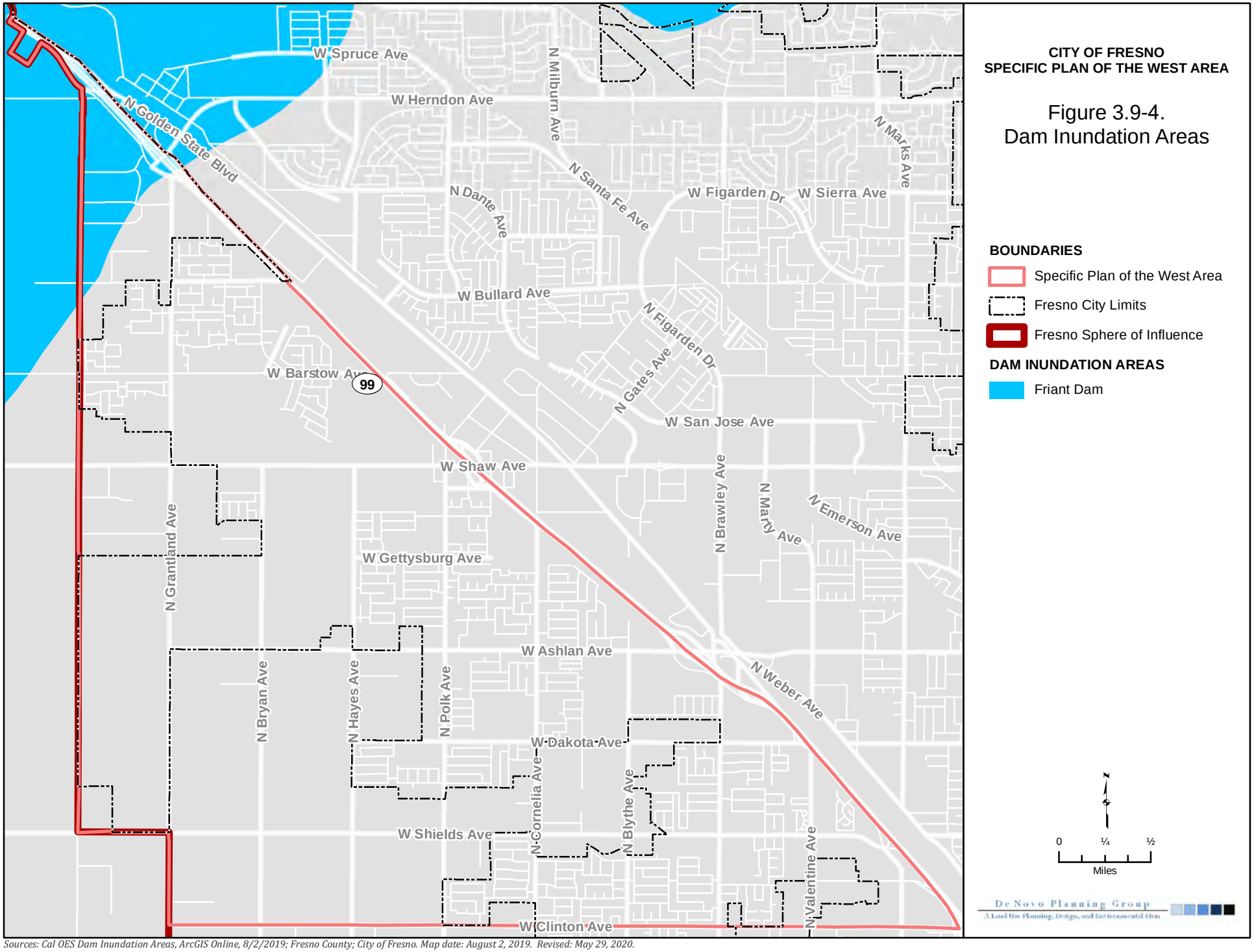

Sources: Cal OES Dam Inundation Areas, ArcGIS Online, 8/2/2019; Fresno County; City of Fresno. Map date: August 2, 2019. Revised: May 29, 2020.

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This section describes the existing land uses in the Plan Area and in the surrounding area, describes the applicable land use regulations, and evaluates the environmental effects of implementation of the proposed Specific Plan related to land use. Information in this section is based on information provided in the project materials, and the following reference documents:

- *Fresno General Plan* (City of Fresno, 2014);
- *Draft Master Environmental Impact Report General Plan and Development Code Update, City of Fresno, Fresno County, California* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- *Fresno Municipal Code* (City of Fresno, 2007); and
- *Fresno County General Plan* (County of Fresno, 2000).

Two comments were received during the Notice of Preparation (NOP) review period regarding environmental impacts associated with land use: Cathy Caples (August 1, 2019) and Jeff Roberts (July 24, 2019). Full comments are included in **Appendix A**.

3.10.1 ENVIRONMENTAL SETTING

EXISTING PHYSICAL ENVIRONMENT

The City of Fresno is located in north central portion of Fresno County in the Central Valley region. The City is near the geographical center of California and lies approximately 220 miles (350 km) north of Los Angeles, 170 miles (270 km) south of the state capitol, Sacramento. State Route 99 travels through the western portion of the City of Fresno.

Plan Area

The Plan Area encompasses approximately 7,077 acres (or a little more than 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. Of the eleven square miles within the Plan Area, 6.9 square miles are in the City limits and 4.1 square miles are in the growth area. The growth area is land outside the City limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth.

The Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to State Route 99. See Chapter 2.0 (Project Description) Figure 2.0-1 for the regional location map and Figure 2.0-2 for the Plan Area vicinity map.

Existing Land Uses

A portion of the Plan Area is located within the City of Fresno City limits, and a portion is within unincorporated Fresno County (but within the City's SOI). The City of Fresno General Plan designates the Plan Area as: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial,

General Commercial, Recreation Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Community Park, Open Space – Ponding Basin, Neighborhood Park, Open Space, Public/Quasi-Public Facility, Special School, Elementary School, Elementary, Middle & High School, and High School. See Chapter 2.0 (Project Description) Figure 2.0-4 for the existing City General Plan land use designations.

A large amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels. The Plan Area has approximately eight different existing land uses which include the following:

- **Rural/Estate Residential**: Approximately 27 percent, or 1,911 acres, of the existing land uses within the Plan Area are currently used as rural/estate residential. Of the 6,109 acres of developable lands within the Plan Area, 1,640.68 acres are low-density single-family homes that are occupied lots with a size of two to nine acres per dwelling units.
- **Multiple Family Residential**: Approximately two percent, or 141 acres, of the Plan Area account for multi-family residential development. These uses are primarily located adjacent to arterial roads with easy access to State Route 99, and Fresno Area Express (FAX) service lines.
- **Single-Family Residential**: Approximately 21 percent of the existing uses within the Plan Area are currently developed with single-family residential sues. These uses are located primarily within the city limits.
- **Vacant Land**: Approximately 15 percent of the land in the Plan Area, or 911.34 acres, account for vacant lands. Vacant areas are located throughout the Plan Area, in both the city limits and SOI. Vacant areas represent infill opportunities within the Plan Area's densest neighborhoods.
- **Public/Government Facilities**: Approximately six percent, or 337.83 acres, of land within the Plan Area contain public or government facilities. These land uses include Central Unified School District facilities, churches, the Dante Club, and the Hacienda facility.
- **Open Space/Agricultural Land**: Approximately 25 percent or 1,554.06 acres, in the Plan Area contain open space or agricultural land. While there are some open space land uses within the City, most of these uses are primarily located in the SOI. These uses include parks and ponding basins.
- **Industrial Uses**: Approximately one percent, or 57.33 acres, of the Plan Area account for industrial uses. The largest industrial land use in the Plan Area contains an agricultural business located at the intersection of West Dakota Avenue and North Grantland Avenue.
- **Commercial Uses**: Approximately three percent, or 219.76 acres, of the Plan Area account for commercial uses. Commercial uses are spread throughout the eastern and southeastern portions of the Plan Area, closer to State Route 99.

Existing Zoning

The City of Fresno Zoning Map provides zoning for those portions of the Plan Area located within the City limits, but not for areas within the unincorporated County. Zoning designations are generally

consistent with the existing General Plan land uses. The City zoning designations for the Plan Area include: Residential Estate (RE), Residential Single-Family, Extremely Low Density (RS-1), Residential Single-Family, Very Low Density (RS-2), Residential Single-Family, Low Density (RS-3), Residential Single-Family, Medium Low Density (RS-4), Residential Single-Family, Medium Density (RS-5), Residential Multi-Family, Medium High Density (RM-1), Residential Multi-Family, Urban Neighborhood (RM-2), Residential Multi-Family, High Density (RM-3), Mobile Home Park (RM-MH), Commercial Community (CC), Commercial General (CG), Commercial Regional (CR), Commercial Recreation (CRC), Light Industrial (IL), Corridor/Center Mixed Use (CMX), Neighborhood Mixed Use (NMX), Regional Mixed Use (RMX), Business Park (BP), Office (O), Open Space (OS), and Park and Recreation (PR). See Chapter 2.0 (Project Description) Figure 2.0-5 for the existing zoning designations.

The Fresno County Zoning Map designates the portions of the Plan Area outside the City limits as: Rural Commercial Center (RCC), Central Trading (C4), General Commercial (C6), Light Industrial (M1), Exclusive Agricultural (AE20), Limited Agricultural (AL20), Rural Residential (RR), Single Family Residential Agricultural (RA), Single Family Residential (12,500) (R1B), and Trailer Park Residential (TP). Upon a proposal to annex unincorporated land into the City limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would no longer apply to the parcel.

Surrounding Land Uses

Surrounding land uses include State Route 99; the historic communities of Herndon and Highway City; incorporated areas of the City of Fresno to the northeast; incorporated areas of the City of Fresno to the east (including mostly industrial uses); unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels); and unincorporated Fresno County to the west (including farmland and rural residential uses).

3.10.2 REGULATORY SETTING

This section provides an overview of the regulatory setting including applicable plans and policies, and land use laws. A variety of sources, including applicable General Plans, the Fresno Citywide Development Code, and Government Code sections relevant to land use are discussed.

STATE

Government Code

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a jurisdiction and of any land outside its boundaries that, in the jurisdiction's judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies

the goals, objectives, policies, principles, standards, and plan proposals that support the jurisdiction's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code, Section 65860, subd. [c]).

State of California Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations. In approving an annexation, the Local Agency Formation Commission (LAFCo) will consider the following factors:

- Population and population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; and the likelihood of significant growth in the area and in adjacent incorporated and unincorporated areas during the next ten years.
- The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; and the probable effect of the proposed incorporation, formation, annexation, exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas.
- The effect of the proposed action and of alternative actions on adjacent areas, on mutual social and economic interests, and on the local government structure of the county.
- The conformity of both the proposal and its anticipated effects with both the adopted commission policies on providing planned, orderly, and efficient patterns of urban development, and the policies and priorities set forth in Government Code section 56377.
- The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Government Code section 56016.
- The definiteness and certainty of the boundaries of the territory, nonconformance of proposed boundaries with lines of assessment or ownership, creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.
- Consistency with city or county general and specific plans.
- The sphere of influence of any local agency that may be applicable to the proposal being reviewed.

- The comments of any affected local agency.
- The ability of the newly formed or receiving entity to provide the services that are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change.
- Timely availability of water supplies adequate for projected needs as specified in Government Code section 65352.5.
- The extent to which the proposal will affect a city or cities and the county in achieving their respective fair shares of the regional housing needs, as determined by the appropriate council of governments consistent with Housing Element laws.
- Any information or comments from lawmakers.
- Any information relating to existing land use designations.

In addition to the above factors, LAFCo may also consider any resolution raising objections to the action that may be filed by an affected agency; and any other matters which the commission deems material.

LOCAL

Fresno General Plan

As noted above, General Plans are prepared under a mandate from the State of California, which requires each city and county to prepare and adopt a comprehensive, long-term general plan for its jurisdiction and any adjacent related lands.

Key themes of the Fresno General Plan include the strengthening of existing centers of activity and commercial corridors in the City, as well as expansion of the City's industrial capacity, retail base, and new residential neighborhoods. The Fresno General Plan has been prepared to do the following:

- Establish a long-range vision that reflects the aspirations of the community and outlines steps to achieve this vision;
- Establish long-range land use development policies that will guide development decision-making by City departments by providing a basis for judging whether specific development proposals and public projects are in harmony with the outcomes envisioned in the Fresno General Plan policies;
- Reflect the City's current planning, resource conservation, and economic development efforts;
- Guide development in a manner that improves the quality of life for the whole community and meets future land needs based on the projected population and job growth;
- Allow the City, other public agencies, and private developers to design projects that will preserve and enhance community character and environmental resources, promote resiliency, and minimize hazards; and

- Provide the basis for establishing detailed plans and implementation programs, such as the zoning and subdivision regulations, community plans, Specific Plans, neighborhood plans, Concept Plans, and the Capital Improvement Program.

GENERAL PLAN ELEMENTS

The General Plan is organized into the following elements:

- **Introduction**: This introductory element includes General Plan goals, State requirements, and requirements for administration of the Plan. In addition, the projected development under General Plan Horizon and General Plan Buildout are summarized, and overarching themes of the Plan are presented.
- **Economic Development and Fiscal Sustainability**: This element addresses strategies for the City to boost the strength and range of existing businesses, expand economic opportunities for current and future residents, and ensure the long-term ability of the City to deliver a high level of public services.
- **Urban Form, Land Use and Design**: This element provides the physical framework for development in the city. It establishes policies related to the location and intensity of new development, citywide land use and growth management policies. The Urban Form, Land Use and Design Element, including the Land Use Map, is discussed in further detail below.
- **Mobility and Transportation**: This element includes policies, programs, and standards to maintain efficient circulation for vehicles and alternative modes of transportation. It creates a framework for provision of Complete Streets; identifies future street and bikeway improvements; and addresses trails, parking, public transit, goods movement, and long-term plans for the municipal airport.
- **Parks, Open Space, and Schools**: This element provides an inventory of existing and planned parks, recreation facilities, other open space, and public schools, and defines policies and standards relating to these services and amenities. This element also outlines policies relating to the preservation of open space and natural resources.
- **Public Utilities and Services**: The element addresses the provision of police, fire, wastewater treatment, drinking water, drainage, and solid waste disposal services.
- **Resource Conservation and Resilience**: This element provides strategies for improving critical environmental conditions regarding air quality and greenhouse gas emissions, ensuring long-term water and energy supplies, and strengthening the city for potential future changes in resource supply and climate change. The element complies with the requirements of AB 170 for jurisdictions in the San Joaquin Valley to amend their general plans to include goals, data and analysis, policies and feasible implementation strategies designed to improve air quality.
- **Historic and Cultural Resources**: This element provides policy guidance to protect, preserve, and celebrate the city's history and its architectural and cultural heritage.
- **Noise and Safety**: This element addresses the risks posed by geologic hazards, wildland fire, hazardous materials, and flooding. It also discusses emergency response, safety service

response standards, and evacuation routes. The element also includes policies and standards to limit the impacts of noise sources throughout the city. Future noise contours are illustrated in order to facilitate administration of noise policies and standards.

- **Healthy Communities**: This element focuses specifically on subjects not fully discussed in other elements, in particular the relationships between the built, natural, and social environments, community health and wellness outcomes, youth leadership and community engagement, healthy food access, community gardens and urban agriculture.
- **Housing Element Consistency**: This chapter provides information regarding the consistency between the General Plan and the adopted Housing Element, including a matrix showing how the General Plan consistently implements the requirements of the Housing Element.
- **Implementation**: The Implementation element provides an implementation and monitoring program for this General Plan.

General Plan Land Use Map: The Fresno General Plan Land Use Map portrays the ultimate uses of land in the city of through land use designations. The City of Fresno General Plan designates the Plan Area as: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, General Commercial, Recreation Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Community Park, Open Space – Ponding Basin, Neighborhood Park, Open Space, Public/Quasi-Public Facility, Special School, Elementary School, Elementary, Middle & High School, and High School. See Figure 2.0-4 for the existing City General Plan land use designations.

GENERAL PLAN OBJECTIVES AND IMPLEMENTING POLICIES

General Plan policies associated with specific environmental topics (aesthetics, air quality, agriculture, biological resources, cultural resources, geology/soils/mineral resources, hazards, hydrology/water quality, noise, public services/recreation, transportation, utilities, etc.) are discussed in the relevant chapters of this EIR. The policies included within the City's Land Use Element are intended to support the overarching goals including:

1. Increase opportunity, economic development, business, and job creation. Use urban form, land use, and Development Code policies to streamline permit approval, promote local educational excellence and workforce relevance, significantly increase business development and expansion, retain and attract talented people, create jobs and sustained economic growth, strategically locate employment lands and facilities, and avoid over - saturation of a single type of housing, retail, or employment.
2. Support a successful and competitive Downtown. Emphasize infill development and a revitalized central core area as the primary activity center for Fresno and the region by locating substantial growth near the Downtown core and along the corridors leading to the Downtown. Use vision - based policies in a development code specific to the Downtown, when adopted, to ensure the creation of a unique sense of place in the central core.

3. Emphasize conservation, successful adaptation to climate and changing resource conditions, and performance effectiveness in the use of energy, water, land, buildings, natural resources, and fiscal resources required for the long-term sustainability of Fresno.
7. Provide for a diversity of districts, neighborhoods, housing types (including affordable housing), residential densities, job opportunities, recreation, open space, and educational venues that appeal to a broad range of people throughout the City.
8. Develop Complete Neighborhoods and districts with an efficient and diverse mix of residential densities, building types, and affordability which are designed to be healthy, attractive, and centered by schools, parks, and public and commercial services to provide a sense of place and that provide as many services as possible within walking distance. Intentionally plan for Complete Neighborhoods as an outcome, rather than collections of subdivisions which do not result in Complete Neighborhoods.
9. Promote a city of healthy communities and improve quality of life in established neighborhoods. Emphasize supporting established neighborhoods in Fresno with safe, well maintained, and accessible streets, public utilities, education and job training, proximity to jobs, retail services, and health care, affordable housing, youth development opportunities, open space and parks, transportation options, and opportunities for home grown businesses.
10. Emphasize increased land use intensity and mixed-use development at densities supportive of greater use of transit in Fresno. Greater densities can be achieved through encouragement, infrastructure, and incentives for infill and revitalization along major corridors and in Activity Centers.
12. Resolve existing public infrastructure and service deficiencies, make full use of existing infrastructure, and invest in improvements to increase competitiveness and promote economic growth. Emphasize the fair and necessary costs of maintaining sustainable water, sewer, streets, and other public infrastructure and service systems in rates, fees, financing, and public investments to implement the General Plan. Adequately address accumulated deferred maintenance, aging infrastructure, risks to service continuity, desired standards of service to meet quality - of - life goals, and required infrastructure to support growth, economic competitiveness and business development.
13. Emphasize the City as a role model for good growth management planning, efficient processing and permit streamlining, effective urban development policies, environmental quality, and a strong economy. Work collaboratively with other jurisdictions and institutions to further these values throughout the region. Positively influence the same attributes in other jurisdictions of the San Joaquin Valley – and thus the potential for regional sustainability – and improve the standing and credibility of the City to pursue appropriate State, LAFCO, and other regional policies that would curb sprawl and prevent new unincorporated community development which compete with and threaten the success of sustainable policies and development practices in Fresno.
15. Improve Fresno's visual image and enhance its form and function through urban design strategies and effective maintenance.

17. Recognize, respect, and plan for Fresno's cultural, social, and ethnic diversity, and foster an informed and engaged citizenry. Emphasize shared community values and genuine engagement with and across different neighborhoods, communities, institutions, businesses and sectors to solve difficult problems and achieve shared goals for the success of Fresno and all its residents.

In addition to the City of Fresno General Plan overarching land use goals, Objective UF-13 call for the City to locate roughly one-half of future residential development in the Growth Areas (including the West Development Area), which are to be developed with Complete Neighborhoods that include housing, services, and recreation; mixed-use centers; or along future bus rapid transit (BRT) corridors. Objectives, and Implementing Policies related to the development within Growth Areas identified by the City of Fresno General Plan are included below:

Objective

UF-13 Locate roughly one-half of future residential development in the Growth Areas—defined as unincorporated land as of December 31, 2012 SOI—which are to be developed with Complete Neighborhoods that include housing, services, and recreation; mixed-use centers; or along future BRT corridors.

Implementing Policy

UF-13-a Future Planning to Require Design Principles. Require future planning, such as Specific Plans, neighborhood plans or Concept Plans, for Development Areas and BRT Corridors designated by the General Plan to include urban design principles and standards consistent with the Urban Form, Land Use, and Design Element.

Objective

UF-14 Create an urban form that facilitates multi-modal connectivity.

Implementing Policy

UF-14-a Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Fresno Municipal Code Chapter 15: Citywide Development Code

The purpose of this Development Code is to implement the General Plan and, if applicable, operative plans, to protect and promote the public health, safety, peace, comfort, convenience, prosperity, and general welfare of the City of Fresno. More specifically, the Development Code is adopted to achieve the following, consistent with the goals, objectives, and policies of the General Plan and any other operative plan:

A. To provide a precise guide for the physical development of the city in a manner as to progressively achieve the arrangement of land uses depicted in the General Plan.
B. To foster a harmonious and workable relationship among land uses and ensure compatible infill development.
C. To support economic development and job creation.
D. To provide for the housing needs of all economic segments of the community.
E. To promote high quality architecture and sustainable design. Sustainable Design is a philosophy that seeks to maximize the quality of the built environment, while minimizing or eliminating negative impact to the natural environment.
F. To promote the stability of existing land uses that conform to the General Plan, protecting them from inharmonious influences and harmful intrusions.
G. To promote a safe and efficient traffic circulation system, including bicycle facilities and pedestrian amenities, and to support a multi-modal transportation system.
H. To facilitate the appropriate location of community facilities, institutions, parks, and recreational areas.
I. To protect and enhance real property values.
J. To safeguard and enhance the appearance of the city.

K. K. To define duties and powers of governing bodies and officials responsible for the implementation of this Code.

ZONING MAP

The Zoning Map identifies zoning districts within the City at the parcel level. The City of Fresno Zoning Map provides zoning for those portions of the Plan Area located within the City limits, but not for areas within the unincorporated County. Zoning designations are generally consistent with the existing General Plan land uses. The City zoning designations for the Plan Area include: Residential Estate (RE), Residential Single-Family, Extremely Low Density (RS-1), Residential Single-Family, Very Low Density (RS-2), Residential Single-Family, Low Density (RS-3), Residential Single-Family, Medium Low Density (RS-4), Residential Single-Family, Medium Density (RS-5), Residential Multi-Family, Medium High Density (RM-1), Residential Multi-Family, Urban Neighborhood (RM-2), Residential Multi-Family, High Density (RM-3), Mobile Home Park (RM-MH), Commercial Community (CC), Commercial General (CG), Commercial Regional (CR), Commercial Recreation (CRC), Light Industrial (IL), Corridor/Center Mixed Use (CMX), Neighborhood Mixed Use (NMX), Regional Mixed Use (RMX), Business Park (BP), Office (O), Open Space (OS), and Park and Recreation (PR). See Chapter 2.0 (Project Description) Figure 2.0-5 for the existing zoning designations.

County of Fresno General Plan

The Fresno County General Plan is a policy guide for physical and economic growth of the County. Unincorporated land located within the Project site is currently under the jurisdiction of the County. The County General Plan Land Use Map designates the Plan Area with the following county land use

designations: Rural Residential, Medium Density Residential, Reserve Medium Residential, and Proposed Ponding Basin.

Fresno Local Agency Formation Commission

The Fresno LAFCo is responsible for coordinating orderly reorganization to local jurisdictional boundaries, including annexations. Any annexation of the Plan Area to the City is subject to LAFCo approval, and LAFCo will review proposed annexations for consistency with LAFCo's Annexation Policies and Procedures.

No annexations are proposed as part of the Specific Plan Adoption; however, future projects within the Specific Plan area may include annexation requests and would be required to adhere to LAFCo policies. Any future proposals for annexations into the City would be required to be consistent with LAFCo policies and procedures.

Fresno LAFCo has adopted Policies and Procedures for Annexation and Detachment to and from all agencies within their jurisdiction. It is Fresno LAFCo policy (102-01) that "within the sphere of influence each agency should implement an orderly, phased annexation program. A proposal should not be approved solely because the area falls within the sphere of influence of an agency." The City of Fresno follows the Policies and Procedures for Annexation and Detachment when annexing land into the City. LAFCo recommends that each local agency fulfill this policy through the exercise of one or more of the following basic principles and actions.

1. The annexation program is consistent with LAFCo's Sphere of influence (SOI) for the city.

Suggested actions:

- City and county shall reach agreement on development standards and planning and zoning requirements within the sphere to ensure that development within the sphere occurs in a manner that reflects the concerns of the affected city and is accomplished in a manner that promotes the logical and orderly development of areas within the sphere. GC §56425
- City responds to a request to extend service outside of its city limits and SOIs in consultation with GC §56133 and Fresno LAFCo policy.

2. The annexation program clearly implements the city's general plan.

Suggested actions:

- City annexation applications shall describe how the proposal implements the city's general plan, and support these statements with information from other official sources such as the annual budget, capital improvement plan, and so forth.
- A prezoning ordinance shall not be encumbered with extraneous conditions that preclude the ordinance's effective date by the time of LAFCo hearing on the annexation.

3. The annexation program emphasizes the use of cities' resolution of application versus property owner/registered voter petitions.

Suggested action:

- For the city to consider opposing property owner petition-initiated reorganizations as these would not have proceeded through the process of city development review and approval, which is an important step in the management of a city's general plan.

4. The annexation program supports orderly growth by identifying areas to be annexed, general time frames for growth, and a plan for extension of services to these areas.

Suggested actions:

- Capital improvement plan and/or facilities plans include all lands within the SOI;
- Development impact fees that fund the extension of services are established and maintained;
- Impacts to service delivery are assessed in the city's EIR or project-specific CEQA documents and appropriately-scaled mitigation is approved and implemented.
- The city coordinates its public policy documents in support of the annexation program.

5. The annexation program anticipates changes of organization of existing service districts and service areas in the SOI or adjacent to the SOI.

Suggested action:

- The Program should describe the transition of services that will occur when the city annexes/detaches (CID, NCFPD, FCFPD, KRCD, etc.); inversely, the document describes the status of or continuation of services when annexations do not result in detachment (FID, FMFCD, etc.).

6. The annexation program anticipates the location of Disadvantaged Unincorporated Communities within a city's sphere of influence.

Suggested action:

- Cities should become proficient in implementing their responsibilities under Senate Bill 244, should review Fresno LAFCo DUC policy and review Senate Bill 244 Technical Advisory.

7. The annexation program informs citizens in annexation areas of their rights, benefits, and changes that will occur on annexation.

Suggested actions:

- City to establish and maintain on its website a description of the information above, how citizens can engage the process, how the city engages citizens and stakeholders and other information related to annexation. This information should include a description of the SOI, protest processes, and how LAFCo is involved.

- For those portions of a city's SOI that contain a large number of rural residential parcels that are planned for urban uses, the city is strongly encouraged to develop a long-term plan to annex and serve these areas.

8. The annexation program will be coordinated with LAFCo's Municipal Services Review (MSR) for the city.

Suggested action:

- City applications should include an assessment of current MSR determinations and recommendations.

9. The annexation program is managed by an assigned and responsible city staff member.

Suggested action:

- City identifies a staff member to serve as a genuine point of contact with LAFCo, that is, a staff member responsible and accountable for managing applications, knowledgeable of the project and of LAFCo's process, and empowered to facilitate the city's annexation program.

10. City entitlement analysis is integrated with LAFCo policies

Suggested action:

- Local agencies, including Fresno County, are strongly advised to include Fresno LAFCo in their initial request for comments.
- When initial planning applications that will eventually require annexation are submitted to cities, they are encouraged to submit a pre-application to LAFCo so that LAFCo can track the project at its beginning, and provide comments that would facilitate annexation in time for these to be considered in a timely and efficient manner.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on land use and planning if it will:

- Physically divide an established community; or
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: The proposed Specific Plan would not physically divide an established community. (Less than Significant)

The proposed Specific Plan establishes the City's vision for future growth and development within the Plan Area. The Plan Area is located at the western edge of the City of Fresno west of State Route 99 and primarily consists of and is adjacent to undeveloped lands, sporadic residential and suburban developments and agricultural lands as shown on Figure 2.0-3 located in Chapter 2.0, Project Description.

The existing land use pattern within the Specific Plan Area consists of a patchwork of land uses, including subdivisions, industrial and commercial areas, recreation areas, schools, farmland, and vacant areas. Many pockets of residential land uses are adjacent to vacant land, or agriculture uses. The implementation of the proposed Specific Plan would enhance the connectivity from the existing uses within the Specific Plan Area to adjacent land uses through improved roadways and pedestrian and bicycle paths and lanes, and develop a cohesive network of planned land uses that would result in greater connectivity within the Specific Plan Area.

Development of the Specific Plan Area would result in a westerly extension of developed uses within Fresno City limits and SOI which would include the development of commercial lands, office, mixed use, residential, and public services and open spaces within the Specific Plan Area. Development allowed under the Specific Plan would require new roadway improvements and pedestrian pathways to connect the Plan Area to the existing circulation system and create connections and to allow access to and from the site and to other areas of the City. As such, development of the Specific Plan Area would not result in any substantial physical barriers, such as a highway, or other division, that would divide an existing community, but would serve as a westerly extension of existing and planned development and create a land use plan for the orderly expansion of the Planning Area.

Because the overall purpose of the proposed Specific Plan is to refine the vision for the Plan Area established in the General Plan, as well as other infrastructure improvements required to accommodate new development, implementation of the proposed Specific Plan would not adversely impact community connectivity nor divide the physical arrangement of the community. There are no development applications being processed as part of the Specific Plan, however individual future projects may require additional site-specific environmental review under CEQA, and would be required to undergo design review as part of development review process. Therefore, this impact would be considered less than significant.

Impact 3.10-2: The proposed Specific Plan would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

The proposed Specific Plan will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre Plan Area. Existing land use plans, policies, and regulations that govern land uses within the Plan Area include the City of Fresno General Plan and Development Code, and Fresno County General Plan and Development Code.

CONSISTENCY WITH STATE PLANS

The proposed Specific Plan was prepared in conformance with State laws and regulations associated with the preparation of specific plans. Discussion of the proposed Specific Plan's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, etc.) is provided in the relevant chapters of this Draft EIR. The State would continue to have authority over any State-owned lands and resources in the vicinity of the Specific Plan Area and the proposed Specific Plan would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

CONSISTENCY WITH FRESNO GENERAL PLAN

General Plan Land Use Map: The General Plan aims to achieve efficient, attractive, and resilient development in the Development Areas. The General Plan identifies that in growth areas, subsequent Specific Plans are anticipated to refine land use and transportation design integration and intensity with necessary public facilities, maintenance, and services financing and design standards.

The Specific Plan contains development standards, distribution of land uses, infrastructure requirements, and implementation measures for the development of a specific geographic area. The Specific Plan's land use plan defines various land use designations by their allowable uses and maximum development densities, and each use is consistent with the adopted General Plan's land uses. These designations implement both the Specific Plan and the City's General Plan vision, policies, for each land use classifications and for the specific desire for a comprehensive planned growth area. The proposed Specific Plan would continue to carry forward and implement, policies and objectives from the City's existing General Plan that were intended for environmental protection and would not remove or conflict with City plans, policies, or regulations adopted for environmental protection.

The proposed Specific Plan would require modifications to the City's General Plan Land Use Map to provide consistency between the General Plan and Specific Plan; however, these modifications will not remove or adversely modify portions of the General Plan or policies that were adopted to mitigate an environmental effect. The proposed Specific Plan would refine the land use vision and

amend the land uses for the Plan Area. The draft land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The Plan would amend the land uses for approximately half of the land within the Plan Area. The remaining parcels would maintain their existing land use and zoning designations. The parcels that are proposed for change by the proposed land use map are shown in Chapter 2.0, Project Description, Figure 2.0-7.

The West Area Neighborhoods Specific Plan land use plan utilizes the City's existing General Plan land use designations to maintain or re-designate some parcels in the West Area. Chapter 2.0, Project Description, shows the parcel acreages by land use classification for the existing General Plan and proposed Specific Plan, and Figure 2.0-6 shows the proposed General Plan land use designations. As indicated in Table 2.0-1, the Specific Plan would result in an increase in land designated for employment, mixed use, open space and public facilities uses and a decrease in land designated for residential and commercial uses.

General Plan Policies: Table 3.10-1 provides an analysis of the Project's consistency with the relevant General Plan policies adopted for the purposes of avoiding or mitigating an environmental effect. Since general plans often contain numerous policies emphasizing differing legislative goals, a development project may be "consistent" with a general plan, taken as a whole, even though the project appears to be inconsistent or arguably inconsistent with some individual policies. (*Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.)

TABLE 3.10-1: GENERAL PLAN POLICY CONSISTENCY ANALYSIS

GENERAL PLAN POLICY		*CONSISTENCY ANALYSIS*
URBAN FORM, LAND USE, AND DESIGN ELEMENT		
UF-13-a	**Future Planning to Require Design Principles.** Require future planning, such as Specific Plans, neighborhood plans or Concept Plans, for Development Areas and BRT Corridors designated by the General Plan to include urban design principles and standards consistent with the Urban Form, Land Use, and Design Element.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes design principles and standards in Chapters 3, 4, and 5 of the Specific Plan. This Specific Plan Chapter is consistent with the Urban Form, Land Use, and Design Element.
LU-1-c	**Provision of Public Facilities and Services.** Promote orderly land use development in pace with public facilities and services needed to serve development.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes plans for the provision of public facilities, services, and utilities in Chapters 3 and 4 of the Specific Plan. Future development of the Specific Plan Area in accordance with the proposed land use map would not occur unless public facilities and services were adequately provided.
LU-5-g	**Scale and Character of New development.** Allow new development in or adjacent to established neighborhoods that is compatible in scale and character with the surrounding	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes design principles and standards in Chapters 3, 4, and 5 of the Specific Plan which address compatibility with existing neighborhoods, including scale and

GENERAL PLAN POLICY		*CONSISTENCY ANALYSIS*
	area by promoting a transition in scale and architectural character between new buildings and established neighborhoods, as well as integrating pedestrian circulation and vehicular routes.	character. Compliance with the principles and standards in this Specific Plan Chapter would ensure that future development in the Plan Area is compatible with the scale and character of future buildings. Further, the proposed Specific Plan includes pedestrian, vehicular, and other circulation routes in Chapters 3 and 4 of the Specific Plan.
MOBILITY AND TRANSPORTATION ELEMENT		
MT-1-b	**Circulation Plan Diagram Implementation.** Design and construct planned streets and highways that complement and enhance the existing network, as well as future improvements to the network consistent with the goals, objectives and policies of the General Plan, as shown on the Circulation Diagram (Figure MT-1), to ensure that each new and existing roadway continues to function as intended.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes pedestrian, vehicular, and other circulation routes in Chapters 3 and 4 of the Specific Plan. This Specific Plan Chapter is consistent with the Circulation Diagram (Figure MT-1).
MT-1-d	**Integrate Land Use and Transportation Planning.** Plan for and maintain a coordinated and well integrated land use pattern, local circulation network and transportation system that accommodates planned growth, reduces impacts on adjacent land uses, and preserves the integrity of established neighborhoods.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes pedestrian, vehicular, and other circulation routes in Chapters 3 and 4 of the Specific Plan. This Specific Plan Chapter is consistent with the Circulation Diagram (Figure MT-1).
MT-4-k	**Bicycle Safety, Awareness, and Education.** Promote bicycle ridership by providing secure bicycle facilities, promoting traffic safety awareness for both bicyclists and motorists, promoting the air quality benefits, promoting non-renewable energy savings, and promoting the public health benefits of physical activity.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes bicycle facilities and routes in Chapters 3 and 4 of the Specific Plan. This Specific Plan Chapter encourages the use of secure bicycle facilities and promotes the use of active transportation throughout the Plan Area.
MT-5-b	**Sidewalk Requirements.** Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes pedestrian facilities in Chapters 3 and 4 of the Specific Plan. This Specific Plan Chapter promotes the use of active transportation throughout the Plan Area. All future improvements in the Plan Area would be consistent with the California Building Code and the Americans with Disabilities Act.
MT-6-i	**Path and Trail Design Standards.** Designate and design paths and trails in accordance with design standards established by the City that give consideration to all path and trail users (consistent with design, terrain and	**Consistent.** The proposed West Area Neighborhoods Specific Plan discusses the system of park and open space facilities, including paths and trails, in Chapter 4 of the Specific Plan. This Specific Plan Chapter includes design standards (including widths, storm water and drainage

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	habitat limitations) and provide for appropriate widths, surfacing, drainage, design speed, barriers, fences, signage, visibility, intersections, bridges, and street cleaning.	practices, and other standards) and policies to encourage development of a cohesive trail system throughout the Plan Area.
MT-6-k	**Path and Trail Buffers.** Use landscaping with appropriate and adequate physical and visual barriers (e.g., masonry walls, wrought iron, or square-tube fencing) to screen path and trail rights-of ways and separate paths and trails from mining operations, drainage facilities, and similar locations as warranted.	**Consistent.** As noted above, the proposed West Area Neighborhoods Specific Plan discusses the system of park and open space facilities, including paths and trails, in Chapter 4 of the Specific Plan. This Specific Plan Chapter includes design standards (including the use of buffers and visual barriers, as appropriate) and policies to encourage development of a cohesive trail system throughout the Plan Area.
MT-6-m	**Environmentally Sensitive Path and Trail Design.** Develop paths and trails with minimum environmental impact by taking the following actions: • Surface paths and trails with materials that are conducive to maintenance and safe travel, choosing materials that blend in with the surrounding area; • Design paths and trails to follow contour lines where the least amount of grading (fewest cuts and fills) and least disturbance of the surrounding habitat will occur; • Beautify path and trail rights-of-way in a manner consistent with intended use, safety, and maintenance; • Use landscaping to stabilize slopes, create physical or visual barriers, and provide shaded areas; and • Preserve and incorporate native plant species into the landscaping.	**Consistent.** As noted above, the proposed West Area Neighborhoods Specific Plan discusses the system of park and open space facilities, including paths and trails, in Chapter 4 of the Specific Plan. This Specific Plan Chapter includes design standards (including trail materials, buffers and visual barriers, landscaping, and native plant usage) and policies aimed at reducing environmental impacts to the extent feasible.
MT-6-n	**Emergency Vehicle Access along Paths and Trails.** Provide points of emergency vehicle access within the path and trail corridors, via parking areas, service roads, emergency access gates in fencing, and firebreaks.	**Consistent.** As noted above, the proposed West Area Neighborhoods Specific Plan discusses the system of park and open space facilities, including paths and trails, in Chapter 4 of the Specific Plan. Emergency vehicle access would be provided as individual parks, trails, and open space areas are developed in the future.
PUBLIC UTILITIES AND SERVICES ELEMENT		
PU-3-f	**Adequate Infrastructure.** Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes plans for the provision of utilities, including water supplies, in Chapter 3 of the Specific Plan. Future development of the Specific Plan Area in accordance with the proposed land use map would not occur unless facilities and supplies, including emergency access, were adequately provided.

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PU-4-c	**System Extension and Cost Recovery.** Pursue enlargement or extension of the sewage collection system where necessary to serve planned urban development, with the capital costs and benefits allocated equitably and fairly between the existing users and new users.	**Consistent.** The proposed West Area Neighborhoods Specific Plan includes plans for the provision of utilities, including wastewater distribution and treatment, in Chapter 3 of the Specific Plan. Future development of the Specific Plan Area in accordance with the proposed land use map would not occur unless facilities and supplies, including emergency access, were adequately provided. Development Impact Fees would be paid by future project applicants throughout the City, including the Plan Area.
PU-8-g	**Review Project Impact on Supply.** Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.	**Consistent.** As noted above, the proposed West Area Neighborhoods Specific Plan includes plans for the provision of utilities, including water supplies, in Chapter 3 of the Specific Plan. Future development of the Specific Plan Area in accordance with the proposed land use map would not occur unless water facilities and supplies were adequately provided.
RESOURCE CONSERVATION AND RESILIENCE ELEMENT		
RC-2-a	**Link Land Use to Transportation.** Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria.	**Consistent.** The proposed Specific Plan would encourage infill development in multi-modal corridors. As outlined in Chapter 2.0, Project Description, of this EIR, the proposed Specific Plan includes four objectives pertaining to transportation. Together, these objectives promote transit services and other alternative transportation facilities (bicycle and pedestrian) in the West Area by locating routes near or adjacent to higher-intensity development, such as community centers, schools, parks, and retail centers.
RC-4-c	**Evaluate Impacts with Models.** Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.	**Consistent.** Air quality impacts are discussed in Section 3.3 of this EIR. The California Emissions Estimator Model (CalEEMod), which is the SJVAPCD-preferred computer model, was used to estimate the air quality emissions resulting from future buildout of the Plan Area.
RC-4-d	**Forward Information.** Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.	**Consistent.** Information regarding the proposed Specific Plan, including all requested entitlements, will be forwarded to the SJVAPCD for their review of potential air quality and health impacts. The SJVAPCD reviewed the NOP for the Specific Plan and provided a NOP comment letter on July 15, 2019. Once the EIR is available for public review, the EIR will be provided to the SJVAPCD.
RC-5-d	**SCS and CAP Conformity Analysis.** Ensure that the City includes analysis of a project's conformity to an adopted regional Sustainable Community Strategy	**Consistent.** Section 3.7, Greenhouse Gases, Climate Change, and Energy, of this EIR discusses conformity with the City's Greenhouse Gas Reduction Plan, the Fresno Council of Governments Regional

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	or Alternative Planning Strategy (APS), an adopted Climate Action Plan (CAP), and any other applicable City and regional greenhouse gas reduction strategies in effect at the time of project review.	Transportation Plan/Sustainable Communities Strategy, and other applicable City regulations which aim to reduce greenhouse gas emissions. As discussed in Impact 3.7-1 and shown in Table 3.7-6, the proposed Specific Plan is consistent with the City's Greenhouse Gas Reduction Plan. The Specific Plan is also consistent with the Fresno Council of Governments' Regional Transportation Plan.
RC-5-e	**Ensure Compliance.** Ensure ongoing compliance with GHG emissions reduction plans and programs by requiring that air quality measures are incorporated into projects' design, conditions of approval, and mitigation measures.	**Consistent.** Section 3.7, Greenhouse Gases, Climate Change, and Energy, of this EIR discusses compliance with GHG emissions reductions plans and programs which aim to reduce greenhouse gas emissions. As discussed, the proposed Specific Plan is consistent with the City's Greenhouse Gas Reduction Plan. Because all impacts were determined to be less than significant, mitigation measures are not warranted or required.
RC-5-g	**Evaluate Impacts with Models.** Continue to use computer models such as those used by SJVAPCD to evaluate greenhouse gas impacts of plans and projects that require such review.	**Consistent.** Greenhouse gas emission impacts are discussed in Section 3.3 of this EIR. CalEEMod, which is the SJVAPCD-preferred computer model, was used to estimate the greenhouse gas emissions resulting from future buildout of the Plan Area.
RC-6-c	**Land Use and Development Compliance.** Ensure that land use and development projects adhere to the objective of the Fresno Metropolitan Water Resources Management Plan to provide sustainable and reliable water supplies to meet the demand of existing and future customers through 2025.	**Consistent.** Section 3.15, Utilities, of this EIR, analyzes potential impacts associated with water supplies and demands in the near and long term (until 2040). As discussed, future development of the Plan Area would not result in insufficient water supplies. As such, the proposed Specific Plan meets the objective of the Fresno Metropolitan Water Resources Management Plan to provide sustainable and reliable water supplies to meet the demand of existing and future customers through 2025.
RC-6-g	**Protect Recharge Areas.** Continue to protect areas of beneficial natural groundwater recharge by preventing uses that can contaminate soil or groundwater.	**Consistent.** Section 3.9, Hydrology and Water Quality, of this EIR, analyzes potential impacts associated with groundwater recharge, depletion of groundwater resources, and conflicts with the groundwater management plan. As discussed in Impact 3.9-3, the required stormwater best management practices (BMPs) and retention basins would be designed to reduce runoff below that which occurs currently during storm events and ensure groundwater recharge from the Plan Area to the extent possible. Additionally, the Specific Plan water demand is not expected to exceed the City's supplies in any normal, single dry, or multiple dry year between 2020 and 2040, and the Plan would not conflict with the Fresno Area Regional Groundwater Management Plan (FARGMP). Further, the Specific Plan includes two policies that would encourage nonporous surfaces for

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		groundwater recharge and other design strategies to maximize recharge.
HISTORIC AND CULTURAL RESOURCES ELEMENT		
HCR-2-c	**Project Development.** Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.	**Consistent.** Section 3.5, Cultural and Tribal Resources, of this EIR, analyzes potential impacts associated with historical resources, archaeological resources, human remains, and tribal cultural resources. A *Cultural and Paleontological Resource Assessment for the Fresno West Area Specific Plan Project* was conducted (Cogstone, 2019). Due to the programmatic nature of this EIR, future projects in the Plan Area would be required to be evaluated for project-specific impacts under CEQA at the time of application. CEQA guidelines require tribal consultation and the protections of any identified archeological and tribal resources. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the mitigation measures included in Section 3.5. Specifically, Mitigation Measure 3.5-1 requires that all work stop within 50 meters of a cultural resources discovery, and a qualified archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology be retained to determine the significance of the discovery.
HCR-2-f	**Archaeological Resources.** Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.	**Consistent.** Section 3.5, Cultural and Tribal Resources, of this EIR, analyzes potential impacts associated with archaeological resources. The mitigation measures in this section were established within the *Cultural and Paleontological Resource Assessment for the Fresno West Area Specific Plan Project* (Cogstone, 2019). The measures generally follow the State Office of Historic Preservation guidelines.
NOISE AND SAFETY ELEMENT		
NS-1-i	**Mitigation by New Development.** Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by Tables 9-2 and 9-3 to determine impacts, and require developers to mitigate these impacts in conformance with Tables 9-2 and 9-3 as a condition of permit approval through appropriate means.	Consistent. Section 3.11, Noise, of this EIR, analyzes potential noise and vibration impacts associated with future development of the Plan Area. This section is based on the acoustical analysis that was prepared for the Specific Plan. The acoustical analysis includes mitigation measures consistent with this policy. As discussed in Impact 3.11-1, buildout of the Plan Area would result in substantial increases in ambient traffic noise levels resulting in potentially significant impacts to existing and proposed receptors. Mitigation Measure 3.11-1 would require the implementation of performance standards based on project-specific acoustical analysis for new residential and noise sensitive uses

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	Noise mitigation measures may include: • The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment; • Providing increased setbacks for noise sources from adjacent dwellings; • Installation of walls and landscaping that serve as noise buffers; • Installation of soundproofing materials and double-glazed windows; and • Regulating operations, such as hours of operation, including deliveries and trash pickup. Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.	exposed to significant exterior community noise levels from transportation, which may include noise walls and/or berms. Mitigation Measure 3.11-1 would assist in reducing traffic noise level impacts. Therefore, with implementation of the mitigation, buildout of the proposed Specific Plan would result in a less than significant impact relative to this topic. As discussed in Impact 3.11-4, due to the suburban/rural nature of the Plan Area, development of the West Area Specific Plan will result in a substantial increase in existing ambient noise conditions. Increases in ambient noise levels associated with existing and future stationary noise impacts may result in potentially significant impacts. However, enforcement of the Sections 10-105 through 10-109 of the City's Noise Ordinance and analysis of noise producing projects, along with implementation of Mitigation Measure 3.11-5, would ensure that the nearby sensitive receptors to the Plan Area would not be subject to stationary noise levels in excess of the City's standards. Further, Mitigation Measure 3.11-6 would ensure that the future land uses within the Specific Plan would not be subject to interior noise levels in excess of the City's standards.
NS-1-j	**Significance Threshold.** Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{DN} or CNEL or more above the ambient noise limits established in this General Plan Update.	**Consistent.** As noted previously, Section 3.11, Noise, of this EIR, analyzes potential noise and vibration impacts associated with future development of the Plan Area. This section is based on the acoustical analysis that was prepared for the Specific Plan. The acoustical analysis assumes that an increase in noise levels by 3 dB L_{DN} or CNEL or more above the ambient noise limits would be considered a significant increase.
NS-1-k	**Proposal Review.** Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise	**Consistent.** As noted previously, Section 3.11, Noise, of this EIR, analyzes potential noise and vibration impacts associated with future development of the Plan Area. The acoustical analysis was performed at the program-level. Future development projects within the Plan Area would be required to reduce the noise impacts on adjacent properties, as appropriate and feasible.

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	impacts of new development on adjacent properties through appropriate means.	
NS-1-m	**Transportation Related Noise Impacts.** For projects subject to City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise sensitive land uses.	**Consistent.** As noted previously, Section 3.11, Noise, of this EIR, analyzes potential transportation and transportation-related noise impacts associated with future development of the Plan Area. The acoustical analysis was performed at the program-level. Future development projects within the Plan Area would be required to reduce the transportation noise impacts on adjacent properties, as appropriate and feasible.
NS-2-b	**NS-2-b Soil Analysis Requirement.** Identify areas with potential geologic and/or soils hazards, and require development in these areas to conduct a soil analysis and mitigation plan by a registered civil engineer (or engineering geologist specializing in soil geology) prior to allowing on-site drainage or disposal for wastewater, stormwater runoff, or swimming pool/spa water.	**Consistent.** Section 3.6, Geology, Soils, and Seismicity, of this EIR, analyzes potential geologic impacts associated with future development of the Plan Area. This EIR section identifies areas with potential geologic and soils hazards. Future development within the Plan Area, as required by the California Building Code, would be required to complete a design-level geotechnical analysis conducted by a registered civil engineer (or engineering geologist specializing in soil geology). Should wastewater disposal, stormwater facilities, or swimming pools be included as part of these future development projects, the design-level geotechnical analysis would include soil analysis and mitigation to address any potential soils hazards.
NS-3-i	**New Development Must Mitigate Impact.** Require new development to not significantly impact the existing storm drainage and flood control system by imposing conditions of approval as project mitigation, as authorized by law. As part of this process, closely coordinate and consult with the FMFCD to identify appropriate conditions that will result in mitigation acceptable and preferred by FMFCD for each project.	**Consistent.** Section 3.9, Hydrology and Water Quality, of this EIR, analyzes potential storm drainage and flooding impacts associated with future development of the Plan Area. Impacts associated with storm drainage and flooding, including flood control, were determined to be less than significant or less than significant with implementation of mitigation. As such, future development of the Plan Area would mitigate, where necessary and applicable, potential storm drainage and flooding related impacts.
NS-4-c	**Soil and Groundwater Contamination Reports.** Require an investigation of potential soil or groundwater contamination whenever justified by past site uses. Require appropriate mitigation as a condition of project approval in the event soil or groundwater contamination is identified or could be encountered during site development.	**Consistent.** Section 3.9, Hydrology and Water Quality, of this EIR, analyzes potential storm drainage and flooding impacts associated with future development of the Plan Area. Impacts associated with storm drainage and flooding, including flood control, were determined to be less than significant or less than significant with implementation of mitigation. As such, future development of the Plan Area would mitigate, where necessary and applicable, potential storm drainage and flooding related impacts.
NS-4-e	**Compliance with County Program.** Require that the production, use,	**Consistent.** Section 3.8, Hazards and Hazardous Materials, of this EIR, analyzes potential storm

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	storage, disposal, and transport of hazardous materials conform to the standards and procedures established by the County Division of Environmental Health. Require compliance with the County's Hazardous Waste Generator Program, including the submittal and implementation of a Hazardous Materials Business Plan, when applicable.	impacts associated with production, use, storage, disposal, and transport of hazardous materials. As discussed, prior to bringing hazardous materials onsite, future development projects would be required to submit a Hazardous Materials Business Plan to the County Environmental Health Department.
NS-6-f	**Emergency Vehicle Access.** Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, hard standing areas, and vertical clearance.	**Consistent.** Section 3.14, Transportation and Circulation, of this EIR, analyzes potential storm impacts associated emergency vehicle access. Future development within the Plan Area would not result in inadequate emergency vehicle access.

The proposed Specific Plan is consistent with the adopted General Plan and has been designed to encourage implementation of the General Plan's primary objectives. The General Plan's overarching land use objective for the Growth Areas includes Objective UF-13 that calls for the City to locate roughly one-half of future residential development in the Growth Areas (including the West Development Area), which are to be developed with Complete Neighborhoods that include housing, services, and recreation; mixed-use centers; or along future BRT corridors. As discussed throughout the proposed Specific Plan, the West Area Neighborhoods Specific Plan holds firm to the goal of achieving Complete Neighborhoods.

The West Area Neighborhoods Specific Plan will serve as an implementation tool to support the General Plan's goals and objectives as well as a vital instrument for much needed comprehensive planning, to improve area-wide connectivity, housing opportunities, recreation, services and infrastructure improvements.

CITY OF FRESNO ZONING CODE

The Specific Plan includes certain development regulations and standards that are intended to be specific to the Specific Plan Area. Where there is a matter or issue not specifically covered by the Specific Plan development regulations and design standards, the Fresno Zoning Code would apply. Where there is a conflict between the Specific Plan and the Zoning Code, the Zoning Code would prevail.

The Specific Plan is intended to be adopted by the City Council and to serve as a tool for the City of Fresno to implement. The Specific Plan is to be used by designers, developers, builders, and planners, to guide development of the Plan Area. The land use, development standards, and design guidelines are provided to ensure that all proposed developments remain consistent with the vision established by the Specific Plan as the Project is built over time. The Specific Plan development concepts, design guidelines, and standards are in accordance with the City's General Plan, Municipal Ordinances, and City Specifications. The Specific Plan shall be used to review, process, and approve

development proposals for the Project site including but not limited to site specific development applications and site improvement plans.

As previously indicated, the City of Fresno Zoning Map designates the Plan Area as: RE, RS-1, RS-2, RS-3, RS-4, RS-5, RM-1, RM-2, RM-3, RM-MH, CC, CG, CR, CRC, IL, CMX, NMX, RMX, BP, O, OS, and PR. The Fresno County Zoning Map designates the portions of the Plan Area outside the city limits as: RCC, C4, C6, M1, AE20, AL20, RR, RA, R1B, and TP. In conjunction with the approval of the Specific Plan, the parcels in the City which would have a changed land use designation as a result of the Specific Plan would be rezoned to the corresponding City zoning designation. Zoning designations are generally consistent with the existing General Plan land uses. The proposed Specific Plan would require modifications to the City's Zoning Map to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Fresno Municipal Code that were adopted to mitigate an environmental effect.

The parcels that are currently within the County will not be rezoned. Instead, upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would not apply to the parcel.

CONSISTENCY WITH FRESNO COUNTY'S LAND USE PLANS

The proposed Specific Plan land use designations are not entirely consistent with the County land use designations and Zoning Designations for areas outside the Fresno City limits, but within the Plan Area. The Fresno County Zoning Map designates the portions of the Plan Area outside the Fresno City limits as: Rural Commercial Center (RCC), Central Trading (C4), General Commercial (C6), Light Industrial (M1), Exclusive Agricultural (AE20), Limited Agricultural (AL20), Rural Residential (RR), Single Family Residential Agricultural (RA), Single Family Residential (12,500) (R1B), and Trailer Park Residential (TP). The parcels that are currently within the County will not be rezoned. Instead, upon a proposal to annex unincorporated land into the City limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would no longer apply to the parcel. As described in the requested entitlements in Chapter 2.0, Project Description, no annexations are being requested as part of the proposed Specific Plan. The properties currently located outside of the current City of Fresno City limits, within the County, would continue to be governed under the Fresno County land use policies and designations until such time that 1) the property owners desire to annex the subject properties into the City, 2) all applicable project entitlements have been approved by the City Council, and 3) the LAFCo of Fresno County approves the annexation request. As such, all figures and text in the Specific Plan and this Draft EIR (as they pertain to these unincorporated properties) have been provided for conceptual planning purposes.

The County's General Plan includes the major theme of directing urban growth to existing communities, including the City of Fresno. The proposed Specific Plan is consistent with this land use theme in that the Specific Plan would result in extension of an existing community, the City of

Fresno, in any area located adjacent to the City limits. Any future development on County land that is eventually annexed into the City of Fresno would be phased and would include the provision of adequate City services.

CONCLUSION

Subsequent development projects within the Specific Plan Area would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the City as well as those adopted by agencies with jurisdiction over components of future development projects. Any potential environmental impact associated with conflicts with land use requirements including conflicts with policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect would be ***less than significant.***

This section provides a general description of the existing noise sources in the Plan Area vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed project. Specific Plan impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts. This section is based on the *West Area Specific Plan Noise Impact Study* completed for the project (MD Acoustics, September 2020), which can be found in **Appendix F**.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Cathy Caples (dated August 1, 2019). Cathy Caples noted that, in addition to traffic noise, residents in the area hear gunfire from the Sheriff's Gun Range; however, no specific-concerns were expressed. The comments related to this topic are addressed within this section; see Impact 3.11-1 regarding traffic noise and Impact 3.11-4 regarding stationary noise. Full comments received are included in **Appendix A**.

3.11.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.

L_{max} The highest root-mean-square (RMS) sound level measured over a given period of time.

$L_{(n)}$ The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.

Loudness A subjective term for the sensation of the magnitude of sound.

Noise Unwanted sound.

SEL Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase

of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dB penalty for evening noise. Table 3.11-1 lists several examples of the noise levels associated with common situations.

TABLE 3.11-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
--	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	--
Gas Lawn Mower at 1 m (3 ft)	--90--	--
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2009.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Four long-term 24-hour noise measurements and 12 short-term noise measurements were conducted throughout the Plan Area to document the existing noise environment. Noise measurement locations are shown in Figure 3.11-1.

Short-Term Noise Measurements

The results of the 12 short-term noise measurement are presented below in Table 3.11-2. The measured noise levels within the Plan Area range between 54.4 and 74.8 dBA L_{eq}. The primary source of ambient noise included vehicle noise associated with surface streets and SR 99, as well as the existing rail. Secondary noise sources included typical residential activities and landscaping equipment. Field notes and meter output are provided in the *Noise Impact Study* found in **Appendix F**.

TABLE 3.11-2: SHORT-TERM NOISE MEASUREMENT SUMMARY

LOCATION	APPROX. ADDRESS	TIME	A-WEIGHTED SOUND LEVEL (DBA)						
			L_{EQ}	L_{MAX}	L_{MIN}	L_2	L_8	L_{25}	L_{50}
1	Herndon Ave./ N. Parkway Dr.	9:28 AM	67.6	78.3	54.5	74.7	71.3	68.0	65.6
2	N. Bryan Ave./ W. Shaw Ave.	9:48 AM	69.5	84.1	40.9	78.3	75.8	69.4	60.4
3	N. Polk Ave./ W. Gettysburg Ave.	10:15 AM	61.5	82.5	41.3	68.1	62.2	58.8	54.2
4	N. Bryan Ave./ W. Ashlan Ave.	10:32 AM	54.4	69.5	37.8	63.1	58.4	53.7	50.0
5	N. Polk Ave./ W. Ashlan Ave.	12:13 PM	64.6	86.5	45.4	71.6	67.7	64.3	60.8
6	N. Dakota Ave./ W. Brawley Ave.	2:19 PM	74.8	99.8	50.2	79.2	72.6	67.5	64.3
7	N. Grantland Ave./ W. Shields Ave.	12:38 PM	72.8	93.4	37.5	81.4	74.7	65.0	56.2
8	N. Polk Ave./ W. Shields Ave.	12:54 PM	66.1	86.3	51.5	75.5	70.1	62.6	58.9
9	N. Blythe Ave./ W. Shields Ave.	1:09 PM	64.4	79.9	48.1	73.5	68.9	63.4	59.5
10	N. Bryan Ave./ W. Clinton Ave.	1:26 PM	59.6	79.5	31.9	70.4	61.6	52.7	43.8
11	N. Cornelia Ave./ W. Clinton Ave.	1:42 PM	65.8	85.0	44.7	73.4	68.7	64.7	60.4
12	N. Marks Ave./ W. Clinton Ave.	2:00 PM	68.8	85.2	55.2	75.9	72.7	69.6	65.6

SOURCE: MD ACOUSTICS, 2020.

Long-Term Noise Measurements

Four long-term noise measurements (24 consecutive hours) were taken in order to document the Community Noise Equivalent Level (CNEL) at different locations throughout the Plan Area. The results of the long-term noise measurement are presented below in Table 3.11-3, which outlines the daytime (7AM to 7PM), evening (7PM to 10PM), and nighttime (10PM to 7AM) Leq levels at each location. These represent the average level over each time period (day/evening/night).

As shown in Table 3.11-3, the measured CNEL ranged between 60.5 and 70.2 dBA, and the primary noise source was vehicle traffic. Field notes and meter output are provided in the *West Area Specific Plan Noise Impact Study* found in **Appendix F**.

TABLE 3.11-3: LONG-TERM NOISE MEASUREMENT SUMMARY

LOCATION	APPROX. ADDRESS	DATE	DESCRIPTION	A-WEIGHTED SOUND LEVEL (DBA)			
				DAY-TIME L_{EQ}	EVENING L_{EQ}	NIGHT-TIME L_{EQ}	CNEL
LT1	N. Grantland Ave./W. Barstow Ave.	6/3-6/4	Vehicle traffic on N. Valentine Ave. and SR 99	58.8	56.1	52.7	60.7
LT2	N. Valentine Ave./W. Shields Ave.	6/3-6/4	Vehicle traffic on N. Grantland Ave. and W. Barstow Ave.	65.4	62.1	63.4	70.8
LT3	N. Blythe Ave./W. Ashlan Ave.	6/4-6/5	Vehicle traffic on N. Blythe Ave. and W. Ashlan Ave.	67.3	65.5	61.5	69.1
LT4	N. Hayes Ave./W. Ashlan Ave.	6/3-6/4	Vehicle traffic on N. Hayes Ave. and W. Ashlan Ave.	65.8	61.3	58.6	67.1

SOURCE: MD ACOUSTICS, 2020.

EXISTING NOISE ENVIRONMENT

Existing land uses within the Plan Area include single and multiple family residential development, commercial, recreational, and industrial land uses. Noise sources associated with existing land uses include residential maintenance, parking lot noise, heating and cooling system (HVAC) noise, property maintenance noise, trash truck noise, loading and unloading noise, and recreational noise.

Roadway Noise

The primary noise source in the community is vehicle traffic traveling on surface streets and on State Route (SR) 99. Long-term (24-hour) and short-term (10-minute) noise measurements were taken at 16 locations throughout the Plan Area, as shown in Figure 3.11-1. Existing modeled and measured noise levels associated with acoustically significant roadways within the Plan Area are shown on Figure 3.11-2, as well as in Table 3.11-4 below. The modeled noise levels do not take into account factors such as existing buildings, walls, etc. that may reduce or in some cases, amplify noise sources. The measured noise levels do take into account existing structures as well as other noise sources. It should be noted that the road segment modeling assumptions for the existing exterior noise levels found in Table 3.11-4 can be found within the *West Area Specific Plan Noise Impact Study* found in **Appendix F**.

TABLE 3.11-4: EXISTING EXTERIOR NOISE LEVELS ALONG ROADWAYS (DBA, CNEL)

ROADWAY	SEGMENT	DISTANCES TO CONTOUR				
		@100 ft	70	65	60	55
SR 99	W. Herndon Ave to W. Shaw Ave	83	695	1,497	3,225	6,948
SR 99	W. Shaw Ave to W. Ashlan Ave	82	672	1,447	3,118	6,718
SR 99	W. Ashlan Ave to W. Dakota Ave	84	826	1,780	3,834	8,261

ROADWAY	*SEGMENT*	*DISTANCES TO CONTOUR*				
		@100 ft	*70*	*65*	*60*	*55*
SR 99	W. Dakota Ave to W. Shields Ave	84	821	1,768	3,810	8,208
SR 99	W. Shields Ave to W. Clinton Ave	82	615	1,324	2,852	6,145
W. Herndon Ave	N. Garfield Ave to N. Parkway Drive	No Data	No Data	No Data	No Data	No Data
W. Bullard Ave	N Garfield Ave to N. Grantland Ave	48	3	7	16	33
W. Bullard Ave	N. Grantland Ave to N. Bryan Ave	55	10	21	44	96
W. Bullard Ave	N. Bryan Ave to SR 99	23	0	0	0	1
W. Barstow Ave	N Garfield to N. Grantland Ave	53	8	17	37	79
W. Barstow Ave	N. Grantland Ave to N. Bryan Ave	49	4	9	19	41
W. Barstow Ave	N. Bryan Ave to N. Contessa Ave	No Data	No Data	No Data	No Data	No Data
W. Barstow Ave	N. Contessa Ave to N. Island Waterpark Drive	No Data	No Data	No Data	No Data	No Data
W. Shaw Ave	N Garfield Ave to N. Grantland Ave	59	19	41	89	193
W. Shaw Ave	N. Grantland Ave to N. Bryan Ave	60	22	46	100	215
W. Shaw Ave	N. Bryan Ave to 1,300 ft east of N. Hayes Ave	61	24	51	110	238
W. Shaw Ave	1,300 ft east of N. Hayes Ave to N. Polk Ave	63	36	77	166	358
W. Shaw Ave	N. Polk Ave to SR 99	66	57	124	266	574
W. Gettysburg Ave	1,300 ft west of N. Bryan Ave to Bryan Ave	51	5	11	25	53
W. Gettysburg Ave	N. Bryan Ave to N. Hayes Ave	52	7	14	31	67
W. Gettysburg Ave	N. Hayes Ave to N. Polk Ave	53	7	16	34	73
W. Gettysburg Ave	N. Polk Ave to N. Barcus	54	8	17	37	80
W. Ashlan Ave	N. Garfield to N. Grantland	No Data	No Data	No Data	No Data	No Data
W. Ashlan Ave	N. Grantland Ave to N. Bryan Ave	59	18	38	82	177

ROADWAY	SEGMENT	DISTANCES TO CONTOUR				
		@100 ft	70	65	60	55
W. Ashlan Ave	N. Bryan Ave to N. Hayes Ave	56	12	27	58	124
W. Ashlan Ave	N. Hayes Ave to N. Polk Ave	55	9	20	44	94
W. Ashlan Ave	N. Polk Ave to N. Cornelia Ave	60	20	44	94	203
W. Ashlan Ave	N. Cornelia Ave to N. Blythe Ave	64	38	81	174	376
W. Ashlan Ave	N. Blythe Ave to SR 99	65	48	103	223	480
W. Dakota Ave	N. Hayes Ave to N. Barcus Ave	53	7	16	34	73
W. Dakota Ave	N. Barcus Ave to N. Polk Ave	56	11	24	51	109
W. Dakota Ave	N. Polk Ave to N. Cornelia Ave	57	14	30	65	139
W. Dakota Ave	N. Cornelia Ave to N. Blythe Ave	56	12	27	57	123
W. Dakota Ave	N. Blythe Ave to N Brawley Ave	55	10	22	47	101
W. Dakota Ave	N Brawley Ave to N. Parkway Drive	54	8	18	39	84
W. Shields Ave	N. Garfield Ave to Grantland Ave	54	9	20	42	91
W. Shields Ave	N. Grantland Ave to N. Bryan Ave	54	9	20	43	92
W. Shields Ave	N. Bryan Ave to N. Hayes Ave	56	11	24	51	109
W. Shields Ave	N. Hayes Ave to N. Polk Ave	55	10	22	48	103
W. Shields Ave	N. Polk Ave to N. Dante Ave	58	17	36	78	169
W. Shields Ave	N. Dante Ave to N. Cornelia Ave	58	17	36	78	169
W. Shields Ave	N. Cornelia Ave to N. Blythe Ave	57	13	28	60	130
W. Shields Ave	N. Blythe Ave to N. Brawley Ave	57	13	27	59	126
W. Shields Ave	N Brawley Ave to N. Valentine Ave	58	15	33	70	152
W. Shields Ave	N. Valentine Ave to N. Marks Ave	58	17	37	79	170
W. Clinton Ave	N. Grantland Ave to N. Bryan Ave	48	3	7	15	32

ROADWAY	SEGMENT	DISTANCES TO CONTOUR				
		@100 ft	70	65	60	55
W. Clinton Ave	N. Bryan Ave to N. Hayes Ave	50	5	10	21	46
W. Clinton Ave	N. Hayes Ave to N. Polk Ave	52	6	13	28	60
W. Clinton Ave	N. Polk Ave to 1,900 ft east of N. Polk Ave	52	6	13	28	60
W. Clinton Ave	1,900 ft east of N. Polk Ave to N. Cornelia Ave	59	18	40	86	184
W. Clinton Ave	N. Cornelia Ave to N. Milburn Ave	63	34	74	159	343
W. Clinton Ave	N. Milburn Ave to N. Blythe Ave	62	29	62	133	286
W. Clinton Ave	N. Blythe Ave to N Sonora Ave	65	44	95	204	440
W. Clinton Ave	N. Sonora Ave to N Brawley Ave	63	37	79	170	367
W. Clinton Ave	N Brawley Ave to N. Knoll Ave	64	38	82	177	381
W. Clinton Ave	N. Knoll Ave to 850 ft east of N. Knoll Ave	64	37	81	174	374
W. Clinton Ave	850 ft east of N. Knoll Ave to N. Valentine Ave	61	27	58	124	268
W. Clinton Ave	N. Valentine Ave to N. Marks Ave	64	41	88	190	410
W. Clinton Ave	N. Marks Ave to W. Vassar Ave	68	73	158	340	733
N Garfield Ave	W. Herndon Ave to W. Bullard Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Bullard Ave to W. Barstow Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Barstow Ave to 1,000 ft south of W. Barstow Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	1,000 ft south of W. Barstow Ave to W. Shaw Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Shaw Ave to W. Gettysburg Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Gettysburg to W. Ashlan Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Ashlan Ave to W. Dakota Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Dakota Ave to W. Shields Ave	No Data	No Data	No Data	No Data	No Data

ROADWAY	SEGMENT	DISTANCES TO CONTOUR				
		@100 ft	70	65	60	55
N. Parkway Drive	N Herndon Ave to W. Herndon Ave	No Data	No Data	No Data	No Data	No Data
N. Grantland Ave	N. Parkway Drive to W. Bullard Ave	No Data	No Data	No Data	No Data	No Data
N. Grantland Ave	W. Bullard Ave to W. Barstow Ave	62	31	68	146	315
N. Grantland Ave	W. Barstow Ave to W. Shaw Ave	62	29	62	134	290
N. Grantland Ave	W. Shaw Ave to W. Gettysburg Ave	57	14	31	67	144
N. Grantland Ave	W. Gettysburg Ave to W. Ashlan Ave	60	21	44	95	205
N. Grantland Ave	W. Ashlan Ave to W Dakota Ave	59	17	37	80	171
N. Grantland Ave	W. Dakota Ave to W. Shields Ave	No Data	No Data	No Data	No Data	No Data
N. Grantland Ave	W Shields Ave to W. Clinton Ave	57	14	31	66	142
N. Bryan Ave	W. Shaw Ave to W. Santa Ana Ave	54	8	18	39	84
N. Bryan Ave	W. Santa Ana Ave to W. Gettysburg Ave	54	8	18	39	84
N. Bryan Ave	W. Gettysburg Ave to W. Ashlan Ave	58	15	32	69	149
N. Bryan Ave	W. Ashlan Ave to W. Dakota Ave	55	10	22	47	102
N. Bryan Ave	W. Dakota Ave to W Shields Ave	53	7	15	32	68
N. Bryan Ave	W Shields Ave to W. Clinton Ave	48	4	8	16	35
N. Hayes Ave	W. Shaw Ave to W. Santa Ana Ave	57	14	30	64	138
N. Hayes Ave	W. Santa Ana Ave to W. Gettysburg Ave	57	14	29	63	136
N. Hayes Ave	W. Gettysburg Ave to W. Swift Ave	55	10	21	46	100
N. Hayes Ave	W. Swift Ave to W. Ashlan Ave	52	7	14	31	67
N. Hayes Ave	W. Ashland Ave to W. Dakota Ave	54	8	18	39	84
N. Hayes Ave	W. Dakota Ave to 1,300 ft South of W. Dakota Ave	53	8	17	36	78

ROADWAY	SEGMENT	DISTANCES TO CONTOUR				
		@100 ft	70	65	60	55
N. Hayes Ave	1,300 ft South of W. Dakota Ave to W Shields Ave	56	12	25	54	116
N. Hayes Ave	W Shields Ave to W. Clinton Ave	52	7	14	30	66
N. Polk Ave	North of W. Shaw Ave	60	22	47	102	219
N. Polk Ave	W. Shaw Ave to W. Acacia Ave	62	31	66	142	307
N. Polk Ave	W. Acacia Ave to W. Gettysburg Ave	62	31	67	145	312
N. Polk Ave	W. Gettysburg Ave to W. Ashlan Ave	58	17	36	78	167
N. Polk Ave	W. Ashland Ave to W. Griffith Way	59	18	40	85	184
N. Polk Ave	W. Griffith Way to W. Dakota Ave	61	26	55	119	257
N. Polk Ave	W. Dakota Ave to W Shields Ave	58	17	36	78	168
N. Polk Ave	W Shields Ave to W. Clinton Ave	57	14	30	65	141
N. Cornelia Ave	N. Parkway Drive to W. Gettysburg Ave	60	22	48	104	223
N. Cornelia Ave	W. Gettysburg to W. Ashlan Ave	60	22	48	104	223
N. Cornelia Ave	W. Ashland Ave to W. Bellaire Way	62	27	59	128	275
N. Cornelia Ave	W. Bellaire Way to W. Dakota Ave	62	27	59	128	275
N. Cornelia Ave	W. Dakota Ave to W Shields Ave	58	15	33	70	152
N. Cornelia Ave	W Shields Ave to W. Clinton Ave	60	22	47	102	220
N. Blythe Ave	W. Ashlan Ave to W. Dakota Ave	60	21	45	96	207
N. Blythe Ave	W. Dakota Ave to W Shields Ave	57	13	29	62	133
N. Blythe Ave	W Shields Ave to W. Clinton Ave	57	14	29	63	136
N Brawley Ave	N. Parkway Drive to W. Dakota Ave	58	17	36	77	165
N Brawley Ave	W. Dakota Ave to W. Dayton Ave	58	16	35	75	161
N Brawley Ave	W. Dayton Ave to W. Cortland Ave	61	24	52	111	240

ROADWAY	SEGMENT	DISTANCES TO CONTOUR				
		@100 ft	70	65	60	55
N Brawley Ave	W. Cortland Ave to W. Shields Ave	58	16	35	75	161
N Brawley Ave	W Shields Ave to W. Clinton Ave	58	16	33	72	155
N. Valentine Ave	N. Parkway Drive to W Shields Ave	54	9	19	41	89
N. Valentine Ave	W Shields Ave to W. Clinton Ave	53	8	17	36	77
N. Marks Ave	W Princeton Ave to W. Clinton Ave	59	20	44	95	205

NOTES:

1. EXTERIOR NOISE LEVELS CALCULATED AT 5-FEET ABOVE GROUND.

2. NOISE LEVELS CALCULATED FROM CENTERLINE OF SUBJECT ROADWAY.

3. REFER TO APPENDIX C OF APPENDIX F FOR PROJECTED NOISE LEVEL CALCULATIONS.

4. THE PROJECTED NOISE LEVELS AT 100 FT ARE THEORETICAL AND DO NOT TAKE INTO CONSIDERATION THE EFFECT OF TOPOGRAPHY, NOISE BARRIERS, STRUCTURES OR OTHER FACTORS WHICH WILL REDUCE THE ACTUAL NOISE LEVEL IN THE OUTDOOR LIVING AREAS. THESE FACTORS CAN REDUCE THE ACTUAL NOISE LEVELS BY 5-10 DBA FROM WHAT IS SHOWN IN THE TABLE. THEREFORE, THE LEVELS THAT ARE SHOWN ARE FOR COMPARATIVE PURPOSES ONLY TO SHOW THE DIFFERENCE IN PROJECTED NOISE LEVELS WITHOUT AND WITH THE PROJECT.

SOURCE: MD ACOUSTICS, 2020.

As shown in Table 3.11-4 and Figure 3.11-2, areas in the City that currently experience sound levels greater than 60 dBA L_{dn} are typically near major vehicular traffic corridors. Highway traffic noise levels typically depend on three factors: (1) the volume of traffic, (2) the average speed of traffic, and (3) the vehicle mix (i.e., the percentage of trucks versus automobiles in the traffic flow). Vehicle noise includes noises produced by the engine, exhaust, tires, and wind generated by taller vehicles. Other factors that affect the perception of traffic noise include the distance from the highway, terrain, vegetation, and natural and structural obstacles. While tire noise from automobiles is generally located at ground level, some truck noise sources may emanate from 12 feet or more above the ground.

Vehicle traffic generated noise associated with SR 99 is the dominant noise source in the eastern portion of the Plan Area with average daily vehicle trips (ADTs) ranging between 77,000-107,000 adjacent to the Plan Area. Existing modeled noise contours shown in Figure 3.11-2 show that traffic noise associated with SR 99 dominates the noise environment of the easternmost portion of the Plan Area. Most noise sensitive land uses adjacent to SR 99 are shielded by existing sound walls, topography, or buildings, however, the attenuation provided by them is not represented in the noise contour map.

Rail Noise

Noise associated with the existing Union Pacific Railroad (UPRR) line that generally runs parallel to SR 99 also contributes to noise in the Plan Area. The Union Pacific Railroad extends in a southeast/northwest direction ranging between 320 and 2,100 feet east of the project area. Based on count data available provided by the Federal Railroad Administration (FRA 2020) fourteen train

trips per day (split evenly between daytime and nighttime hours) utilize the rail lines located east of the project area and SR 99 and north of West Ashlan Avenue. There are existing residential land uses located within the project area as close as 380 feet to the rail lines north of West Ashlan Avenue and 380 feet from the rail lines south of West Ashlan Avenue. There is a rail yard east of SR 99 that extends from approximately 450 feet north of Clinton Avenue to West Ashlan Avenue. Noise level contours associated with the UPRR are shown in Figure 3.11-3.

Airport/Aircraft Noise

There are no airports located within the Plan Area and the Plan Area is not located within any airport noise contours (City of Fresno, 2014). The Plan Area is, however, affected by fly-over noise associated with the Fresno Yosemite International airport, the Fresno-Chandler Downtown Airport, and the Sierra Sky Park Airport. Commercial jet aircraft operations are limited to the Fresno Yosemite International Airport. The Air National Guard is also stationed there and operates military jets and other aircraft. Private and commercial operations with smaller aircraft use the Fresno Chandler Downtown Airport, while only small private aircraft use the Sierra Sky Park Airport.

VIBRATION SOURCES IN THE PLAN AREA

The main sources of vibration in the project area are related to vehicles, rail, and construction. Typical roadway traffic, including heavy trucks, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage. However, there have been cases in which heavy trucks traveling over potholes or other discontinuities in the pavement have caused vibration high enough to result in complaints from nearby residents.

3.11.2 REGULATORY SETTING

FEDERAL

Noise Control Act of 1972

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows:

- The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies.
- The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports.
- The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system.
- The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdiction use their land use regulatory authority to arrange new development in such a way that "noise sensitive" uses are either prohibited from being constructed adjacent to a highway, or alternatively that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement Codes and land use planning.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance criteria section.

Title 24 of the Uniform Building Code

Section 1206.4 of the California Building Code (2019), Title 24, Part 2, Chapter 12 (Interior Environment), establishes an interior noise criteria of 45 dBA CNEL for "dwelling units". Per California Building Code, Title 24, Part 2, Chapter 2 (Definitions), a residential dwelling unit is intended to be used as a residence that is primarily long-term in nature. Residential dwelling units do not include transient lodging, inpatient medical care, licensed long-term care, and detention or correctional facilities.

California Building Code (2019), Title 24, Part 2, Chapter 5 (Nonresidential Mandatory Measures), applies to all proposed buildings that people may occupy but are not residential dwelling units, with the exception of factories, stadiums, storage, enclosed parking structures, and utility buildings. Section 5.507.4.1 requires wall and roof-ceiling assemblies exposed to the noise source making up the building, or addition envelope or altered envelope, shall meet a composite Sound Transmission Class (STC) rating of at least 50 or a composite Outdoor to Indoor Transmission Class (OITC) rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30.

LOCAL

Fresno General Plan

For the purposes of evaluating noise impacts due to new projects, the objectives and policies of the City of Fresno General Plan Noise Element are used. The Fresno General Plan Noise Element sets forth noise standards for transportation noise sources. Ideally, proposed land uses would be developed in areas where future noise levels due to transportation noise sources (except aircraft) would not exceed those presented in Table 3.11-5. Additionally, the Fresno General Plan Element

also includes standards for stationary noise sources to regulate noise emanating from one property to another, which are presented in Table 3.11-6.

TABLE 3.11-5: TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES

NOISE SENSITIVE LAND USES	*OUTDOOR ACTIVITY AREAS[1,3]*	*INTERIOR SPACES*	
	LDN/CNEL, DB	*LDN/CNEL, DB*	*LEQ DB[2, 4]*
Residential	65	45	--
Transient Lodging	65	45	--
Hospitals, Nursing Homes	65	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	65	--	45
Office Buildings	--	--	45
Schools, Libraries Museums	--	--	45

NOTES: 1. WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE EXTERIOR NOISE LEVEL STANDARD SHALL BE APPLIED TO THE PROPERTY LINE OF THE RECEIVING LAND USE.
2. EXCLUDES FRONT OR SIDE YARD AREAS, AND FRONT OR SIDE PORCHES. BALCONIES OR ROOF DECKS FACING FRONT AND SIDE YARDS SHALL BE INCLUDED IN DESIGNATED AREAS TO BE PROTECTED FROM NOISE WHERE THESE SPACES ARE USED TO CALCULATE COMPLIANCE WITH REQUIRED OUTDOOR LIVING AREA AS REQUIRED BY ADOPTED DEVELOPMENT STANDARDS.
3. RESIDENTIAL AND NOISE SENSITIVE USES LOCATED ALONG BUS RAPID TRANSIT CORRIDORS OR WITHIN ACTIVITY CENTERS AS IDENTIFIED IN THE CITY OF FRESNO GENERAL PLAN, ARE EXEMPT FROM EXTERIOR NOISE STANDARDS WHERE IT IS DETERMINED APPLICATION OF NOISE MITIGATION MEASURES WILL BE DETRIMENTAL TO THE REALIZATION OF THE GENERAL PLAN'S MIXED USE POLICIES. INTERIOR NOISE LEVEL STANDARDS SHALL STILL APPLY.
4. AS DETERMINED FOR A TYPICAL WORST-CASE HOUR DURING PERIODS OF USE.
SOURCE: CITY OF FRESNO GENERAL PLAN NOISE ELEMENT (TABLE 9-2), 2014.

TABLE 3.11-6: STATIONARY NOISE SOURCE STANDARDS

	DAYTIME (7:00 AM – 10:00 PM)	*NIGHTTIME (10:00 PM – 7:00 AM)*
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	60

NOTES: 1. THE DEPARTMENT OF DEVELOPMENT AND RESOURCE MANAGEMENT DIRECTOR, ON A CASE-BY-CASE BASIS, MAY DESIGNATE LAND USES OTHER THAN THOSE SHOWN IN THIS TABLE TO BE NOISE-SENSITIVE, AND MAY REQUIRE APPROPRIATE NOISE MITIGATION MEASURES.
2. AS DETERMINED AT OUTDOOR ACTIVITY AREAS. WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR NOT APPLICABLE, THE NOISE EXPOSURE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN AMBIENT NOISE LEVELS EXCEED OR EQUAL THE LEVELS IN THE TABLE, MITIGATION SHALL ONLY BE REQUIRED TO LIMIT NOISE TO THE AMBIENT PLUS FIVE DBA.
SOURCE: CITY OF FRESNO GENERAL PLAN NOISE ELEMENT, 2014.

The Noise Element outlines the following objectives and policies which are pertinent to the project. This list does not include all noise-related policies, but provides policies which are relevant to the project.

NOISE ELEMENT

Objective NS-1: Protect the citizens of the City from the harmful effects of exposure to excessive noise.

Policy NS-1-a: Desirable and Generally Acceptable Exterior Noise Environment. Establish 65 dB Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dB Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dB Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dB Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.

Commentary: The noise ordinance will define usable exterior areas for single family and multiple family residential and noise sensitive uses to include rear yards and other outdoor areas intended to accommodate leisure or active use, excluding front or side yard areas, and front or side porches. Balconies or roof decks facing from side yards shall be included in designated areas to be protected from noise where these spaces are used to calculate compliance with required outdoor living area as required by adopted development standards.

Policy NS-1b: Conditionally Acceptable Exterior Noise Exposure Range. Establish conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB Ldn or require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 9-2.

Policy NS-1c: Generally Unacceptable Exterior Noise Exposure Range. Establish the exterior noise exposure of greater than 65 dB Ldn or CNEL to be generally unacceptable for residential or other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally acceptable exterior noise and the required 45 dB interior noise level standards et in Table 9-2 as conditions of permit approval.

Policy NS-1i: Mitigation of New Developments. Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise level that exceed the noise level exposure criteria established in Tables 9-2 and 9-3 to determine impacts, and require developers to mitigate these impacts in conformance with tables 9-2 and 9-3 as a condition of permit approval through appropriate means.

Noise mitigation measures may include:

- The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;
- providing increased setbacks for noise sources from adjacent dwellings;

- Installation of walls and landscaping that serve as noise buffers;
- Installation of soundproofing materials and double-glazed windows; and
- Regulating operations, such as hours of operation, including deliveries and trash pickup.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character.

Policy NS-1j: Significance Threshold. Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL, or more above the ambient noise limits established in this General Plan Update.

Commentary: When an increase in noise would result in a "Significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed.

Policy NS-1k: Proposal Review. Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.

Policy NS-1l: Enforcement. Continue to enforce applicable State Noise Insulation Standards and Uniform Building Code noise requirements, as adopted by the City.

Policy NS-1m: Transportation Related Noise Impacts. For projects subject to the City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise sensitive land uses.

Policy NS-1n: Best Available Technology. Require new noise sources to use best available control technology to minimize noise emissions.

Commentary: Noise from mechanical equipment can be reduced by soundproofing materials and sound-deadening installation; controlling hours of operation will also reduce noise impacts during the morning or evening.

Policy NS-1o: Sound Wall Guidelines. Acoustical studies and noise mitigation measures for projects shall specify the heights, materials, and design for sound walls and other noise

barriers. Aesthetic considerations shall also be addressed in these studies and mitigation measures such as variable noise barrier heights, a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor, with a maximum allowable height of 15 feet. The City will develop guidelines for aesthetic design measures of sound walls, and may commission area wide noise mitigation studies that can serve as templates for acoustical treatment that can be applied to similar situations in the urban area.

Commentary: While acoustical studies need to be site-specific in order to appropriately assess particular settings, having prototypical design measures and noise control templates that can be applied for similar situations and contexts can facilitate infill and other development. These can be provided in this noise report and carried forward into the Specific Plan.

Policy NS-1p: Airport Noise Compatibility. Implement the land use and noise exposure compatibility provisions of the adopted Fresno Yosemite International Airport Land Use Compatibility Plan, the Fresno Chandler Executive Airport Master and Environs Specific Plan, and the Sierra Sky Park Land Use Policy Plan to assess noise compatibility of proposed uses and improvements within airport influence and environs areas.

City of Fresno Noise Ordinance

Article 1 of Chapter 10 of the City's Municipal Code contains the City's Noise Ordinance, which establishes excessive noise guidelines and exemptions. The standards for ambient noise for varying land uses are somewhat generic and are assumed to be overridden by actual noise measurements and modeling of noise sources. Those applicable to this analysis are presented below.

SEC. 10-102. Definitions.

(b) Ambient Noise. "Ambient noise" is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far. For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than what is presented in Table 3.11-7 for the applicable type of land use, the sound level presented in Table 3.11-7, shall be deemed to be the ambient noise level for that location.

TABLE 3.11-7: AMBIENT NOISE

DISTRICT	*TIME*	*SOUND LEVEL DECIBELS*
Residential	10:00 PM to 7:00 AM	50
	7:00 PM to 10:00 PM	55
	7:00 AM to 7:00 PM	60
Commercial	10:00 PM to 7:00 AM	60
	7:00 AM to 10:00 PM	65
Industrial	Anytime	70

SOURCE: CITY OF FRESNO MUNICIPAL CODE SECTION 10-102(B)

SEC. 10-105. Excessive Noise Prohibited.

No person shall make, cause, or suffer or permit to be made or caused upon any premises or upon any public street, alley, or place within the city, any sound or noise which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing or working in the area, unless such noise or sound is specifically authorized by or in accordance with this article. The provisions of this section shall apply to, but shall be limited to, the control, use, and operation of the following noise sources:

(a) Radios, musical instruments, phonographs, television sets, or other machines or devices used for the amplification, production, or reproduction of sound or the human voice.

(b) Animals or fowl creating, generating, or emitting any cry or behavioral sound.

(c) Machinery or equipment, such as fans, pumps, air conditioning units, engines, turbines, compressors, generators, motors or similar devices, equipment, or apparatus.

(d) Construction equipment or work, including the operation, use or employment of pile drivers, hammers, saws, drills, derricks, hoists, or similar construction equipment or tools.

SEC. 10-107. Schools, Hospitals, and Churches.

No person shall create any noise on any street, sidewalk, or public place adjacent to any school, institution of learning, or church while the same is in use, or adjacent to any hospital, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such street, sidewalk, or public place indicating the presence of a school, church, or hospital.

SEC. 10-109. Exceptions.

(a) Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

(b) Emergency work.

(c) Any acts or acts which are prohibited by any law of the State of California or the United States.

City of Fresno Community Plans

The City of Fresno is divided in to nine Community Plan Areas. The project site is within the West Area Community Plan Area. The West Area Community Plan includes a few land use related policies that encourage good design and avoidance of potential noise issues. These policies are presented below.

Policy W-7-e: All loading spaces shall be located not less than 150 feet from the boundary of any residential property; however, the proximity of loading areas may be reduced when adequate design and operational measures (such as restricted hours for loading activities) are approved to mitigate noise, lights, and other nuisances associated with loading areas, in order to protect adjacent residential uses. In all cases, loading areas shall be screened from view of adjoining property zoned, planned, or approved for residential uses. This screening shall be accomplished by either placing loading docks and areas on the sides of buildings that face away from residential property, or by a combination of landscape planting and a solid masonry wall. Where possible, loading areas should not be visible from, nor take access from, local streets with residential frontage.

Policy W-7-f: Roof-mounted and detached mechanical equipment for commercial and office uses should be screened from view of adjacent residential areas, and acoustically baffled to prevent the noise level rating for the equipment from exceeding the applicable city standard for ambient noise at residential property lines.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; and/or
- Generation of excessive groundborne vibration or groundborne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.

Noise Standards

The noise standards applicable to the project include the relevant portions of the City of Fresno General Plan, as described in the Regulatory Setting section above, and the following standards.

Based upon the General Plan Noise and Safety Element, the project will have a significant increase in noise if it exceeds a 3 dB L_{dn}. This is consistent with Table 3.11-8 which is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 3.11-8: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, L_{DN}	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON).

Vibration Standards

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Fresno does not establish criteria for vibration impacts. However, the Federal Transit Administration establishes vibration impact thresholds for construction/demolition projects. These thresholds are shown in Table 3.11-9 on the following page.

TABLE 3.11-9: GROUNDBORNE VIBRATION CRITERIA

ARCHITECTURAL DAMAGE BUILDING CATEGORY	*PPV (IN/SEC)*	*LV (VDB)[A]*
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

NOTE: [A] RMS VELOCITY CALCULATED FROM VIBRATION LEVEL (VDB) USING THE REFERENCE OF ONE MICRO-INCH/SECOND.
SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT, 2006.

Table 3.11-9 indicates that the threshold for damage to structures ranges from 0.2 to 0.5 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could also occur is typically noted as 0.1 in/sec p.p.v.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: Specific Plan implementation could potentially substantially increase mobile noise levels at existing and proposed receptors. (Less than Significant with Mitigation)

EXTERIOR TRAFFIC NOISE IMPACTS – PROPOSED RECEPTORS

Upon future buildout of the Plan Area, the primary noise source in the community will continue to be vehicle traffic traveling on surface streets and on SR 99. Future noise levels associated with acoustically significant roadways within the Plan Area are shown on Figure 3.11-4. Vehicle traffic generated noise associated with SR 99 will continue to be the dominant noise source in the eastern portion of the Plan Area with ADTs ranging between 77,000 and 107,000 adjacent to the Plan Area. Although most noise sensitive land uses adjacent to SR 99 are shielded by existing sound walls, topography or buildings, there are still some noise sensitive land uses where existing plus project plus cumulative noise levels will exceed the City's 60 dBA L_{dn} noise standard. Thus, traffic noise impacts to proposed receptors would be potentially significant.

EXTERIOR TRAFFIC NOISE IMPACTS – EXISTING RECEPTORS

Buildout of the Plan Area will result in substantial increases in ambient noise levels. According to the *West Area Specific Plan Noise Impact Study*, the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to predict noise levels due to the Specific Plan traffic. Traffic volumes for existing conditions were obtained from the traffic data prepared for the Specific Plan. The potential off-site noise impacts caused by the increase in vehicular traffic from the operation of the proposed project on the nearby roadways was calculated by comparing the existing and existing plus project plus cumulative noise levels. Table 3.11-10 compares the existing and existing plus project cumulative noise levels along the Plan Area roadways.

TABLE 3.11-10: CHANGE IN NOISE ALONG ROADWAYS DUE TO THE PROPOSED SPECIFIC PLAN (DBA, CNEL)

ROADWAY	*SEGMENT*	*CNEL AT 100 FEET DBA*[2]				
		EXISTING	*EXISTING + PROJECT + CUMULATIVE*	*CHANGE*	*EXCEEDS COMPATIBILITY CRITERIA*	*POTENTIALLY SIGNIFICANT IMPACT*[4]
SR 99	W. Herndon Ave to W. Shaw Ave	82.6	82.6	0.0	Yes	No
SR 99	W. Shaw Ave to W. Ashlan Ave	82.4	82.4	0.0	Yes	No
SR 99	W. Ashlan Ave to W. Dakota Ave	83.8	83.8	0.0	Yes	No
SR 99	W. Dakota Ave to W. Shields Ave	83.7	83.7	0.0	Yes	No
SR 99	W. Shields Ave to W. Clinton Ave	81.8	83.8	2.0	Yes	No
W. Herndon Ave	N. Garfield Ave to N. Parkway Drive	No Data	No Data	n/a	n/a	n/a

Roadway	*Segment*	*CNEL at 100 feet dBA*[2]				
		Existing	*Existing + Project + Cumulative*	*Change*	*Exceeds Compatibility Criteria*	*Potentially Significant Impact*[4]
W. Bullard Ave	N Garfield Ave to N. Grantland Ave	47.9	58.3	10.5	No	No
W. Bullard Ave	N. Grantland Ave to N. Bryan Ave	54.7	60.0	5.2	No	No
W. Bullard Ave	N. Bryan Ave to SR 99	No Data	No Data	n/a	n/a	n/a
W. Barstow Ave	N Garfield to N. Grantland Ave	53.5	53.8	0.4	No	No
W. Barstow Ave	N. Grantland Ave to N. Bryan Ave	49.1	61.8	12.7	No	No
W. Barstow Ave	N. Bryan Ave to N. Contessa Ave	No Data	No Data	n/a	n/a	n/a
W. Barstow Ave	N. Contessa Ave to N. Island Waterpark Drive	No Data	No Data	n/a	n/a	n/a
W. Shaw Ave	N Garfield Ave to N. Grantland Ave	59.3	63.7	4.5	No	No
W. Shaw Ave	N. Grantland Ave to N. Bryan Ave	60.0	68.3	8.3	Yes	**Yes**
W. Shaw Ave	N. Bryan Ave to 1,300 ft east of N. Hayes Ave	60.6	68.1	7.5	Yes	**Yes**
W. Shaw Ave	1,300 ft east of N. Hayes Ave to N. Polk Ave	63.3	71.0	7.7	Yes	**Yes**
W. Shaw Ave	N. Polk Ave to SR 99	66.4	73.3	6.9	Yes	**Yes**
W. Gettysburg Ave	1,300 ft west of N. Bryan Ave to Bryan Ave	50.9	58.5	7.6	No	No
W. Gettysburg Ave	N. Bryan Ave to N. Hayes Ave	52.4	60.5	8.1	No	No
W. Gettysburg Ave	N. Hayes Ave to N. Polk Ave	53.0	62.8	9.8	No	No
W. Gettysburg Ave	N. Polk Ave to N. Barcus	53.6	62.3	8.8	No	No
W. Ashlan Ave	N. Garfield to N. Grantland	No Data	64.3	n/a	n/a	n/a
W. Ashlan Ave	N. Grantland Ave to N. Bryan Ave	58.7	70.4	11.7	Yes	**Yes**
W. Ashlan Ave	N. Bryan Ave to N. Hayes Ave	56.4	67.5	11.2	Yes	**Yes**
W. Ashlan Ave	N. Hayes Ave to N. Polk Ave	54.6	68.0	13.4	Yes	**Yes**

Roadway	*Segment*	*CNEL at 100 feet dBA*[2]				
		Existing	*Existing + Project + Cumulative*	*Change*	*Exceeds Compatibility Criteria*	*Potentially Significant Impact*[4]
W. Ashlan Ave	N. Polk Ave to N. Cornelia Ave	59.6	67.8	8.2	Yes	**Yes**
W. Ashlan Ave	N. Cornelia Ave to N. Blythe Ave	63.6	69.2	5.6	Yes	**Yes**
W. Ashlan Ave	N. Blythe Ave to SR 99	65.2	69.7	4.5	Yes	No
W. Dakota Ave	N. Hayes Ave to N. Barcus Ave	53.0	62.2	9.2	No	No
W. Dakota Ave	N. Barcus Ave to N. Polk Ave	55.6	64.7	9.2	No	No
W. Dakota Ave	N. Polk Ave to N. Cornelia Ave	57.2	61.8	4.6	No	No
W. Dakota Ave	N. Cornelia Ave to N. Blythe Ave	56.4	61.6	5.3	No	No
W. Dakota Ave	N. Blythe Ave to N Brawley Ave	55.1	61.3	6.2	No	No
W. Dakota Ave	N Brawley Ave to N. Parkway Drive	53.9	58.8	4.9	No	No
W. Shields Ave	N. Garfield Ave to Grantland Ave	54.4	No Data	n/a	n/a	n/a
W. Shields Ave	N. Grantland Ave to N. Bryan Ave	54.5	61.3	6.9	No	No
W. Shields Ave	N. Bryan Ave to N. Hayes Ave	55.6	62.0	6.4	No	No
W. Shields Ave	N. Hayes Ave to N. Polk Ave	55.2	61.0	5.8	No	No
W. Shields Ave	N. Polk Ave to N. Dante Ave	58.4	66.0	7.6	Yes	**Yes**
W. Shields Ave	N. Dante Ave to N. Cornelia Ave	58.4	66.0	7.6	Yes	**Yes**
W. Shields Ave	N. Cornelia Ave to N. Blythe Ave	56.7	63.0	6.3	No	No
W. Shields Ave	N. Blythe Ave to N. Brawley Ave	56.5	63.3	6.8	No	No
W. Shields Ave	N Brawley Ave to N. Valentine Ave	57.7	63.0	5.3	No	No
W. Shields Ave	N. Valentine Ave to N. Marks Ave	58.5	62.9	4.5	No	No
W. Clinton Ave	N. Grantland Ave to N. Bryan Ave	47.5	55.4	7.9	No	No
W. Clinton Ave	N. Bryan Ave to N. Hayes Ave	49.9	61.6	11.7	No	No

Roadway	*Segment*	*CNEL at 100 feet dBA*[2]				
		Existing	*Existing + Project + Cumulative*	*Change*	*Exceeds Compatibility Criteria*	*Potentially Significant Impact*[4]
W. Clinton Ave	N. Hayes Ave to N. Polk Ave	51.7	62.0	10.3	No	No
W. Clinton Ave	N. Polk Ave to 1,900 ft east of N. Polk Ave	51.7	62.9	11.2	No	No
W. Clinton Ave	1,900 ft east of N. Polk Ave to N. Cornelia Ave	59.0	66.9	8.0	Yes	**Yes**
W. Clinton Ave	N. Cornelia Ave to N. Milburn Ave	63.0	68.9	5.9	Yes	**Yes**
W. Clinton Ave	N. Milburn Ave to N. Blythe Ave	61.8	68.5	6.6	Yes	**Yes**
W. Clinton Ave	N. Blythe Ave to N Sonora Ave	64.6	68.9	4.2	Yes	No
W. Clinton Ave	N. Sonora Ave to N Brawley Ave	63.5	67.7	4.2	Yes	No
W. Clinton Ave	N Brawley Ave to N. Knoll Ave	63.7	68.5	4.7	Yes	No
W. Clinton Ave	N. Knoll Ave to 850 ft east of N. Knoll Ave	63.6	68.3	4.7	Yes	No
W. Clinton Ave	850 ft east of N. Knoll Ave to N. Valentine Ave	61.4	66.2	4.7	Yes	No
W. Clinton Ave	N. Valentine Ave to N. Marks Ave	64.2	69.7	5.5	Yes	**Yes**
W. Clinton Ave	N. Marks Ave to W. Vassar Ave	68.0	72.6	4.6	Yes	No
N Garfield Ave	W. Herndon Ave to W. Bullard Ave	No Data	57.8	n/a	n/a	n/a
N Garfield Ave	W. Bullard Ave to W. Barstow Ave	No Data	58.4	n/a	n/a	n/a
N Garfield Ave	W. Barstow Ave to 1,000 ft south of W. Barstow Ave	No Data	60.9	n/a	n/a	n/a
N Garfield Ave	1,000 ft south of W. Barstow Ave to W. Shaw Ave	No Data	60.9	n/a	n/a	n/a
N Garfield Ave	W. Shaw Ave to W. Gettysburg Ave	No Data	59.0	n/a	n/a	n/a
N Garfield Ave	W. Gettysburg to W. Ashlan Ave	No Data	58.8	n/a	n/a	n/a
N Garfield Ave	W. Ashlan Ave to W. Dakota Ave	No Data	21.5	n/a	n/a	n/a
N Garfield Ave	W. Dakota Ave to W. Shields Ave	No Data	58.5	n/a	n/a	n/a

ROADWAY	*SEGMENT*	*CNEL AT 100 FEET DBA*[2]				
		EXISTING	*EXISTING + PROJECT + CUMULATIVE*	*CHANGE*	*EXCEEDS COMPATIBILITY CRITERIA*	*POTENTIALLY SIGNIFICANT IMPACT*[4]
N. Parkway Drive	N Herndon Ave to W. Herndon Ave	No Data	57.7	n/a	n/a	n/a
N. Grantland Ave	N. Parkway Drive to W. Bullard Ave	No Data	No Data	n/a	n/a	n/a
N. Grantland Ave	W. Bullard Ave to W. Barstow Ave	62.5	64.4	2.0	Yes	No
N. Grantland Ave	W. Barstow Ave to W. Shaw Ave	61.9	65.5	3.6	Yes	No
N. Grantland Ave	W. Shaw Ave to W. Gettysburg Ave	57.4	68.0	10.6	Yes	**Yes**
N. Grantland Ave	W. Gettysburg Ave to W. Ashlan Ave	59.7	71.1	11.5	Yes	**Yes**
N. Grantland Ave	W. Ashlan Ave to W Dakota Ave	58.5	No Data	n/a	n/a	n/a
N. Grantland Ave	W. Dakota Ave to W. Shields Ave	No Data	69.7	n/a	n/a	n/a
N. Grantland Ave	W Shields Ave to W. Clinton Ave	57.3	67.7	10.5	Yes	**Yes**
N. Bryan Ave	W. Shaw Ave to W. Santa Ana Ave	53.9	63.4	9.5	No	No
N. Bryan Ave	W. Santa Ana Ave to W. Gettysburg Ave	53.9	63.4	9.5	No	No
N. Bryan Ave	W. Gettysburg Ave to W. Ashlan Ave	57.6	65.3	7.7	Yes	**Yes**
N. Bryan Ave	W. Ashlan Ave to W. Dakota Ave	55.1	No Data	n/a	n/a	n/a
N. Bryan Ave	W. Dakota Ave to W Shields Ave	52.5	62.9	10.3	No	No
N. Bryan Ave	W Shields Ave to W. Clinton Ave	48.2	61.4	13.2	No	No
N. Hayes Ave	W. Shaw Ave to W. Santa Ana Ave	57.1	66.4	9.3	Yes	**Yes**
N. Hayes Ave	W. Santa Ana Ave to W. Gettysburg Ave	57.0	66.2	9.3	Yes	**Yes**
N. Hayes Ave	W. Gettysburg Ave to W. Swift Ave	55.0	66.8	11.8	Yes	**Yes**
N. Hayes Ave	W. Swift Ave to W. Ashlan Ave	52.4	64.2	11.8	Yes	No
N. Hayes Ave	W. Ashland Ave to W. Dakota Ave	53.9	64.9	11.0	Yes	No
N. Hayes Ave	W. Dakota Ave to 1,300 ft South of W. Dakota Ave	53.4	63.3	9.9	Yes	No

Roadway	*Segment*	*CNEL at 100 feet dBA*[2]				
		Existing	*Existing + Project + Cumulative*	*Change*	*Exceeds Compatibility Criteria*	*Potentially Significant Impact*[4]
N. Hayes Ave	1,300 ft South of W. Dakota Ave to W Shields Ave	56.0	65.9	9.9	Yes	**Yes**
N. Hayes Ave	W Shields Ave to W. Clinton Ave	52.3	62.5	10.3	Yes	No
N. Polk Ave	North of W. Shaw Ave	60.1	61.8	1.7	Yes	No
N. Polk Ave	W. Shaw Ave to W. Acacia Ave	62.3	67.8	5.5	Yes	**Yes**
N. Polk Ave	W. Acacia Ave to W. Gettysburg Ave	62.4	67.9	5.5	Yes	**Yes**
N. Polk Ave	W. Gettysburg Ave to W. Ashlan Ave	58.3	66.5	8.1	Yes	**Yes**
N. Polk Ave	W. Ashland Ave to W. Griffith Way	59.0	66.5	7.5	Yes	**Yes**
N. Polk Ave	W. Griffith Way to W. Dakota Ave	61.1	68.7	7.5	Yes	**Yes**
N. Polk Ave	W. Dakota Ave to W Shields Ave	58.4	65.3	6.9	Yes	**Yes**
N. Polk Ave	W Shields Ave to W. Clinton Ave	57.2	64.9	7.7	No	No
N. Cornelia Ave	N. Parkway Drive to W. Gettysburg Ave	60.2	62.3	2.1	No	No
N. Cornelia Ave	W. Gettysburg to W. Ashlan Ave	60.2	66.1	5.9	Yes	**Yes**
N. Cornelia Ave	W. Ashland Ave to W. Bellaire Way	61.6	64.6	3.0	No	No
N. Cornelia Ave	W. Bellaire Way to W. Dakota Ave	61.6	64.6	3.0	No	No
N. Cornelia Ave	W. Dakota Ave to W Shields Ave	57.7	62.6	4.9	No	No
N. Cornelia Ave	W Shields Ave to W. Clinton Ave	60.1	64.4	4.3	No	No
N. Blythe Ave	W. Ashlan Ave to W. Dakota Ave	59.7	63.8	4.1	No	No
N. Blythe Ave	W. Dakota Ave to W Shields Ave	56.8	62.5	5.6	No	No
N. Blythe Ave	W Shields Ave to W. Clinton Ave	57.0	62.2	5.2	No	No
N Brawley Ave	N. Parkway Drive to W. Dakota Ave	58.3	63.3	5.0	No	No
N Brawley Ave	W. Dakota Ave to W. Dayton Ave	58.0	62.2	4.1	No	No

ROADWAY	SEGMENT	CNEL AT 100 FEET DBA[2]				
		EXISTING	EXISTING + PROJECT + CUMULATIVE	CHANGE	EXCEEDS COMPATIBILITY CRITERIA	POTENTIALLY SIGNIFICANT IMPACT[4]
N Brawley Ave	W. Dayton Ave to W. Cortland Ave	60.6	64.7	4.1	No	No
N Brawley Ave	W. Cortland Ave to W. Shields Ave	57.9	62.0	4.1	No	No
N Brawley Ave	W Shields Ave to W. Clinton Ave	57.6	62.1	4.5	No	No
N. Valentine Ave	N. Parkway Drive to W Shields Ave	53.9	60.7	6.8	No	No
N. Valentine Ave	W Shields Ave to W. Clinton Ave	52.9	60.4	7.5	No	No
N. Marks Ave	W Princeton Ave to W. Clinton Ave	59.2	61.5	2.3	No	No

NOTE:

[1] EXTERIOR NOISE LEVELS CALCULATED AT 5 FEET ABOVE GROUND LEVEL.

[2] NOISE LEVELS CALCULATED FROM CENTERLINE OF SUBJECT ROADWAY.

[3] SEE TABLE 3.11-4.

[4] SIGNIFICANT IF RESULTS IN A 3 DB INCREASE IN AMBIENT NOISE LEVELS AND EXCEEDS STANDARD IN TABLE 3.11-4.

SOURCE: MD ACOUSTICS, SEPTEMBER 2020.

As shown in Table 3.11-10, existing plus project plus cumulative traffic conditions will result in significant increases in ambient noise levels along the following road segments:

- Traffic noise levels along **W. Shaw Avenue** are expected to range between 68.1 and 73.3 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases ranging between 6.9 and 8.3 dBA CNEL.
- Traffic noise levels along **W. Ashlan Avenue between N. Grantland Avenue and N. Blythe Avenue** are expected to range between 67.5 and 70.4 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases ranging between 5.6 and 13.4 dBA CNEL.
- Traffic noise levels along **W. Shields Avenue between N. Polk Avenue and N. Cornelia Avenue** are expected to reach up to 66 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in an increase in ambient noise level of 7.6 dBA CNEL.
- Traffic noise levels along **W. Clinton Avenue between N. Polk Avenue and N. Blythe Avenue** and **between N. Valentine Avenue and N. Marks Avenue** are expected to range between 66.9 and 69.7 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases in ambient noise levels ranging between 5.5 and 8.0 dBA CNEL
- Traffic noise levels along **N. Grantland Avenue between W. Gettysburg Avenue and W. Dakota Avenue** and **between W. Shields Avenue and W. Clinton Avenue** are expected to range between 67.7 and 71.0 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases in ambient noise levels between 10.5 and 11.5 dBA CNEL.

- Traffic noise levels along **N. Bryan Avenue between W. Gettysburg Avenue and W. Ashlan Avenue** are expected to reach up to 65.3 dBA CNEL, resulting in an increase of 7.7 dBA CNEL in ambient noise levels.
- Traffic noise levels along **N. Hayes Avenue between W. Shaw Avenue and W. Swift Avenue** and **between W. Dakota Avenue and W. Shields Avenue** are expected to range between 65.9 and 66.8 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases in ambient noise levels ranging between 9.3 and 11.8 dBA CNEL.
- Traffic noise levels along **N. Polk Avenue between W. Shaw Avenue and W. Shields Avenue** are expected to range between 65.3 and 68.7 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases in ambient noise levels between 5.5 and 8.1 dBA CNEL.
- Traffic noise levels along **N. Cornelia Avenue between W. Gettysburg Avenue and W. Ashlan Avenue** are expected to reach up to 66.1 dBA CNEL, resulting in an increase of 5.9 dBA CNEL in ambient noise levels.

Based upon Policy NS-1j of the City's General Plan, which is used as a threshold of significance for the City's environmental review process, a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL above the ambient noise limits established in the General Plan Update (or in this case, the modeled increase in traffic noise levels due to the project). Future traffic noise is anticipated to result in a substantial increase in ambient noise levels on existing sensitive receptors, ranging in increases between 5.5 dBA to 13.4 dBA at the roadway segments listed above. Therefore, this is a potentially significant impact.

RAIL NOISE IMPACTS

Noise associated with the existing UPRR line is expected to remain the same or end altogether. The California High-Speed Train Project, which is currently under construction east of SR 99 will introduce more noise into the eastern portion of the Plan Area. According to the Noise and Vibration Technical Report prepared for the Merced to Fresno Section of the High Speed Train (CAHST, FRA 2012), trains in the Fresno area are expected to result in noise levels between 65 to 76 dB L_{dn} at nearby receptors. All of the receptors which would be moderately or severely impacted by the High-Speed Train are located outside of the Plan Area to the east. High-Speed Train noise is not expected to result in significant noise impacts within the Plan Area. As such, this impact would be less than significant.

AGRICULTURAL NOISE IMPACTS

The Plan Area is currently exposed to agricultural noise including field and crop maintenance, hauling, and crop dusting from small aircraft. The noise from these sources mostly occurs within the confines of the agricultural fields, and is seasonal. A characteristic of agricultural noise is short periods of noisy activities separated by long periods of little or no noise-producing activities. The FAA regulates noise associated with aircraft once they leave the ground. FAA regulations require

that all aircraft maintain a height of at least 500 feet above ground or objects on the ground, like a house. A crop duster can go below this height only to operate to apply chemicals and for no other reason.

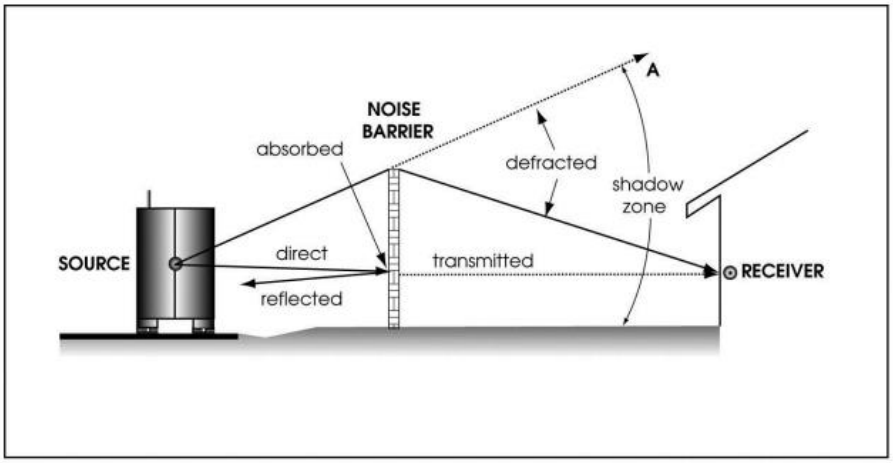
Future development of the Plan Area may result in the exposure of sensitive receptors to agricultural noise. However, noise associated with crop cultivation is specifically exempt from compliance with the noise regulations presented in Section 15-2506 of the City of Fresno Municipal Code. As such, this impact would be less than significant.

CONCLUSION

As described above, buildout of the Plan Area would result in substantial increases in ambient traffic noise levels resulting in potentially significant impacts to existing and proposed receptors. With respect to future sensitive receptors, noise levels in the Plan Area are expected to exceed 65 dBA CNEL in most areas where shielding from traffic noise is not provided. Additionally, future traffic noise is anticipated to result in a substantial increase in ambient noise levels on existing sensitive receptors. Of the 115 roadway segments analyzed in Table 3.11-10, 30 segments would experience substantial noise increases greater than 3 dBA attributable to buildout of the proposed Specific Plan, with noise levels that exceed 65 dB CNEL.

For these reasons, future development projects within the Plan Area would be required to implement mitigation measures that are specifically intended to ensure compliance with the City of Fresno noise standards and minimize the impact associated with the substantial increase in ambient noise levels. Mitigation Measure 3.11-1 would require the implementation of performance standards based on project-specific acoustical analysis for new residential and noise sensitive uses exposed to significant exterior community noise levels from transportation, which may include noise walls and/or berms, or setbacks.

Walls/Berms: As shown in the diagram below, when a noise barrier is inserted between a noise source and receiver, the direct noise path along the line of sight between the two is interrupted. Some of the acoustical energy will be transmitted through the barrier material and continue to the source, although at a reduced level. The amount of this reduction depends on the material's mass and rigidity, and is called the transmission loss (TL), which is expressed in decibels. To be effective, noise barriers need to be solid, without holes and cracks. Concrete walls and earthen berms tend to provide the most noise attenuation, but other materials can be used. The exact amount of reduction provided by a barrier will range depending on the material, location and height of the barrier but barriers can be used to mitigate significant noise impacts to sensitive receptors in outdoor activity areas. Because the Plan Area is flat, noise walls and/or berms would be highly effective.



SOURCE: CALTRANS 2013A

Setbacks: Traffic noise is not a single, stationary point source. The movement of vehicles makes the noise source of the sound appear to be emanate from a line rather than from a point when viewed over a time interval. Noise levels associated with vehicle traffic are reduced by 3 dB for every doubling of distance from the receiver. For this reason, increasing the distance between the noise source and the receiver can be used to avoid significant impacts related to traffic noise at sensitive receptors within the Plan Area.

Mitigation Measure 3.11-1 would reduce traffic noise levels to a less-than-significant level. Therefore, with implementation of mitigation, buildout of the proposed Specific Plan would result in ***less than significant*** impacts relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-1: *Future project proponent(s) for development projects in the Plan Area which involve residential or other noise sensitive uses shall implement performance standards for noise reduction for new residential and noise sensitive uses exposed to exterior community noise levels from transportation sources above 65 dB L_{dn} or CNEL, as shown on Exhibit G: Existing Plus Project Plus Cumulative Noise Contours of the West Area Specific Plan Noise Impact Study prepared by MD Acoustics (dated September 30, 2020), or as identified by a project-specific acoustical analysis based on the target acceptable noise levels set in Table 9-2 of the Fresno General Plan Noise Element (Table 3.11-5 of this EIR).*

If future exterior noise levels are expected to exceed the applicable standards presented in Table 9-2 of the Fresno General Plan Noise Element (Table 3.11-5 of this EIR), the mitigation measure presented below shall be implemented, as applicable. A qualified Acoustical Consultant shall provide information demonstrating that site specific mitigation will be effective at reaching the applicable noise standard.

- *Install noise walls, berms and/or a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences*

between noise source and noise receptor. The City of Fresno has established a maximum allowable height for noise walls of 15 feet. As such, the noise walls, berms and/or a combination of a landscaped berm with wall shall not exceed 15 feet.

The aforementioned measure is not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

Impact 3.11-2: Specific Plan implementation would not substantially increase noise levels associated with construction and demolition activities. (Less than Significant with Mitigation)

The Environmental Protection Agency (EPA) has compiled data regarding the noise generated characteristics of typical construction activities. The data is presented in Table 3.11-11. These noise levels would diminish rapidly with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured 50 feet from the noise source would reduce to 80 dBA at 100 feet. At 200 feet from the noise source, the noise level would reduce to 74 dBA. At 400 feet from the noise source, the noise level would reduce by another 6 dBA to 68 dBA. Contractors are required to comply with the City of Fresno's Noise Ordinance during construction, as described in Section 10-109.

TABLE 3.11-11: TYPICAL CONSTRUCTION NOISE LEVELS

TYPE[1]	*NOISE LEVELS (DBA) AT 50 FEET*
EQUIPMENT POWERED BY INTERNAL COMBUSTION ENGINES	
EARTH MOVING	
Compactors (rollers)	73 – 76
Front Loaders	73 – 84
Backhoes	73 – 92
Tractors	75 – 95
Scrapers, Graders	78 – 92
Pavers	85 – 87
Trucks	81 – 94
MATERIALS HANDLING	
Concrete Mixers	72 – 87
Concrete Pumps	81 – 83
Cranes (Moveable)	72 – 86
Cranes (Derrick)	85 – 87
STATIONARY	
Pumps	68 – 71
Generators	71 – 83
Compressors	75 – 86
IMPACT EQUIPMENT	
Saws	71 – 82
Vibrators	68 – 82

SOURCE: REFERENCE NOISE LEVELS FROM THE ENVIRONMENTAL PROTECTION AGENCY

CONSTRUCTION TRAFFIC

Future development projects in the Plan Area would result in short-term noise impacts associated with construction activities. Two types of short-term noise impacts could occur during construction of the proposed project. First, construction crew commute and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Truck traffic associated with project construction should be limited to within the permitted construction hours, as listed in the City's Municipal Code. Although there would be a relatively high single-event noise exposure potential at a maximum of 87 dBA L_{max} at 50 feet from passing trucks, causing possible short-term intermittent annoyances, the effect on ambient noise levels would be less than 1 dBA when averaged over one hour or 24 hours. In other words, the changes in noise levels over 1 hour or 24 hours attributable to passing trucks would not be perceptible to the normal human ear. Therefore, short-term construction-related impacts associated with worker commute and equipment transport on local streets leading to the project site would result in a ***less than significant*** impact on noise-sensitive receptors along the access routes.

CONSTRUCTION ACTIVITIES

The site preparation phase, which includes grading and paving, tends to generate the highest noise levels, since the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backhoes, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Future development projects in the Plan Area are expected to require the use of scrapers, bulldozers, motor grader, and water and pickup trucks. Noise associated with the use of construction equipment is estimated to reach between 79 and 89 dBA L_{max} at a distance of 50 feet from the active construction area for the grading phase. The maximum noise level generated by each scraper is assumed to be approximately 87 dBA L_{max} at 50 feet from the scraper in operation. Each bulldozer would also generate approximately 85 dBA L_{max} at 50 feet. The maximum noise level generated by the sound sources with equal strength increases the noise level by 3 dBA. The worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from an active construction area. Noise reduction potential will be project and site specific.

Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels will be loudest during grading phase. A likely worst-case construction noise scenario during grading assumes the use of a grader, a dozer, and two (2) excavators, two (2) backhoes and a scrapper operating at 50 feet from the nearest sensitive receptor.

Assuming a usage factor of 40 percent for each piece of equipment, unmitigated noise levels at 50 feet have the potential to reach 90 dBA L_{eq} and 92 dBA L_{max} at the nearest sensitive receptors during

grading. Noise levels for the other construction phases would be lower and range between 85 to 90 dBA. For this reason, the *West Area Specific Plan Noise Impact Study* identifies a number of measures to minimize construction noise impacts associated with the buildout of the Specific Plan, which have been incorporated as mitigation measures. Implementation of the following mitigation measures would ensure that the nearby sensitive receptors to the Plan Area would not be subject to construction noise levels in excess of the City's standards, resulting in a ***less than significant*** impact.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-2: *Construction within the Plan Area must follow the City's Municipal Noise Code Section 10-109 which exempts construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the City or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.*

Mitigation Measure 3.11-3: *The project proponent(s) and/or construction contractor(s) shall demonstrate, to the satisfaction of the City of Fresno Planning and Development Department, that buildout of the Specific Plan complies with the following:*

- *Truck traffic associated with project construction shall be limited to within the permitted construction hours, as listed in the City's Municipal Code above.*
- *Stationary construction noise sources such as generators or pumps shall be located at least 300 feet from sensitive land uses, as feasible.*
- *Construction staging areas shall be located as far from noise sensitive land uses as feasible.*
- *During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices. The use of manufacturer certified mufflers would generally reduce the construction equipment noise by 8 to 10 dBA.*
- *Idling equipment shall be turned off when not in use.*
- *Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.*

Impact 3.11-3: Specific Plan implementation would not substantially increase noise vibration association with construction activities. (Less than Significant with Mitigation)

The effects of vibration on structures have been the subject of extensive research. The Federal Transit Administration has compiled data regarding the vibration levels for various construction equipment and activities and is detailed in Table 3.11-12.

The Transportation and Construction Induced Vibration Guidance Manual for the California Department of Transportation has various recommended vibration thresholds for various types of projects and land uses. According to the Konan Vibration Criteria for Historic and Sensitive Buildings, the criteria for transient vibration sources should not exceed 0.3 peak particle velocity (PPV) (Section 6 – Structures, Table 11). In addition, 0.035 inches per second PPV is barely perceptive.

TABLE 3.11-12: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*APPROXIMATE VIBRATION LEVEL LV (VDB) @ 25 FEET*
Pile Drive (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 (upper range)	105
	0.170 (typical)	93
Clam shovel drop (slurry wall)	0.202	94
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drill	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

Construction activities can produce vibration that may be felt by adjacent land uses. Typical development projects in the Plan Area would not likely require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. For example, the primary vibration source during most future construction may be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second PPV at 25 feet, which is perceptible but below any risk to architectural damage. As shown in Table 3.11-9, a PPV of 0.20 is the threshold at which there is a risk to "architectural" damage to normal dwellings. It also the level at which ground-borne vibration are annoying to people in buildings. Impacts would be significant if construction activities result in ground-borne vibration of 0.20 inches per second PPV or higher at sensitive receptors.

For buildout of the proposed Specific Plan, the distance of the construction equipment would likely be at least 10 feet or more from any existing structure. At a distance of 10 feet, a large bulldozer would yield a worst-case 0.244 inches per second PPV which may be perceptible for short periods of time during site preparation of the southeastern corner of the project site, but no damage is expected. In addition, implementation of Mitigation Measure 3.11-4 would further reduce construction related groundborne vibration. Therefore, this impact is ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-4: *For future projects which would require the use of highly vibratory equipment in the Plan Area, an additional site- and project-specific analysis shall be conducted by a noise and vibration specialist prior to project approval. The analysis shall evaluate potential ground-borne vibration impacts to existing structures and sensitive receptors, and shall also recommend additional mitigation measures, as necessary. The recommendations of the site- and project-specific analysis shall be implemented by the project proponent(s), to the satisfaction of the City of Fresno Planning and Development Department.*

Impact 3.11-4: Specific Plan implementation would not substantially increase stationary noise at sensitive receptors. (Less than Significant with Mitigation)

The Specific Plan proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The Specific Plan would result in an increase in land designated for employment, mixed use, open space and public facilities uses and a decrease in land designated for residential and commercial uses. Typical stationary noise sources and associated noise levels as measured ten-feet from the source are presented in Table 3.11-13.

TABLE 3.11-13: TYPICAL STATIONARY NOISE LEVELS

TYPE	*NOISE LEVELS (DBA) AT 10 FEET*[1]
Parking Lot Noise	50 – 75
HVAC	55 – 100
Property Maintenance	75 – 95
Trash Truck	85 – 90
Loading/Unloading	65 – 82
Recreational Noise	50 – 90
Amplified Music	85 – 105
Car Wash	85 – 105
Event Venue	65 – 75
Idling Heavy Traffic	72

NOTE: [1.] THE NOISE RANGES PRESENTED ARE INTENDED TO GIVE A GENERAL IDEA OF TYPICAL URBAN/SUBURBAN STATIONARY NOISE SOURCES. DEPENDING ON THE NUMBER OF PATRONS AND THE SPECIFIC ACTIVITY, I.E. OUTDOOR WINERY CONCERT VS. A ROCK BAND, NOISE LEVELS WILL VARY.
SOURCE: MD ACOUSTICS, 2020.

Due to the suburban/rural nature of the Plan Area, future development of the Plan Area will result in a substantial increase in existing ambient noise conditions. Increases in ambient noise levels associated with existing and future stationary noise impacts may result in potentially significant impacts. However, enforcement of the Sections 10-105 through 10-109 of the City's Noise Ordinance and analysis of noise producing projects, along with implementation of Mitigation Measure 3.11-5, would ensure that the nearby sensitive receptors to the Plan Area would not be subject to stationary noise levels in excess of the City's standards. Therefore, this is a ***less than significant*** impact.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-5: *In order to reduce the potential for stationary noise impacts, development projects in the Plan Area shall implement the following measures:*

- *Avoid the placement of new noise producing uses in proximity to noise-sensitive land uses;*

- *Apply noise level performance standards provided in Table 9-2 of the City of Fresno General Plan Noise Element (Table 3.11-5 of this EIR) to proposed new noise producing uses; and*
- *Require new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards in Table 9-2 of the City of Fresno General Plan Noise Element (Table 3.11-5 of this EIR).*

Impact 3.11-5: Specific Plan implementation would not substantially increase ambient interior noise at future sensitive receptors. (Less than Significant with Mitigation)

Based on the data provided in the EPA's Protective Noise Levels (EPA 550/9-79-100, Nov 1979), standard homes in California provide at least 12 dBA of noise exterior to interior noise attenuation with windows open and 20 dBA with windows closed. Therefore, residences would need to be exposed to exterior noise levels exceeding 65 dBA CNEL (45 dBA + 20 dBA = 65 dBA) to potentially exceed the interior noise standard of 45 dBA CNEL with windows closed. A windows closed condition is defined as: the interior noise level with the windows closed. Upgrades are required for residential structures that would experience interior noise levels exceeding the 45 dBA CNEL noise standard when windows are closed (e.g. higher grade of insulation in outdoor walls, and/or double-paned windows and air condition units).

As discussed in Impact 3.11-1, the existing and future traffic noise levels anticipated from implementation of proposed Specific Plan would result in exterior noise levels exceeding 65 dBA, which could result in the interior noise levels at future land uses exceeding the City's interior noise level standards of 45dBA, as presented in 3.11-5. To reduce the interior noise impacts, site-specific noise analyses will be required for future development projects under the proposed Specific Plan, as required by Mitigation Measure 3.11-6. The site-specific noise analyses will be required to fine-tune and finalize noise reduction features and must demonstrate the interior noise level will not exceed the City's 45 dBA CNEL noise limit. Potential noise reduction features may include a "windows closed" condition and possibly upgraded windows with increased STC ratings for doors and windows.

Implementation of Mitigation Measure 3.11-6 would ensure that the future land uses within the Specific Plan would not be subject to interior noise levels in excess of the City's standards. Therefore, this is a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-6: *Prior to approval, site- and project-specific noise analyses development projects under the proposed Specific Plan shall be completed and submitted to the City in order to fine-tune and finalize noise reduction features. The site-specific noise analyses must demonstrate the interior noise level will not exceed the City's 45 dBA CNEL noise limit.*

A qualified Acoustical Consultant shall provide information demonstrating that site specific mitigation will be effective at reaching the applicable noise standard, which includes:

- *Install noise walls, berms and/or a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor. The City of Fresno has established a maximum allowable height for noise walls of 15 feet. As such, the noise walls, berms and/or a combination of a landscaped berm with wall shall not exceed 15 feet.*
- *Utilize façades with substantial weight and insulation.*
- *Install sound-rated windows for primary sleeping and activity areas.*
- *Install sound-rated doors for all exterior entries at primary sleeping and activity areas.*
- *Install acoustic baffling of vents for chimneys, attic and gable ends.*
- *Install mechanical ventilation systems that provide fresh air under closed window conditions.*

The aforementioned measures are not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

Impact 3.11-6: Specific Plan implementation would not expose people residing or working in the project area to excessive airport or aircraft noise. (Less than Significant)

There are no airports located within the Plan Area and noise contours associated with airports in the vicinity of the Plan Area are not expected to encroach into the Plan Area (City of Fresno 2014). The closest public or public use airport is the Fresno Chandler Executive Airport, located approximately 2.5 miles to the south of the Plan Area, at its closest point. The Plan Area will however, continue to be affected by fly-over noise associated with the Fresno Yosemite International Airport, the Fresno-Chandler Downtown airport, and the Sierra Sky Park Airport. However, airport noise and aircraft noise are not expected to result in significant impacts in the Plan Area. Therefore, this is a ***less than significant*** impact relative to this topic.

= West Area Specific Plan Boundary

1 = Long Term measurement (24-Hour)

1 = Short Term measurement (10-Minute)

Figure 3.11-1
Noise Measurement Location Map

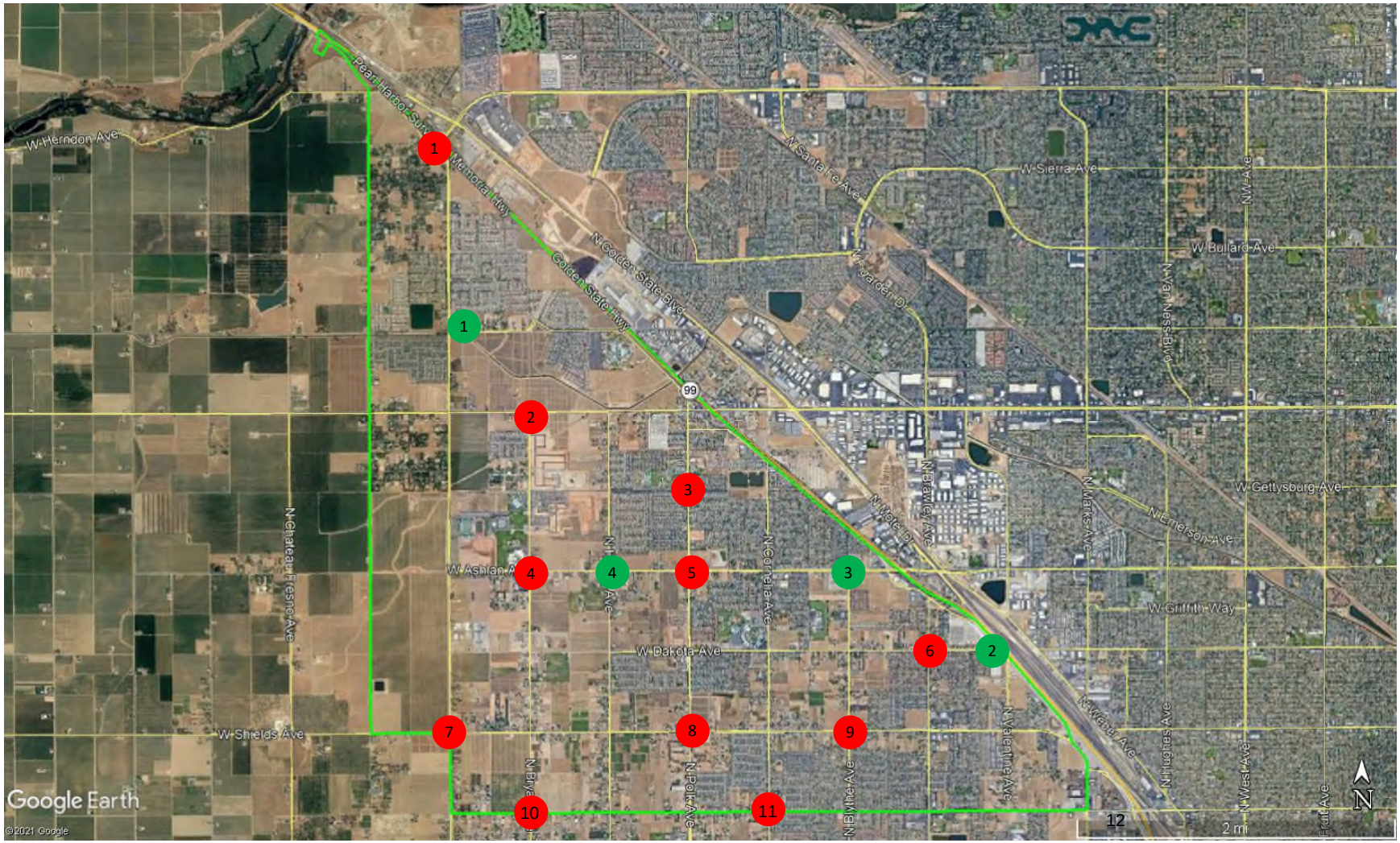


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Figure 3.11-2
Existing Roadway Noise Level Contours (CNEL)

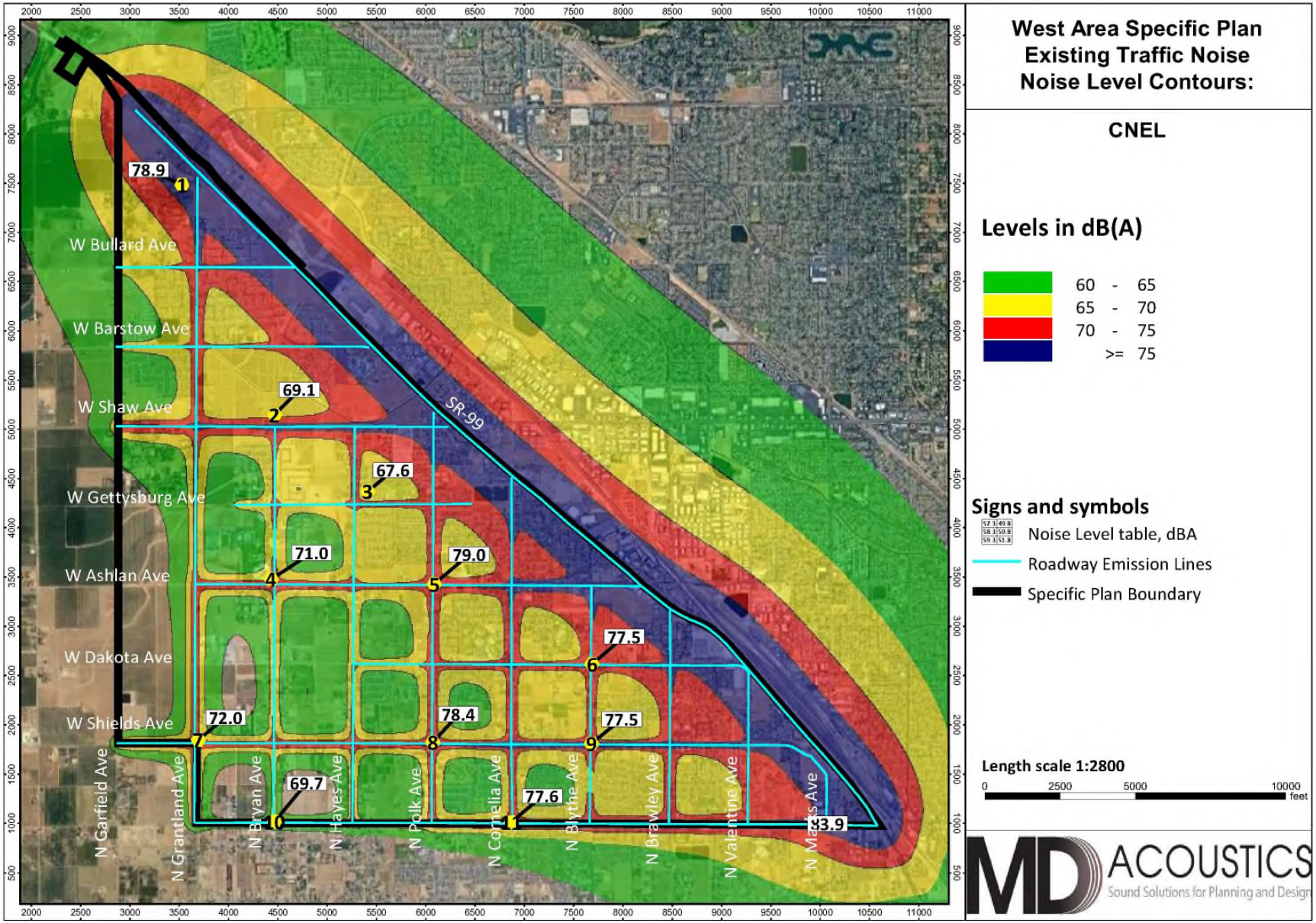

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Figure 3.11-3
Union Pacific Railroad Noise Level Contours (CNEL)

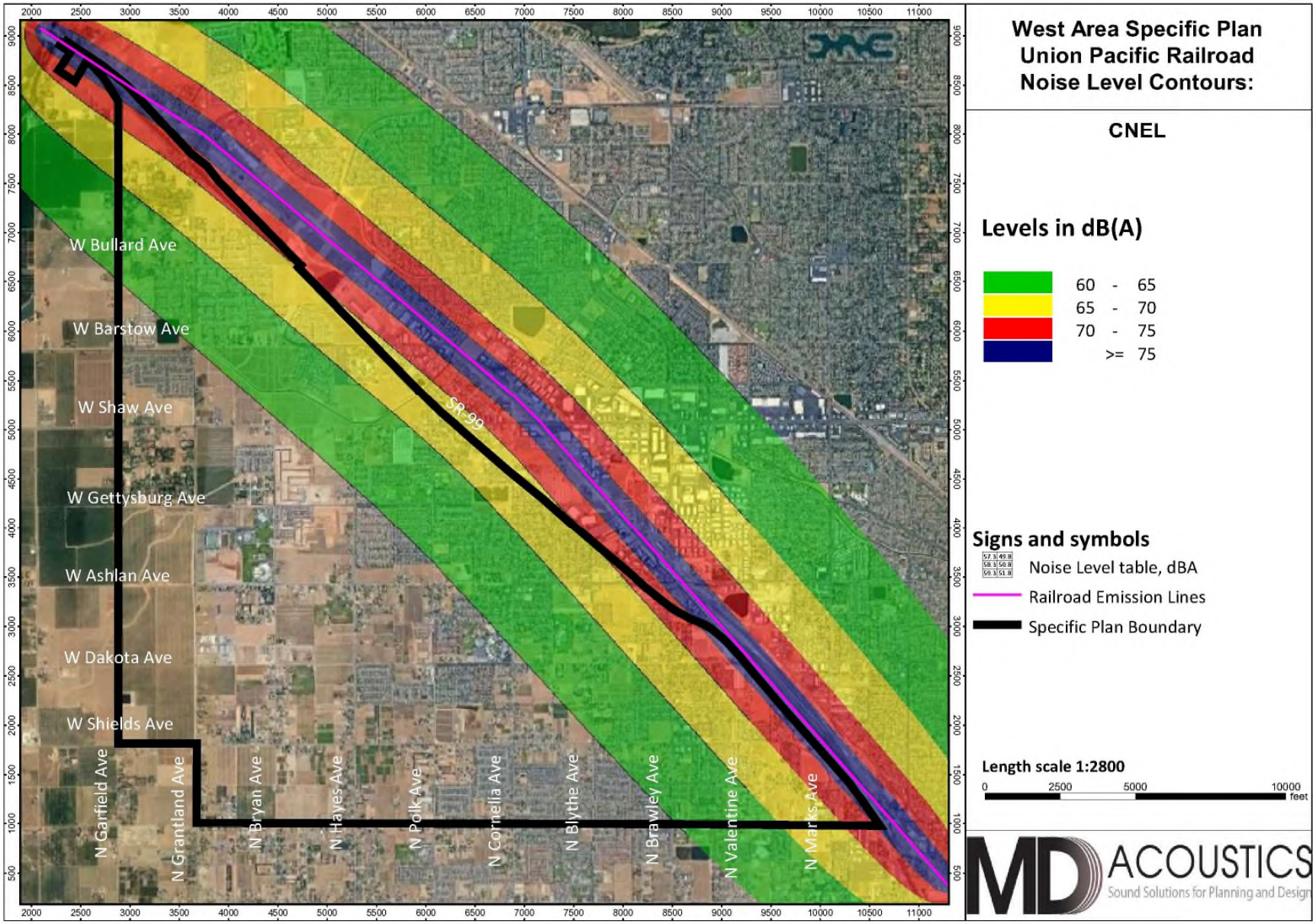

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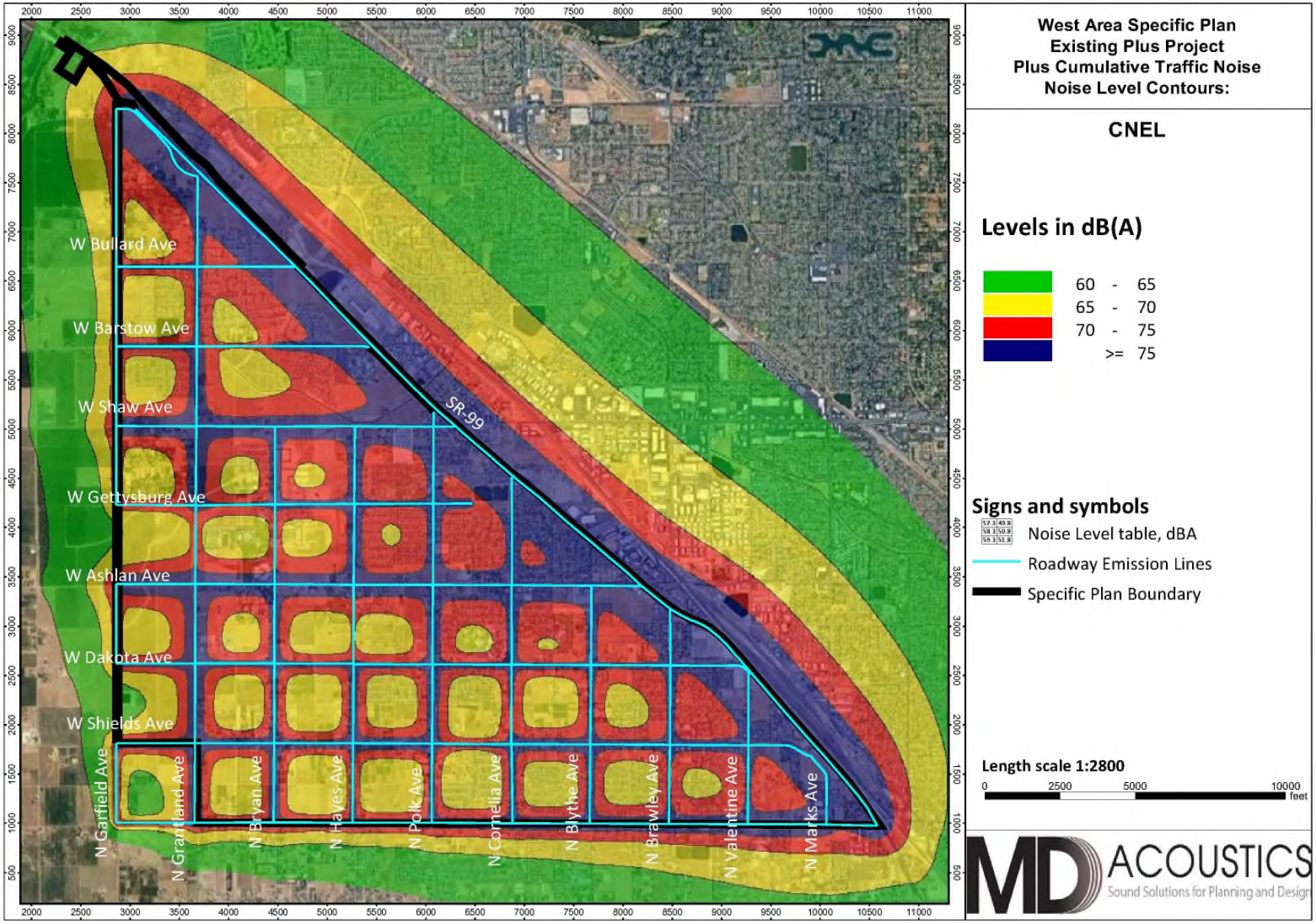
Figure 3.11-4

Existing Plus Project Plus Cumulative Roadway Noise Level Contours (CNEL)



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The purpose of this EIR section is to analyze and disclose the anticipated growth in population that would result from plan implementation, analyze the plan's consistency with relevant planning documents and policies related to population and housing, and recommend mitigation measures to avoid or minimize the significance of potential impacts. Information in this section is based on information provided by the City of Fresno, site survey, ground and aerial photographs, and the following reference materials:

- *Fresno General Plan* (City of Fresno, 2014);
- *Draft Master Environmental Impact Report General Plan and Development Code Update, City of Fresno, Fresno County, California* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- City of Fresno Housing Element (City of Fresno, 2017);
- City of Fresno, Chapter 15, Citywide Development Code (City of Fresno, Adopted December 2015);
- US Census data (U.S. Census data, 2019);
- California Department of Finance Population and Housing Estimates (E-5 Reports) (California Department of Finance, 2019).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Cathy Caples (August 1, 2019). The portion of this comment letter which relates to this topic is addressed within this section. Full comments received are included in **Appendix A**.

3.12.1 ENVIRONMENTAL SETTING

DEMOGRAPHICS

POPULATION TRENDS

U.S. Census data indicates that the City of Fresno experienced moderate population growth from 1990 to 2000, increasing from 354,091 to 427,719 persons at an annual average increase of 2.1 percent as shown in Table 3.12-1. During the decade from 2000 to 2010, the rate of growth continued at an annual average increase of 1.6 percent, reaching a total population of 494,665 in 2010. The city's population has increased during this decade to a population of 542,012in 2019.

TABLE 3.12-1: POPULATION GROWTH – FRESNO

YEAR	*POPULATION*	*ANNUAL AVERAGE CHANGE*
1990	354,091	--
2000	427,719	2.1%
2010	494,665	1.6%
2015	522,369	1.1%
2017	531,440	0.9%
2018	536,593	1.0%
2019	542,012	1.0%

SOURCE: STATE OF CALIFORNIA, DEPARTMENT OF FINANCE, E-4 POPULATION ESTIMATES FOR CITIES, COUNTIES, AND THE STATE, 2001-2010, WITH 2000 & 2010 CENSUS COUNTS AND E-5 POPULATION ESTIMATES FOR CITIES, COUNTIES, AND THE STATE, 2011-2020, WITH 2010 CENSUS BENCHMARK.

HOUSING STOCK

Table 3.12-2 summarizes the growth of the City of Fresno's housing stock from the years 2000 to 2019, based on information from the US Census and California Department of Finance. The number of housing units has increased from 171,288 in 2010 to 180,632 in 2019, an average annual increase of 0.6 percent.

TABLE 3.12 -2: HOUSING UNIT GROWTH – FRESNO

YEAR	*HOUSING UNITS*	*ANNUAL AVERAGE CHANGE*
2000	149,053	--
2010	171,288	1.5%
2015	176,915	0.7%
2017	178,819	0.5%
2019	180,632	0.5%

SOURCE: STATE OF CALIFORNIA, DEPARTMENT OF FINANCE, E-8 HOUSING ESTIMATES FOR CITIES, COUNTIES, AND THE STATE, 2000-2010 AND E-5 HOUSING ESTIMATES FOR CITIES, COUNTIES, AND THE STATE, 2011-2020, WITH 2010 CENSUS BENCHMARK.

PERSONS PER DWELLING UNIT

The average number of persons residing in a dwelling unit in Fresno is 2.97 (California Department of Finance, 2019).

JOBS:HOUSING BALANCE

As described in Section 4.11, Population and Housing, implementation of the City of Fresno General Plan Update is realistically expected to result in the construction of 76,000 new residential dwellings by the 2035 planning horizon to arrive at a total of 267,000 housing units and a population of 771,000. The City's General Plan population projection assumes total buildout of all available residential lands in the city will not be reached by the year 2035, in which case substantial population and housing growth will continue. According the City's General Plan, at the Horizon Year 2035, the General Plan can accommodate 0.48 jobs per new resident, approximately equivalent to the current percentage of the city's population in the labor force (46 percent according the 2010 U.S. Census). At General Plan horizon, the SOI could accommodate approximately a total of 108,000 new jobs above current levels, based on 0.48 jobs per 226,000 new residents anticipated by 2035. At General Plan Buildout, well after 2035, it is estimated that there would be 0.45 jobs per new resident, roughly equivalent to the current percentage of the city's population in the labor force (46 percent according to the 2010 US Census). At General Plan buildout, the SOI could accommodate approximately a total of 189,500 new jobs above current levels based on 0.45 jobs per 425,000 new residents anticipated.

GROWTH PROJECTIONS

As described in the Fresno General Plan, the city's growth is realistically expected to result in the construction of 76,000 new residential dwellings by the 2035 planning horizon to arrive at a total of

267,000 housing units and a population of 771,000. The City's General Plan residential development projection anticipates that the city will continue to develop beyond the General Plan Horizon. The city will grow into the remaining portions of the SOI that were not developed during the horizon of the General Plan. Full Buildout of this SOI is anticipated to occur well after 2035.

3.12.2 REGULATORY SETTING

STATE REGULATIONS

Senate Bill 330 "The Housing Crisis Act of 2019" is a statewide bill intended to reduce the time it takes to approve housing developments in California. SB 330 would declare a statewide housing emergency to be in effect until January 1, 2030. During that period, cities and counties found to have high rents and low rental vacancy rates would:

- Be prohibited from reducing housing densities, increasing development fees, or taking a range of other actions affecting housing development (both for-sale and rental);
- Have any such actions taken since January 1, 2018 declared null and void;
- Be prohibited from imposing fees on new units that are deed restricted for families earning less than 80% of the area median income;
- Be prohibited from enforcing requirements that new developments include parking;
- Be required to process housing development applications under the general plan and zoning ordinance in effect at the time the application is deemed complete.

Other provisions of SB 330 would apply to all jurisdictions not only those with high rents and low vacancy rates. These include requiring cities and counties to process housing development applications under the general plan and zoning ordinance in effect at the time the application is deemed complete, a ban on holding more than three de novo public hearings on a project, and a requirement that cities and counties post all development standards online. The bill would also call for the State Department of Housing and Community Development to update building standards for "occupied substandard buildings."

FRESNO COUNCIL OF GOVERNMENTS

The Fresno Council of Governments (FCOG) is an association of local governments from cities within Fresno County. The member agencies include City of Clovis, City of Coalinga, City of Firebaugh, City of Fowler, City of Fresno, City of Huron, City of Kerman, City of Kingsburg, City of Mendota, City of Orange Cove, City of Parlier, City of Reedley and City of San Joaquin, City of Sanger, City of Selma, and County of Fresno. FCOG is responsible for the preparation of, and updates to, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the region. The RTP/SCS provides a 25-year transportation vision and strategies for air emissions reduction. The 2018 MTP/SCS was adopted by the FCOG board in July 2017.

Regional Transportation Plan/Sustainable Communities Strategy

The 2018 RTP is a long-range plan for transportation improvements in the region. The RTP identifies existing and future transportation related needs, while considering all modes of travel, analyzing alternative solutions, and identifying anticipated available funding for the over 3,000 projects and multiple programs. The plan is based on projections for growth in population, housing, and jobs. FCOG determines the regional growth projections by evaluating baseline data (existing housing units and employees, jobs/housing ratio, and percent of regional growth share for housing units and employees), historic reference data (based upon five- and ten-year residential building permit averages and historic county-level employment statistics), capacity data (General Plan data for each jurisdiction), and current RTP data about assumptions used in the most recent RTP/SCS. FCOG staff then meets with each jurisdiction to discuss and incorporate more subjective considerations about planned growth for each area. Finally, FCOG makes a regional growth forecast for new homes and new jobs, based upon an economic analysis provided by a recognized expert in order to estimate regional growth potential based on market analysis and related economic data. This growth forecast is then incorporated into the RTP/SCS.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA). FCOG is the lead agency for developing the RHNA that includes Fresno County and the City of Fresno. The latest housing allocation for the City of Fresno covers the nearly eight-year period from 2013 through 2023 and consists of 23,565 units (2,833 extremely low, 2,833 very low, 3,289 low, 3,571 moderate, and 11,039 above moderate income). The City is not required to make development occur; however, the City must facilitate housing production by ensuring that land is available and that unnecessary development constraints have been removed. The City prepared and adopted an updated Housing Element to cover the 2013-2023 regional housing needs cycle (adoption date: April, 2017).

If a jurisdiction failed to make adequate sites available to accommodate the RHNA in the previous planning period, AB 1233 (Government Code Section 65584.09) requires the jurisdiction to identify and, if necessary, rezone sites in the first year of the current planning period to address the unaccommodated lower-income RHNA from the previous planning period. This requirement is in addition to the requirement to identify other specific sites to accommodate the RHNA for the current planning period. The City may not count capacity on the same sites for both planning periods. The City of Fresno must carry over 3,172 extremely- and very low-income units and 3,304 low-income units, for a total of 6,476 lower-income units from the 2008-2014 RHNA, as indicated by HCD in a letter to the City dated August 11, 2016 (corrected November 1, 2016).

FRESNO GENERAL PLAN

The Fresno General Plan articulates the community's vision of its long-term physical form and development. The Fresno General Plan is comprehensive in scope and represents the city's

expression of quality of life and community values. General plans are prepared under a mandate from the State of California, which requires that each city and county prepare and adopt a comprehensive, long-term general plan for its jurisdiction and any adjacent related lands. State law requires general plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety. Fresno General Plan population, housing, and growth policies relevant to this EIR are identified below.

Urban Form, Land Use, and DesignElement

Objective UF-1. Emphasize the opportunity for a diversity of districts, neighborhoods, and housing types.

> **Policy Uf-1-a:** Diverse Neighborhoods. Support development projects that provide Fresno with a diversity of urban and suburban neighborhood opportunities.
>
> **Policy Uf-1-c:** Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of transit-oriented, mixed-use corridors and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.
>
> **Policy UF-1-d:** Range of Housing Types. Provide for diversity and variation of building types, densities, and scales of development in order to reinforce the identity of individual neighborhoods, foster a variety of market-based options for living and working to suit a large range of income levels, and further affordable housing opportunities throughout the city.
>
> **Policy UF-1-e:** Unique Neighborhoods. Promote and protect unique neighborhoods and mixed use areas throughout Fresno that respect and support various ethnic, cultural and historic enclaves; provide a range of housing options, including furthering affordable housing opportunities; and convey a unique character and lifestyle attractive to Fresnans. Support unique areas through more specific planning processes that directly engage community members in creative and innovative design efforts.
>
> **Policy UF-1-f:** Complete Neighborhoods, Densities, and Development Standards. Use Complete Neighborhood design concepts and development standards to achieve the development of Complete Neighborhoods and the residential density targets of the General Plan.

Objective UF-12. Locate roughly one-half of future residential development in infill areas—defined as being within the City on December 31, 2012— including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Policy UF-12-c: Local-Serving Neighborhood Centers. Design Neighborhood Centers for local services and amenities that build upon the character and identity of surrounding neighborhoods and communities.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Policy UF-12-e: Access to Activity Centers. Access to Activity Centers. Promote adoption and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Mixed-Use in Activity Centers. Adopt a new Development Code which includes use regulations and standards to allow for mixed-uses and shared parking facilities.

Policy UF-12-g: Impacts on Surrounding Uses. Impacts on Surrounding Uses. Establish design standards and buffering requirements for high-intensity Activity Centers to protect surrounding residential uses from increased impacts from traffic noise and vehicle emissions, visual intrusion, interruption of view and air movement, and encroachment upon solar access.

Policy UF-12-h: Parking Standards for Shared Parking. Parking Standards for Shared Parking. Explore opportunities to provide shared parking within mixed-use designations to reduce the need to construct large parking lots or structures needed for peak use times only.

Objective UF-13. Locate roughly one-half of future residential development in the Growth Areas—defined as unincorporated land as of December 31, 2012 SOI—which are to be developed with Complete Neighborhoods that include housing, services, and recreation; mixed-use centers; or along future BRT corridors.

Policy UF-13-a: Future Planning to Require Design Principles. Require future planning, such as Specific Plans, neighborhood plans or Concept Plans, for Development Areas and BRT

Corridors designated by the General Plan to include urban design principles and standards consistent with the Urban Form, Land Use and Design Element.

Land Use Element

Objective LU-2. Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and re-developable land within the City Limits where urban services are available by considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Establish a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-2-c: Infill Design Toolkit. Incorporate standards in the Development Code to preserve the existing residential quality of established neighborhoods.

Objective LU-4. Enhance existing residential neighborhoods through regulations, code enforcement, and compatible infill development.

Policy LU-4-a: Neighborhood Nuisance Abatement. Continue proactive and responsive code enforcement and nuisance abatement programs to improve the attractiveness of residential neighborhoods.

Policy LU-2-b: Neighborhood Reinvestment. Promote and consider partnerships with lending institutions that provide a variety of financing alternatives and adhere to the provisions of the federal Community Reinvestment Act.

Policy LU-2-c: Housing Task Force. Establish an interagency housing task force to coordinate the housing programs of the City with similar programs of other local jurisdictions and the Fresno Housing Authority to develop a coordinated affordable housing implementation plan.

Objective LU-5. Plan for a diverse housing stock that will support balanced urban growth, and make efficient use of resources and public facilities.

Policy LU-5-a: Low Density Residential Uses. Promote low density residential uses only where there are established neighborhoods with semi-rural or estate characteristics.

Policy LU-5-b: Medium-Low Density Residential Uses. Promote medium-low density residential uses to preserve existing uses of that nature or provide a transition between low and medium density residential areas.

Policy LU-5-c: Medium Density Residential Uses. Promote medium density residential uses to maximize efficient use of residential property through a wide range of densities.

Policy LU-5-d: Medium-High Density Residential Uses. Promote medium-high density residential uses to optimize use of available or planned public facilities and services and to provide housing opportunities with convenient access to employment, shopping, services, and transportation.

Policy LU-5-e: Urban Neighborhood Residential Uses. Promote urban neighborhood residential uses to support compact communities and Complete Neighborhoods that include community facilities, walkable access to parkland and commercial services, and transit stops.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, and walkable access to transit stops.

Policy LU-5-g: Scale and Character of New Development. Allow new development in or adjacent to established neighborhoods that is compatible in scale and character with the surrounding area by promoting a transition in scale and architectural character between new buildings and established neighborhoods, as well as integrating pedestrian circulation and vehicular routes.

Policy LU-5-h: Housing Offering Amenities. Support housing that offers residents a range of amenities, including public and private open space, landscaping, and recreation facilities with direct access to commercial services, public transit, and community gathering spaces.

Policy LU-5-i: Housing for Seniors. Facilitate the development of senior housing projects that are accessible to public transportation and services.

Policy LU-5-j: Campus-Centered Communities. Encourage development of campus-centered communities by focusing growth around existing and planned academic facilities and by directing infrastructure to those areas.

Housing Element

Goal 2. New construction of Affordable Housing.

Policy 2-1: New Construction. The General Plan is not inconsistent with this program. As discussed above in the narrative, the Regional Housing Needs Allocation (RHNA) identified a need for approximately 20,967 units for the 2008-2013 planning period. The number of potential dwelling units allowable in the land use designations proposed by the General Plan, and by zoning in the updated Development Code meet and exceed this amount. Details can be found throughout the General Plan, including increased density and development intensity (such as Table 3-1 and Table 3-2) and infill/growth area construction (Objectives UF-1, UF-12, UF-13, LU-2, LU-4, and LU-5 and supporting Policies).

Goal 3. Housing Rehabilitation, Acquisition and Neighborhood Improvements.

> **Policy 3-1:** Neighborhood Revitalization. Although the RDA has been dissolved, this General Plan recognizes and supports the function of the RDA as is now administered by the City of Fresno in its capacity of the Housing Successor to the Redevelopment Agency of the City of Fresno, and the Successor Agency to the Redevelopment Agency of the City of Fresno. See Goal 7, 8, and 9; also Objective LU-5.

Goal 4. Housing Rehabilitation, Acquisition and Neighborhood Improvements.

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Based on the standards established by Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on population and housing if it will:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: Implementation of the Specific Plan would not induce unplanned substantial population growth. (Less than Significant)

The proposed Specific Plan would be expected to increase the population of the city of Fresno through the future development of a mixed-use, commercial and residential development. However, the West Area Neighborhoods Specific Plan seeks to provide for the orderly and consistent development that promotes enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and development of a diverse housing stock. The Plan Area does not currently have commercial amenities, forcing residents to travel east of State Route 99 for retail services. The Plan Area also lacks a complete roadway network and parkland.

The Specific Plan would allow for the future development of up to 54,953 dwelling units (DU) (including 67 DU in the commercial category, 47,072 DU in the residential category and 7,814 DU in the mixed use category), and 60,621,006.31 square feet (SF) of non-residential uses. The proposed land use plan also designates public facility uses that are currently existing within the Plan Area. There are also planned public facilities, including schools, ponding basins, and churches, which will be developed within the proposed Plan. In the northern portion of the Plan Area, Fire Station No. 18 is temporarily located off of West Bullard Avenue at 5938 North La Ventana Avenue. Fire Station 18 will be permanently relocated to a location on the south side of the 6000 block of West Shaw Avenue to maximize the department's response time goal. Additionally, the proposed land use plan would

allow for approximately 248 acres of park, open space, and ponding basin uses. The Specific Plan also includes circulation and utility improvements, some of which are planned in the City's current program for capital improvements.

Based on the City's General Plan Housing Element estimate of approximately 2.97 persons per dwelling unit, the proposed Specific Plan is estimated to accommodate 163,211 total residents in the City of Fresno at buildout. Population growth by itself is not considered a significant environmental impact. However, development of housing, infrastructure, and facilities and services to serve this growth can have significant environmental impacts through land conversion, commitment of resources, and other mechanisms.

The proposed Specific Plan would not induce substantial unplanned population growth in an area, either directly (i.e., by proposed new unplanned homes) or indirectly (i.e., by the extension of roads or other infrastructure). As part of the proposed Specific Plan, the draft land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The proposed land use plan utilizes the City's existing General Plan land use designations to maintain or re-designate some parcels in the Plan Area. Some of the designation changes include: Low Density Residential (1 to 3.5 dwelling units per acre [DU/AC]), Medium Low Density Residential (3.5 to 6 DU/AC), Medium Density Residential (5 to 12 DU/AC), Medium High Density Residential (12 to 16 DU/AC), Urban Neighborhood Residential (16 to 30 DU/AC), High Density Residential (30 to 45 DU/AC), Community Commercial (1.0 maximum floor-area-ratio [FAR]), Recreation Commercial (0.5 maximum FAR), General Commercial (2.0 maximum FAR), Regional Commercial (16 DU/AC and 1.0 maximum FAR), Office (2.0 maximum FAR), Business Park (1.0 maximum FAR), Light Industrial (1.0 maximum FAR), Corridor/Center Mixed Use (16 to 30 DU/AC and 1.5 maximum FAR), Neighborhood Mixed Use (12 to 16 DU/AC and 1.5 maximum FAR), Regional Mixed Use (30 to 45 DU/AC and 2.0 maximum FAR), Pocket Park, Neighborhood Park, Community Park, Open Space, Ponding Basin, Public Facility, Church, Special School, Elementary School, Elementary, Middle & High School, High School, and Fire Station. The City of Fresno Zoning Map designates the Plan Area as: RE, RS-1, RS2, RS-3, RS-4, RS-5, RM-1, RM-2, RM-3, RM-MH, CC, CG, CR, CRC, IL, CMX, NMX, RMX, BP, O, OS, and PR. The Fresno County Zoning Map designates the portions of the Plan Area outside the city limits as: RCC, C4, C6, M1, AE20, AL20, RR, RA, R1B, and TP. In conjunction with the approval of the Specific Plan, the parcels in the city which would have a changed land use designation as a result of the Specific Plan would be rezoned to the corresponding city zoning designation. The parcels that are currently within the county will not be rezoned. Instead, upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the county zoning would not apply to the parcel.

If the Plan Area were developed based on the land use designations in the General Plan, there would be an increase of 288.66 acres of residential uses and a decrease of 153.53 acres of mixed uses (see Table 2.0-1 of Chapter 2.0 for the existing General Plan land use acreages for the Plan Area). Given

the wide density ranges specified in the General Plan for residential and mixed use development, the proposed land use designations for this Specific Plan do not vary substantially from the existing General Plan Land use designations. Therefore, the Specific Plan does not directly induce substantial unplanned population growth. This is considered a ***less than significant*** impact in this regard.

The Specific Plan also does not induce substantial unplanned growth indirectly (through the extension of roads or other infrastructure). Roads and infrastructure would be developed throughout the Plan Area to provide internal circulation and utilities to the proposed development and would not extend outside the Plan boundaries. Furthermore, proposed growth and annexation of the city's SOI has been accounted for within the City's General Plan 10-year planning horizon and would therefore, not induce unplanned growth through the extension of city roads and other infrastructure. This is considered a ***less than significant*** impact in this regard.

It is also noted that an important outcome of the proposed Specific Plan is to increase housing opportunity and stability for existing and future Plan Area residents, which is an important tool related to environmental justice. The increase of housing variety in a neighborhood offers a greater range of pricing points for entry, with accessory dwelling units and missing middle housing types typically being more affordable. Section 5.7.B of the Specific Plan discusses housing opportunities and stability.

Overall, the Specific Plan is consistent with the regional growth projections prepared by FCOG. Additionally, the City's General Plan and housing densities requirements would ensure that the population growth associated with the Plan is consistent with the City's growth management requirements. Therefore, this impact is considered ***less than significant***.

Impact 3.12-2: Implementation of the Specific Plan would not displace substantial numbers of people or existing housing. (Less than significant)

The proposed Specific Plan sites where new development is focused are mostly vacant and would not result in significant displacements of residents or the loss of existing dwelling units. Even though several sites may be razed, redeveloped or converted as a result of new development, the addition of homes at all market levels will offset the loss of the few homes that exist. The proposed Specific Plan would also focus new development onto infill and vacant sites located throughout the Plan Area. New development in the Plan Area could result in the loss of a limited number of dwelling units as future sites are redeveloped to a more efficient mixed use or residential project. However, any loss of existing units that may occur as a result of future infill development is not expected to be significant. Overall, implementation of the proposed Specific Plan could result in the development of 54,953 additional residential units in the proposed specific Plan Area, primarily complementary in nature to existing single family residential currently existing in the Plan Area. Overall, construction and operation of the proposed Specific Plan would not remove a substantial number of existing housing units within the City of Fresno, and would not displace substantial numbers of residents. Therefore, this impact is considered a ***less than significant.***

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This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, schools, parks, and other services for the proposed project. The information in this section is derived primarily from:

- *City of Fresno Municipal Service Review and Sphere of Influence Update* (City of Fresno, 2016);
- *Fresno Parks Master Plan* (City of Fresno, 2017);
- *Fresno General Plan* (City of Fresno, 2014);
- *Response to Comments on the Draft Master Environmental Impact Report General Plan and Development Code Update - City of Fresno, Fresno County, California* (City of Fresno, 2014);
- FBI Uniform Crime Reporting, Table 8, Offenses Known to Law Enforcement (2016-2018).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Forgotten Fresno (July 17, 2019), Central Grizzlies Youth Football & Cheer (August 2, 2019), and Cathy Caples (August 1, 2019). The portions of these comment letters which relate to this topic are addressed within this section. Full comments received are included in **Appendix A**.

3.13.1 ENVIRONMENTAL SETTING

POLICE PROTECTION

The Fresno Police Department is responsible for enforcement of state and city laws, investigation of crimes, apprehension of criminals, reducing traffic collisions, maintenance of ongoing crime prevention programs, and building ties with the community and other local law enforcement agencies. The Police Department is divided into four divisions—the patrol division, the investigation division, the administrative division, and the support division. The Chief of Police supervises all divisions. As of April 3, 2020, the Fresno Police Department employs 1,061 FTE authorized personnel, including 809 FTE sworn safety members and 252 FTE civilians.[1] There are no police department facilities within the Plan Area.

The Patrol Division covers an area of 104.8 square miles provided by officers traveling by vehicle, bicycle, horse (mounted patrol), helicopter (Skywatch), and on foot. The Patrol Division includes five districts with individual needs and responses to crime. There are 505 staff in the patrol division as of April 24, 2020 with 94 personnel dedicated to the southwest district, 78 in the northwest district, 91 in the southeast district, 86 in the northeast district, and 90 in the central district. In addition, the Police Department has gang focused tactical teams to provide focused and proactive crime

[1] Personal communication with Mindy Casto, Police Captain for the Fresno Police Department, September 21, 2021.

suppression as a citywide resource for the patrol division. For example, 25 sworn personnel are assigned to the multi-agency gang enforcement consortium (MAGEC).

During 2020, Fresno Police Department received 385,177 emergency "911" calls and 520,029 non-emergency calls to the dispatch center. After being entered into the computer-aided dispatch system, each call is assigned a priority and then sent out to the field to be handled by officers.

Typically, the demand for police services and the need for police staff grows as population and businesses within the City of Fresno grow. Table 3.13-1 provides statistics on police calls/service from 2016 through 2018. The most frequent crimes requiring police services from 2016 through 2018 are related to larceny and burglary/theft. Violent crimes accounted for roughly 7.1% of crimes within the City of Fresno in 2018.

TABLE 3.13-1: CITY OF FRESNO CRIME STATISTICS (2016-2018)

CATEGORY/CRIME	*2016*	*2017*	*2018*
Total Violent Crimes	3,206	2,974	2,953
Homicide	39	56	32
Rape	158	174	170
Robbery	1,122	958	909
Assault	1,887	1,786	1,842
Total Property Crimes	20,523	20,220	17,787
Burglary	3,697	3,649	2,949
Motor Vehicle Theft	3,284	2,789	2,365
Larceny	13,542	13,782	12,473
Arson	260	217	264

SOURCE: FBI CRIME STATISTICS; HTTPS://UCR.FBI.GOV/.

FIRE PROTECTION AND EMERGENCY SERVICES

The Fresno Fire Department (FFD) was established in 1877 and is one of the oldest fire departments in the United Stated. FFD provides fire prevention, suppression and investigation services, airport fire and rescue, urban search and rescue, response to medical emergencies (EMS), and response to hazardous materials incidents. The FFD service areas are comprised of the City of Fresno, and also includes extra-territorial services via contracts to provide services to the Fig Garden Fire Protection District and Fresno Yosemite International Airport.

The Fire Chief has an executive assistant and supervises the operations division, administration division, and prevention, investigation and support services division. The FFD operates out of 21 stations (including a specialized airport station), a fire apparatus shop, and headquarters. FFD's21 stations are divided into four battalions that cover the City. As of April 2020, the Department is staffed by 346 authorized personnel, including 302 sworn safety members and 44 sworn non-safety and civilian personnel. The current daily staffing throughout the service area is as follows: City of

Fresno - 75; Airports - 2; Fig Garden Fire Protection District - 3; for a total of 80 firefighters.[2] Specialized teams within FFD include Urban Search and Rescue (USAR), Aircraft Rescue and Fire Fighting (ARFF), Hazardous Materials Response Team (HMRT), and a Communication Team. Figure 3.13-1 shows the FFD facilitates in the Plan Area.

FFD is a full-service fire department and provides services including, but not limited to, fire protection, emergency medical services, hazardous material response, and public assistance. There has been a general increasing trend in the number of calls for service since 2007, with some spikes and declines in the intervening years. Call volumes within the City tend to vary less by volume than type during each season. Typical of most fire providers, the City responds to a large proportion of emergency medical calls. The FFD response times for the first arriving unit are shown in Table 3.13-2.

TABLE 3.13-2: FFD RESPONSE TIMES WITHIN CITY BOUNDARIES (2019)

PERCENTILE (MINS)	*TURNOUT*	*TRAVEL*	*RESPONSE*
Median	0:00:59	0:03:30	0:04:30
Mean	0:00:59	0:03:44	0:04:43
Standard Deviation	0:00:32	0:01:50	0:01:56
10%	0:00:11	0:01:56	0:02:46
20%	0:00:32	0:02:26	0:03:21
30%	0:00:43	0:02:49	0:03:46
40%	0:00:51	0:03:09	0:04:08
50%	0:00:59	0:03:30	0:04:30
60%	0:01:05	0:03:51	0:04:53
70%	0:01:14	0:04:15	0:05:19
80%	0:01:24	0:04:49	0:05:53
90%	0:01:38	0:05:45	0:06:51

SOURCE: CITY OF FRESNO MUNICIPAL SERVICE REVIEW AND SPHERE OF INFLUENCE UPDATE, FIGURE 10-7.

The three performance areas tracked by FFD are the 911-dispatch alarm process time, turnout time and travel time. These performance areas have been identified in both the Commission on Fire Accreditation International process and National Fire Protection Association (NFPA) 1710. The benchmark for the 911 dispatch alarm process time is 60 seconds, as defined by the time between answering the call at the Fire/EMS dispatch center and activation of the station and/or company alerting devices by the computer-aided operator. The benchmarks for the turnout time are 60 seconds between 7:00 am and 9:59 pm and 90 seconds between 10:00 pm and 6:59 am. The interval between the activation of station and/or company alerting devices and the time when the responding crew begins rolling toward the call defines the turnout time. Travel time is defined as

[2] Personal communication with Cody Charette, Data Analyst for the Fresno Fire Department, April 23, 2020.

the time between the responding crew/apparatus signaling the dispatch center they are responding to the alarm and when the team arrives on scene.

While the 911 dispatch processing time benchmark is 60 seconds, 90 percent of the time, the Department's processing time is somewhat longer at 57 seconds 50 percent of the time and greater than 90 seconds at 90 percent of the time. The greater processing times are in large part due to the use of cell phones for 911 calls. When a 911 call is received from a cell phone, the address information is not captured by the emergency call system, thereby requiring the dispatch staff to ask a series of questions to determine location. In response to the increase in cell phone use for 911 calls, a discussion of the relativity and appropriateness of the 60-second benchmark is underway at the national level.

SCHOOLS

Central Unified School District

The Specific Plan Area is within the Central Unified School District (CUSD). CUSD has 28 schools, including six preschools, 14 elementary schools, three middle schools, two high schools, and three alternative schools. Collectively, CUSD's school facilities have a capacity of 20,287 seats. Of these 20,287 seats, 11,502 are at the elementary school level, 3,557 are at the middle school level, and 4,778 are at the high school level. Based on student enrollment data for school year 2017/2018, the enrollment of the CUSD is 15,883 students.

Additionally, a second high school in the CUSD area has recently opened. Justin Garza High School, located adjacent to Glacier Point Middle School at the intersection of West Ashlan and North Grantland Avenues, recently opened to freshman and sophomores in August 2021. The CUSD's original high school, Central High, is split into two campuses — Central East, which opened in 1996 and sits on Cornelia and Dakota avenues, and Central West, which opened in 1922 and sits on McKinley and Dickenson avenues. About 4,200 students are split between those two campuses. Since Justin Garza High School opened, the attendance boundaries have been split between Central East and Garza.[3]

Table 3.13-3 provides the enrollment and capacity for each school within the CUSD for the 2017/2018 school year. As shown in the table, all CUSD schools are currently operating under capacity, except for the Central Learning Adult/Alternative School Site (C.L.A.S.S.). Figure 3.13-1 shows the schools in the Plan Area.

[3] The Fresno Bee. Does Fresno's new high school favor rich families on the north side? Here's the map. Published November 11, 2020.

TABLE 3.13-3: CENTRAL UNIFIED SCHOOL DISTRICT: SCHOOL INVENTORY AND 2017/2018 ENROLLMENT AND CAPACITY

SCHOOL	*ENROLLMENT*	*CAPACITY*	*DIFFERENCE*
ELEMENTARY SCHOOLS			
Biola-Pershing Elementary School	235	240	-5
Harvest Elementary School	724	918	-194
Herndon-Barstow Elementary School	660	860	-200
Houghton-Kearney K-8 School	233	351	-118
Liddell Elementary School	717	876	-159
Madison Elementary School	695	1,010	-315
McKinley Elementary School	830	976	-146
Polk Elementary School	811	927	-116
River Bluff Elementary School	799	1,010	-211
Roosevelt Elementary School	490	786	-296
Saroyan Elementary School	745	927	-182
Steinbeck Elementary School	769	985	-216
Teague Elementary School	713	894	-181
Tilley Elementary School	442	742	-300
MIDDLE SCHOOLS			
El Capitan Middle School	712	1,129	-417
Glacier Point Middle School	918	1,060	-142
Rio Vista Middle School	863	1,368	-505
HIGH SCHOOL			
Central High School	4,168	4,778	-610
ALTERNATIVE SCHOOLS			
C.L.A.S.S.	218	175	+43
Pathway Community Day School	24	75	-51
Pershing Continuation High School	117	200	-83
TOTAL	**15,883**	**20,287**	**--**

SOURCES: SCHOOL ACCOUNTABILITY REPORT CARDS (PUBLISHED BY THE CUSD DURING THE 2018-2019 SCHOOL YEAR); AND CUSD FACILITIES MASTER PLAN (2016).

LIBRARY SERVICES

Library services in the City of Fresno are provided by the Fresno County Public Library. The Fresno County Public Library provides collections and services through its Central Resource Library and 34 branches. The County Public Library is part of the San Joaquin Valley Library System (SJVLS), a cooperative network of 10 public library jurisdictions in the counties of Fresno, Kern, Kings, Madera, Mariposa, Merced and Tulare.

The Plan Area contains one library, the Teague Branch, located in a newly constructed community resource center across from Teague Elementary School on Polk Avenue. The other nearest libraries to the Plan Area include the Biola Branch Library, the Fig Garden Regional Library, Gillis Branch Library, and the Central Library:

The **Teague Branch Library** is located at 4718 North Polk Avenue. The library was originally hosted in Teague Elementary from 1932 to 1950, reopening in 2014. The library was relocated to the community resource center in 2019.

The **Biola Branch Library** is located at 4885 North Biola Avenue. Opened in 1924, this branch operated in several different town locations. This branch was replaced by Fresno County Bookmobile service from 1963 to 2012. In 2012, the Biola Branch Library reopened at the Biola-Pershing Elementary School.

The **Fig Garden Regional Library** is located at 3071 West Bullard Avenue in a 9,929 square foot building. This library opened in 1962 to meet the needs of northern Fresno's growing population. This library was first located in the Fig Garden Village shopping center, but relocated in 1995 to a larger facility at Bullard and Marks Avenues.

The **Gillis Branch Library** is located at 629 West Dakota Avenue in a 6,263 square foot building. This branch opened in 1940 on Olive Avenue, in rented space; the branch moved to the corner of Dakota and Fruit Avenues in 1975. This library was named in honor of James Gillis (1857-1917), founder of the California county library system.

The **Central Library** is located at 2420 Mariposa Street in an 82,716 square foot building. The Central Library is the successor to several different downtown Fresno libraries; the first of which opened in 1876. The first true Fresno public library opened in 1891 and occupied its first real home on Broadway in 1904. The current Central Library branch opened its doors in 1959 and is known for its Heritage Center and Government Documents collection.

PARKS AND RECREATION SYSTEM

City of Fresno Parks, After School, Recreation and Community Services (PARCS) Department owns and operate numerous parks including regional parks, neighborhood parks, trails, dog parks, community centers, action sports facilities, play structures, pools, splash parks, and golf courses. PARCS offers recreation opportunities through sports activities for youth and adults at a minimum or no cost.

The City maintains approximately 1,617 acres of open space and nearly 230,000 square feet of building space dedicated to recreational/educational purposes. Other facilities include nine community pools, four splash parks, 518 picnic tables, 153 barbeque grills, three amphitheaters, 54 baseball/softball fields, 53 football/soccer fields, 40 basketball courts, 11 volleyball courts, 40 tennis courts, seven skate parks, and five dog parks. The park system also provides and maintains 115 acres of paths and trails for pedestrians and bicyclists. Figure 3.13-1 shows the parks in the Plan Area.

The City of Fresno presently operates three regional parks. The Regional Sports Complex is located at Jensen and West Avenues and is a 114.3-acre sports center. This park contains six softball and nine soccer fields. In addition, it also has an 8.68-acre paintball shooting complex. The PARCS

Department offers softball leagues and tournaments for approximately 1,380 teams each year. The sports complex also hosts a number of major music concerts throughout the year. The Regional Sports Complex is located approximately 5.1 miles south of the southern boundary of the Plan Area.

Roeding Park has evolved into a regional park since its inception in 1903. Although originally intended as a large community park that would provide picnicking and recreation space for Fresno residents, the addition of Storyland, Playland and the Fresno Chaffee Zoo have turned this into a major regional park site. This park now services a significant number of guests who live outside of Fresno and visit the park for the major attractions located at the facility. Roeding Park is located approximately 1.3 miles south of the southern boundary of the Plan Area.

Woodward Park is a 300-acre site that contains the Rotary Amphitheater, the Shinzen Japanese Garden, numerous walking trails, picnic shelters and serves as a gateway to the San Joaquin River. Because of its size and mature trees, this facility draws thousands of visitors for exercise and major cultural arts functions. Woodward Park is located approximately 6.5 miles northeast of the eastern boundary of the Plan Area.

Table 3.13-4 summarizes the City's park and recreation facilities, including the facility name, location, size, hours, and amenities.

TABLE 3.13-4: CITY OF FRESNO PARK AND RECREATION FACILITIES

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
Alfonso Hernandez Youth Center	1515 E. Divisadero St.	N/A	Dawn - 10PM	Recreation room, computer lab
Almy Park	228 W Almy Ave.	0.5 acres	Dawn - Dusk	Playground, grass areas, picnic tables
Al Radka Park	5897 E. Belmont Ave.	14.35 acres	Dawn - 10PM	Turf areas, playground, baseball & softball fields, football & soccer fields, field lights, picnic tables & BBQ, shade structures, restrooms, community garden.
Belcher Neighborhood Park	2158 E. Alluvial Ave	5.50 acres	Mon - Sun 7AM – 10PM	Turf areas, playground, picnic tables & BBQs, restrooms.
Bigby Villa	1329 E. Florence, Ave.	2.43 acres	Dawn - Dusk	Pocket park with turf areas, playground.
California/Mayor/A	607 Mayor Ave.	0.13 acres	Dawn - Dusk	Pocket park with a picnic table & BBQ.
California/ Tupman	2094 S. Tupman St.	0.95 acres	Dawn - Dusk	Pocket park with 3 picnic tables & a BBQ.
Maxie L. Parks Community Center	1802 E. California Ave.	2.12 acres	Mon - Fri 9AM – 8PM	Gymnasium, meeting rooms, kitchen.
Camp Fresno	53849 Dinkey Creek Rd., Shaver Lake	40.0 acres	Late May - Late Oct	51 rental cabins with wood burning stove, table and stools. BBQ pit, picnic table and campfire ring. Cold

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
				lockers in a walk-in refrigerator, washing machines and showers located throughout camp. Recreation hall.
Camp Fresno Junior	53849 Dinkey Creek Rd., Shaver Lake	N/A	Late May - Late Oct	Two dorms, three counselor cabins, dining pavilion, fully equipped kitchen and shower house with washing machines.
Carozza Neighborhood Park	4921 E. Olive Ave.	6.0 acres	Dawn - 10PM	Turf areas, playground, baseball & softball fields, restrooms
Cary Neighborhood Park	4750 N. Fresno St.	8.8 acres	Dawn - Dusk	Turf areas, playground, baseball & softball fields, football & soccer fields, in-line hockey court, tennis courts, picnic tables & BBQs, restrooms.
Centex Park	5626 E. Burns Ave.	0.98 acres	Dawn - Dusk	Pocket Park. Turf area, picnic tables.
Chandler	1225 S Crystal Ave.	1.93 acres	Dawn - Dusk	Turf areas, playground, basketball courts, picnic tables & BBQs.
Cultural Arts District Park	1615 Fulton St.	0.15 acres	9AM – 6PM	Playground, shade areas, grass areas, picnic tables & BBQs.
Dickey Playground	50 N. Calaveras St.	2.02 acres	Dawn - 10PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball court, tennis courts, splash park, picnic shelter, picnic tables & BBQs, restrooms.
El Capitan Dog Park (Basin AH1)	4257 W. Alamos Ave.	1.5 acres	May - November: 7AM – 10PM daily	Turf areas, picnic tables.
East Fresno Boys & Girls Club	1621 S. Cedar Ave.	4.63 acres	M-F	Turf areas, baseball & softball fields, football & soccer fields, basketball court, gymnasium, social hall, kitchen, restrooms.
Eaton Plaza	2330 Fresno St.	2.93 acres	Dawn - Dusk	Turf areas, amphitheater. Movies in the Park program
Einstein Neighborhood Center	3566 E. Dakota Ave.	12 acres	Park: Dawn - 10PM Center: 3PM - 7PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball court, tennis courts, volleyball courts, learner pool, picnic shelter, picnic tables & BBQs, social hall, computer lab, kitchen, restrooms.
El Dorado Mini Park	1343 E. Barstow Ave.	1.64 acres	Center: 3PM - 7PM	Turf areas, basketball courts, picnic tables, computer lab, restrooms. Recreational activities.
Emerald Park	3599 W. Wathen Ave.	1.28 acres	Dawn - Dusk	Pocket Park. Turf area.

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
Figarden Loop Park	4265 W. Figarden Dr.	8.54 acres	Dawn - 10PM	Turf areas, playground, baseball fields, splash park, picnic shelter, picnic tables & BBQs, shade structures, restrooms, and concession building.
Fink-White Neighborhood Center	535 S. Trinity St.	8.71 acres	Park: Dawn - 10PM Center: 3PM - 7PM Summer Pool: 1-5PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball court, learner pool, wading pool, picnic shelter, picnic tables & BBQs, picnic shelter, social hall, computer lab, kitchen, restrooms.
First & Nevada	253 N First St.	0.08 acres	Dawn - Dusk	Pocket Park. Turf area
Frank H. Ball Neighborhood Center	760 Mayor Ave.	2.94 acres	Pool: Seasonal Park: Dawn - 10PM Center: 3PM - 8PM Sat. 12-5PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball courts, gymnasium, swimming pool, wading pool, picnic tables & BBQs, social hall, computer lab, kitchen, restrooms.
Granny's Park	2024 E. Pontiac Way	1.15 acres	Park: Dawn - 10PM	Turf areas, basketball courts, picnic tables & BBQs. Recreational facility.
Habitat Park	300 W. Garrett Ave.	1.05 acres	Dawn - Dusk	Pocket Park. Turf area
Highway City Neighborhood Center	5140 N. State St.	2.0 acres	Science Workshop: 3-7 PM Mon-Fri	Playground, picnic tables, BBQ.
Hinton Neighborhood Park	2385 S. Fairview Ave.	6.23 acres	Dawn - Dusk	Turf area, baseball/softball fields, soccer/football field, tennis courts, picnic table, BBQ.
Holmes Neighborhood Center	212 S. First St.	9.10 acres	Park: Dawn - 10PM Center: 3PM - 7PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball courts, tennis courts, lawn bowling court, outdoor stage, gymnasium, wading pool, picnic tables & BBQs, social hall, computer lab, kitchen, restrooms. Full-service center offering many recreational programs.
Holman Neighborhood Park	6522 N. West Ave.	4.55 acres	Dawn - Dusk	Turf areas, playground, baseball & softball fields, football & soccer fields, volleyball courts, picnic tables & BBQs, picnic shelter, restrooms
Hyde Neighborhood Park	319 W. Florence Ave.	19 acres	Dawn - Dusk	Turf areas
Inspiration Park*	5770 Gettysburg Ave.	7.9 acres	Dawn - Dusk	Grass areas, playground, baseball field, basketball courts, picnic shelter, restrooms.
Kaiser Neighborhood Park	425 E. Alluvial Ave.	4.66 acres	Dawn - Dusk	Turf areas, playground, baseball/ softball fields, football & soccer fields, basketball court, court lights, skate

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
				park, picnic tables & BBQs, restrooms.
Kearney/Fresno Park	Kearney Blvd. & Fresno St.	1.0 acres	Dawn - Dusk	Pocket Park. Turf area, playground.
Keith Tice Memorial Neighborhood Park	8695 N. Millbrook Ave.	4.06 acres	Dawn - Dusk	Turf areas, playground, par/fitness course, picnic tables & BBQs, restrooms. Turf areas, playground, football & soccer fields, basketball court, picnic tables & BBQs, restrooms.
Koligian Neighborhood Park	5165 W. Alluvial Ave.	7.20 acres	Dawn - Dusk	Grass area, playground, picnic tables.
Lafayette Neighborhood Center	1516 E. Princeton Ave.	4.13 acres	Park: Dawn - 10PM Center: 3PM - 7PM Summer Wader Pool: 1-5PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball courts, handball courts tennis courts, volleyball courts, wading pool, picnic tables, social hall, computer lab, kitchen, restrooms. Recreational programs.
Large Neighborhood Park	4424 N Millbrook Ave.	6.24 acres	Dawn - Dusk	Turf areas, football & soccer field.
Lewis S. Eaton Trail	Northeast edge of Woodward Park and continuing north parallel to Friant Ave.	4 miles	Dawn - Dusk	Benches, bridges, trees.
Lions Neighborhood Park	4650 N. Marks Ave.	9.02 acres	Park: Dawn - 10PM Skate: 3PM - 7PM	Turf areas, playground, baseball & softball fields, football & soccer fields, tennis courts, volleyball courts, court lights, picnic tables & BBQs, restrooms, skate park.
Logan Neighborhood Park	5450 N. Santa Fe Ave.	9.0 acres	Dawn - Dusk	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball court, tennis courts, court lights, picnic tables & BBQs, restrooms.
Manchester Neighborhood Park	3414 N. Fresno St.	9.4 acres	Park: Dawn - Dusk Summer Wader Pool: 1-5PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball court, wading pool, picnic tables & BBQs, restrooms.
Maple/Huntington Park	Maple Ave. & Huntington Blvd.	0.03 acre	Dawn - Dusk	Pocket park. Turf area.
Maple/McKinley Park	Maple Ave. & University Ave.	0.11 acre	Dawn - Dusk	Pocket park. Turf area with picnic table.

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
Martin Ray Reilly Park	770 N. Chestnut Ave.	3.38 acres	Dawn - Dusk	Turf areas, playground, football & soccer fields, basketball court, picnic tables & BBQs, splash pad, restrooms.
Mary Ella Brown Community Center	1350 E. Annadale Ave.	4.48 acres	Pool: Seasonal Park: Dawn - 10PM Center: 3PM - 7PM	Turf areas, playground, swimming pool, social hall, community center, computer lab, kitchen, restrooms. Open recreation activities and Fresno Connect Computer Lab.
Mayor & Ventura Park	Mayor Ave. & Ventura Ave.	0.11 acre	Dawn – Dusk	Pocket park. Turf area
Melody Neighborhood Center	5935 E. Shields Ave.	5 acres	Park: Dawn - 10PM Center: 3PM - 7PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball courts, tennis courts, court lights, skate, park, picnic tables & BBQs, social hall, computer lab, kitchen, restrooms. Crafts programs.
Mosqueda Community Center	4670 E. Butler Ave.	10.02 acres	Pool: Seasonal Park: Dawn - 10PM Center: 3PM - 7PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball courts, bike park, swimming pool, picnic tables & BBQ, community center, social hall, computer lab, library, auditorium with stage, meeting & conference rooms, kitchen, restrooms. Senior hot meals & recreation, dance classes, martial arts, Fresno Connect Computer Lab.
Nielsen Neighborhood Park	1730 S. Fruit St.	4.44 acres	Dawn – Dusk	Turf areas, playground, baseball & softball fields, basketball courts, picnic tables & BBQs, restrooms.
Ninth & Tulare Park	3925 E Tulare Ave.	0.15 acre	Dawn – Dusk	Pocket park, turf area
Orchid Neighborhood Park	3420 W. Fir Ave.	5.18 acres	Dawn – Dusk	Turf areas, playground, baseball & softball fields, football & soccer fields, tennis courts, picnic tables & BBQs, restrooms.
Oso de Oro Lake Neighborhood Park	5550 N. Forkner Ave.	5.6 acres	N/A	Turf areas, playground, basketball courts, lake, picnic tables & BBQs, covered pavilion, restrooms.
Pilibos Neighborhood Park	4945 E. Lane Ave.	13.29 acres	Dawn - 10PM	Turf areas, playground, football & soccer fields, picnic tables & BBQs, picnic shelter, restrooms.
Pinedale Community Center	7170 N. San Pablo Ave.	0.50 acre	Mon-Fri: 8AM - 8:30PM Pool: Seasonal	Turf areas, playground, basketball courts, learner pool, social hall with a stage, computer lab, kitchen, restrooms, parking lot. Senior nutrition program, open recreation activities, youth club, special summer activities.

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
Pride Park	Fresno Ave. & California Ave.	0.75 acre	Dawn – Dusk	Pocket park. Turf area, picnic table, BBQ.
Quigley Neighborhood Center	808 W. Dakota Ave.	8.26 acres	Pool: Seasonal Park: Dawn - 10PM Center: 3PM - 7PM	Turf areas, playground, baseball & softball fields, football & soccer fields, basketball courts, tennis courts, volleyball courts, court lights, learner pool, picnic tables & BBQs, computer lab, kitchen, restrooms.
Radio Neighborhood Park	2233 N First St.	7.51 acres	Dawn – Dusk	Turf areas, playground, baseball & softball field, football & soccer field, picnic tables, restrooms, parking lot. Home to the Fresno Arts Center which displays art exhibits, provides classes, workshops, concerts, festivals.
Reedy Discovery Center	1944 N. Winery Ave.	5.64 acres	Tues-Sun: 10AM-4PM Garden of the Sun: Mon, Wed Fri, Sat 9AM-1PM	Home to the Garden of the Sun Demonstration Garden, Discovery Center science education center and Deutsch Cactus Garden.
Regional Sports Complex	1707 W. Jensen Ave.	116.09 acres	Dawn - 10PM	Turf areas, playgrounds, baseball & softball fields, football & soccer fields, field lights, vert ramp, paintball zone, concession booth, picnic tables & BBQs, picnic shelter, restrooms.
Riverbottom Park	6038 W. Bluff Ave.	41.22 acres	Dawn – Dusk	Located along the river (no amenities)
Riverside Municipal Golf Course	7492 N. Riverside Dr., Fresno	10 acres	Dawn – Dusk	18-hole driving range, practice putting green, coffee shop, pro shop, restrooms, parking. New cart paths, greens and water hazard. Fees charged per round of golf.
Robinson Neighborhood Park	401 E. Browning Ave.	4.97acres	Dawn – Dusk	Turf areas, playground, football & soccer field, picnic tables.
Roeding Regional Park	890 W. Belmont Ave.	145.47 acres	Apr-Oct: 6AM – 10PM Nov - Mar: 6AM – 7PM	Turf areas, playgrounds, football & soccer fields, handball courts, tennis courts, volleyball court, court lights, par/fitness course, dog park, lake, picnic shelter, picnic tables & BBQs, restrooms. Home to the Fresno Chaffee Zoo and Rotary Storyland and Playland.
Romain Neighborhood Center	745 N. First St.	8.02 acres	N/A	Turf areas, playground, baseball & softball field, football & soccer field, basketball courts, skate park, gymnasium, learner pool, picnic tables & BBQs, social hall, computer lab,

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
				kitchen, restrooms. Full-service center providing swim lessons, youth leagues, day camps.
Rotary East Neighborhood Park	6464 N. Cedar Ave.	4.27 acres	Dawn – Dusk	Turf areas, playground, baseball & softball field, football & soccer field, tennis courts, picnic tables & BBQs, restrooms.
Rotary West Neighborhood Park	3202 E. Gettysburg Ave.	13.64 acres	Dawn – Dusk	Turf areas, playground, baseball & softball fields, football & soccer field, basketball court, picnic tables & BBQs, restrooms.
Safety Park	6350 N. Rafael Ave.	0.89 acre	Dawn – Dusk	Pocket park. Turf area
San Pablo Family Park	511 N. San Pablo Ave.	1.45 acres	Dawn – Dusk	Playground
Selma Layne Neighborhood Park	2065 E. Shepherd Ave.	8.52 acres	Dawn – Dusk	Turf areas, playground, baseball & softball field, football & soccer field, basketball court, picnic shelter, picnic tables & BBQs, restrooms.
Spano Park	8090 N. Palm Ave.	1.22 acres	Dawn – Dusk	Turf areas, picnic tables
Stallion Neighborhood Park	6245 N. Polk Ave.	5.65 acres	Dawn – Dusk	Turf areas, playground, baseball & softball field, football & soccer field, basketball court, picnic tables & BBQs, restrooms.
Sugar Pine Trail	Copper Avenue to Nees Avenue	N/A	Dawn – Dusk	Paved trail, benches, large variety of trees
Sunnyside Neighborhood Park	5279 E. Butler Ave.	4.27 acres	Dawn – Dusk	Turf areas, playground, baseball & softball field, football & soccer field, picnic tables & BBQs, restrooms.
Sunset Neighborhood Center	1345 W. Eden Ave.	0.97 acres	Mon-Fri 3PM - 7PM Wader Pool: Seasonal	Turf areas, playground, wading pool, picnic tables & BBQ, social hall, community center, computer lab, kitchen, restrooms.
Ted C. Wills Community Center	770 N. San Pablo Ave.	4.28 acres	Mon-Fri 7AM – 8 PM	Turf areas, playground, baseball & softball fields, basketball courts, volleyball courts, field lights, picnic tables & BBQ, gymnasium, social hall, community center, meeting & conference rooms, computer lab, library, kitchen, restrooms, parking lot. Senior nutrition program, EOC Headstart program, and the Valley Art and Science Academy (VASA) Charter School.
Todd Beamer Neighborhood Park	9797 N Maple Ave.	6.94 acres	6AM – 10PM daily	Turf areas, playgrounds, football & soccer field, basketball courts, par & fitness course, skate park, splash park,

FACILITY	*LOCATION*	*SIZE*	*HOURS OPEN*	*PURPOSE/AMENITIES*
				dog park, picnic tables & BBQs, restrooms.
Trolley Creek Park	5100 E. Huntington Ave.	3.0 acres	N/A	Turf areas, playgrounds, amphitheater, picnic shelters & BBQs, restrooms
University Neighborhood Park	4085 S. Angus St.	2.38 acres	Dawn – Dusk	Turf areas, picnic tables & BBQs
Jaswant Singh Khalra Park	3861 West Clinton Ave.	19.71 acres	6AM – 10PM daily	Turf areas, playgrounds, baseball & softball field, football & soccer fields, basketball courts, court lights, dog park, shade structures & picnic shelter, picnic tables & BBQs, restrooms.
Victoria Neighborhood Park	3165 W. Shields Ave.	19.71 acres	Dawn – Dusk	Grass areas, shade areas, picnic tables & BBQs
Vinland Neighborhood Park	4695 E. Gettysburg Ave.	7.88 acres	Dawn - 10PM	Turf areas, playgrounds, baseball & softball field, football & soccer fields, tennis courts, court lights, picnic tables & BBQs, restrooms.
Willow/Balch Pocket Park	4963 E. Balch Ave.	1.15 acres	Dawn – Dusk	Turf areas, playground, picnic tables & BBQs.
Woodward Regional Park	7775 N. Friant Rd.	300 acres	Spring and Summer: 6AM - 10PM Fall and Winter: 6AM – 7PM	Turf areas, playgrounds, lake, Shinzen Japanese Garden with tea house, par & fitness course, dog park, shade structures & picnic shelters, picnic tables & BBQs, amphitheater, restrooms. BMX track, Disc Golf Course, Art of Life Garden.

*NOTE: * = WITHIN PLAN AREA.*
SOURCE: FRESNO MSR, FIGURE 12-1.

3.13.2 REGULATORY SETTING

The following is an overview of the federal, State and local regulations that are applicable to the proposed Specific Plan.

STATE

Police Protection

There are no State regulations related to police protection services applicable to the proposed project.

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

CALIFORNIA FIRE CODE AND UNIFORM FIRE CODE

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new and existing buildings and premises.

Additionally, the Uniform Fire Code with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

NATIONAL FIRE PROTECTION ASSOCIATION 1710

The NFPA 1710 Standards are applicable to urban areas and where staffing is comprised of career Firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one (1) minute or less for at least 90 percent of the alarms
- Turnout time of one (1) minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four (4) minutes or less for the arrival of the first arriving engine company at a fire incident and eight (8) minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident
- Eight (8) minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department

Parks/Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development. The City collects impact fees for both parks and recreation, but anticipates that a West Area Parks Impact Fee will be established. For residential projects, the fees are collected at the time of occupancy and include both capital impacts and land acquisition. Commercial projects are required to pay impact fees at building permit issuance.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites

in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by State regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses;
- Traffic and school bus safety issues.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This Act was approved by California voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds have also been used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill No. 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for State construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- **Level I** fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- **Level II** fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- **Level III** fees are outlined in Government Code Section 655995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of State funding.

LOCAL

Fresno General Plan

The Fresno General Plan contains the following objectives and policies that are relevant to public services and recreation:

PUBLIC UTILITIES AND SERVICES ELEMENT

Objective PU-1: Provide the level of law enforcement and crime prevention services necessary to maintain a safe, secure, and stable urban living environment through a Police Department that is dedicated to providing professional, ethical, efficient and innovative service with integrity, consistency and pride.

> **Policy PU-1-a:** Integration of Crime Data. Develop a mechanism to share pertinent crime data from multiple sources with other law enforcement agencies as a means of improving service delivery, officer safety, and providing a safer community for the citizens of Fresno.
>
> - Strive to develop and implement data sharing agreements externally throughout County of Fresno Law Enforcement Agencies with the intent of participating in region-wide data sharing agreements throughout the State of California.
> - Utilize developing technologies internally to ensure that crime specific data is

made available for first responders and criminal investigators.

- Develop advanced predictive policing capabilities to ensure that limited law enforcement resources are properly placed to reduce criminal activity in locations of the city that are identified as having a high probability of criminal activity.
- Fully implement a Real Time Crime Center which provides responding officers integrated computer data, video data from the Video Policing Unit, and up-to-date emergency dispatch information as a means of improving officer safety to critical incidents and service delivery to the community.

Policy PU-1-b: Involvement in General Plan. Facilitate Police Department participation in the implementation of General Plan policies, including citizen participation efforts and the application of crime prevention design measures to reduce the exposure of neighborhoods to crime and to promote community security.

- Facilitate Police Department communication with citizen advisory committees.
- Refer appropriate development entitlements to the Police Department for review and comment.

Policy PU-1-c: Safety Considerations in Development Approval. Continue to identify and apply appropriate safety, design and operational measures as conditions of development approval, including, but not limited to, street access control measures, lighting and visibility of access points and common areas, functional and secure on-site recreational and open space improvements within residential developments, and use of State licensed, uniformed security.

Policy PU-1-d: New Police Station Locations. Consideration will be given to collocating new police station facilities with other public property including, but not limited to, schools, parks, playgrounds, and community centers to create a synergy of participation in the neighborhood with the potential result of less vandalism and promotion of a better sense of security for the citizens using these facilities.

Policy PU-1-e: Communication with Public. Maximize communication and cooperative efforts with residents and businesses in order to identify crime problems and optimize the effectiveness of crime prevention measures and law enforcement programs.

Policy PU-1-f: Law Enforcement Collaboration. Collaborate with community-based public, non-profit and private agencies to:

- Develop comprehensive narcotics and violence prevention programs designed to discourage delinquent behavior and narcotics abuse and to encourage viable alternative behaviors.
- Develop a more concentrated understanding of how to assist and support citizens with a variety of disabilities, especially those with cognitive and developmental auditory disabilities.

- Maintain active involvement in youth development and delinquency prevention activities.

Policy PU-1-g: Plan for Optimum Service. Create and adopt a program to provide targeted police services and establish long-term steps for attaining and maintaining the optimum levels of service - 1.5 unrestricted officers per 1,000 residents.

Policy PU-1-h: Retail Conversion. Assist community groups seeking information on conversion of establishments with off-site or on-site liquor sales licenses to other retail products that better meet community needs.

Policy PU-1-i: Crime and Nuisances. Assist community and neighborhood groups seeking to reduce crime and nuisances they associate with high concentrations of establishments with off-sale or on-sale liquor licenses through Police Department consultations, other available services, and programs such as Neighborhood Watch.

Policy PU-1-j: Lighting and Safety. Ensure adequate lighting at off-sale liquor stores to help deter crime and to promote a more inviting and safe atmosphere around them.

Objective PU-2: Ensure that the Fire Department's staffing and equipment resources are sufficient to meet all fire and emergency service level objectives and are provided in an efficient and cost effective manner.

Policy PU-2-a: Unify Fire Protection. Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing automatic aid agreements, will lead to the eventual unification of fire protection services in the greater Fresno area.

Policy PU-2-b: Maintain Ability. Strive to continually maintain the Fire Department's ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings and in other high-density residential and commercial development throughout the city.

Policy PU-2-c: Rescue Standards. Develop appropriate standards, as necessary, for rescue operations, including, but not limited to, confined space, high angle, swift water rescues, and the unique challenges of a high speed train corridor.

Policy PU-2-d: Station Siting. Use the General Plan, community plans, Specific Plans, neighborhood plans, and Concept Plans, the City's Geographic Information Systems (GIS) database, and a fire station location program to achieve optimum siting of future fire stations.

Policy PU-2-e: Service Standards. Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:

- First Unit on Scene – First fire unit arriving with minimum of three firefighters within 5 minutes and 20 seconds from the time the unit was alerted to the emergency incident.
- Effective Response Force – Provide sufficient number of firefighters on the scene of an emergency within 9 minutes and 20 seconds from the time of unit alert to arrival. The effective response force is measured as 15 firefighters for low risk fire incidents and 21 firefighters for high risk fire incidents and is the number of personnel necessary to complete specific tasks required to contain and control fire minimizing loss of life and property.

Policy PU-2-f: Plan for Optimum Service. Create and adopt a program to provide appropriate number of employees to effectively respond to call volume and type; and establish a long-term plan to attain a level of service of 0.81 firefighters per 1,000 residents.

Policy PU-2-g: Community Facilities District for Emergency Services. Develop strategies on the formation of Community Facilities Districts in new Development Areas to fund emergency services.

Objective PU-3: Enhance the level of fire protection to meet the increasing demand for services from an increasing population.

Policy PU-3-a: Fire Prevention Inspections. Develop strategies to enable the performance of annual fire and life safety inspection of all industrial, commercial, institutional, and multi-family residential buildings, in accordance with nationally recognized standards for the level of service necessary for a large Metropolitan Area, including a self-certification program.

Policy PU-3-b: Reduction Strategies. Develop community risk reduction strategies that target high service demand areas, vulnerable populations (e.g. young children, older adults, non-English speaking residents, persons with disabilities, etc.), and high life hazard occupancies.

Policy PU-3-c: Public Education Strategies. Develop strategies to re-establish and enhance routine public education outreach to all sectors of the community.

Policy PU-3-d: Review Development Applications. Continue Fire Department review of development applications, provide comments and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.

Policy PU-3-e: Building Codes. Adopt and enforce amendments to construction and fire codes, as determined appropriate, to systematically reduce the level of risk to life and property from fire, commensurate with the City's fire suppression capabilities.

Policy PU-3-f: Adequate Infrastructure. Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.

Policy PU-3-g: Cost Recovery. Continue to evaluate appropriate codes, policies, and methods to generate fees or other sources of revenue to offset the ongoing personnel and maintenance costs of providing fire prevention and response services.

Policy PU-3-h: Annexations. Develop annexation strategies to include the appropriate rights-of-way and easements necessary to provide cost effective emergency services.

Policy PU-3-i: New Fire Station Locations. Consideration will be given to co-locating new Fire Station facilities with other public property including, but not limited to, police substations, schools, parks, playgrounds, and community centers to create a synergy of participation in the neighborhood with the potential result of less vandalism and promotion of a better sense of security for the citizens using these facilities.

ECONOMIC DEVELOPMENT ELEMENT

Objective ED-5: Achieve fiscal sustainability.

Policy ED-5-b: Fair and Proportional Payments. Require new residential and commercial development that requires annexation to the City to pay its fair and proportional share of needed community improvements through impact fees, assessment districts, and other mechanisms. Approve new residential and commercial development projects that require annexation to the City only after making findings that all of the following conditions are met:

- No City revenue will be used to replace or provide developer funding that has or would have been committed to any mitigation project;
- The development project will fully fund public facilities and infrastructure as necessary to mitigate any impacts arising from the new development;
- The development project will pay for public facilities and infrastructure improvements in proportion to the development's neighborhood and citywide impacts; and
- The development will fully fund ongoing public facility and infrastructure maintenance and public service costs.

LAND USE ELEMENT

Objective LU-1: Establish a comprehensive citywide land use planning strategy to meet economic development objectives, achieve efficient and equitable use of resources and infrastructure, and create an attractive living environment.

Policy LU-1-e: Annexation Requirements. Adopt implementing policies and requirements that achieve annexations to the City that conform to the General Plan Land Use Designations and open space and park system, and are revenue neutral and cover all costs for public infrastructure, public facilities, and public services on an ongoing basis consistent with the requirements of ED-50b.

Objective LU-11: Encourage coordination with adjacent jurisdictions in providing public services, infrastructure and cooperative economic development.

Policy LU-11-a: Regional Programs. Coordinate with the County of Fresno, County of Madera, the City of Clovis and other cities or special districts to:

- Promote resource management programs to avoid overlap and duplication of effort;
- Promote the development of a regional justice system program to meet future needs of the justice system, both adult and juvenile, including the judicial system and law enforcement;
- Promote the development of a regional public health program to meet future needs including community, environmental and mental health services; and
- Promote the development of a regional program to meet future library, recreational and social service needs of the region.

PARKS, OPEN SPACE, AND SCHOOLS ELEMENT

Objective POSS-1: Provide an expanded, high quality and diversified park system, allowing for varied recreational opportunities for the entire Fresno community.

Policy POSS-1-a: Parkland standard. Implement a standard of at least three acres of public parkland per 1,000 residents for Pocket, Neighborhood, and Community parks throughout the city, while striving for five acres per 1,000 residents for all parks throughout the city, subject to identifying additional funding for regional parks and trails.

Policy POSS-1-b: Parks Implementation Planning. Conduct ongoing planning to implement park policies established in this General Plan and continue to strive for well-maintained and fully accessible playgrounds, with accessible amenities, throughout the city.

- Keep an up-to-date inventory of existing and planned parks, including locations mapped on the Parks and Open Space Diagram;
- Plan for acquiring new parkland designated in the General Plan, as shown in Figure POSS-1;
- Establish a standard protocol for working with new development to arrange for parkland acquisition and dedication;
- Establish a protocol for working with established neighborhoods to provide needed parks, including the fostering of neighborhood and district associations to help plan, acquire, improve and care for public parks, and coordinating new City service facilities to provide new open space;
- Establish detailed design, construction, and maintenance standards;
- Prepare an assessment of the recreation needs of existing and future residents;
- Create an action plan defining priorities, timeframes, and responsibilities;
- Adopt and implement a comprehensive financing strategy for land acquisition,

park development, operations, and maintenance;

- Identify opportunities for using existing or planned park space as passive stormwater storage, treatment, and conservation areas that also provide scenic and/or recreational opportunities;
- Identify opportunities for siting and using existing or planned park space as passive "purple pipe" waste water storage, treatment, and conservation areas that also provide scenic and/or recreational opportunities; and
- Update the Parks Master Plan.

Policy POSS-1-c: Public Input in Park Planning. Continue to provide opportunities for public participation in the planning and development of park facilities and in creation of social, cultural, and recreational activities in the community.

Policy POSS-1-d: Additional Parkland in Certain Areas. Strive to obtain additional parkland of sufficient size to adequately serve underserved neighborhood areas and along BRT corridors in support of new and intense residential and mixed use infill development.

- Identify, where appropriate, joint use opportunities in siting parks with other City service facility needs.

Policy POSS-1-e: Criteria for Parks in Development Areas. Continue to use park size and service area criteria for siting new parks and planning for parks in Development Areas:

PARK TYPE	*SIZE RANGE (ACREAGE)*	*POPULATION SERVED*	*SERVICE AREA RADIUS*
Neighborhood	2.01 to 10	10,000 - 15,000	Up to 1 mile
Community	10.01 to 40	50,000 - 80,000	Up to 4 miles
Regional	More than 40[1]	100,000	100,000 residents
[1] Or when amenities provide regional service.			

Policy POSS-1-f: Parks and Open Space Diagram. Require parks to be sited and sized as shown on the Parks and Open Space Diagram (Figure POSS-1) of the General Plan, subject to the following:

- All new park designations carry dual land use designations, so that if a park is not needed, private development consistent with zoning and development standards may be approved. (See Figure LU-2: Dual Designation Diagram in the Urban Form, Land Use, and Design Element);
- Revised and/or additional park sites will be identified through subsequent implementation and planning in established neighborhoods and Development Areas;
- Locations for future park sites as shown on Figure POSS-1 are schematic to the extent that park sites may be relocated as necessity and opportunity dictate, and a General Plan amendment is not required if the park continues to serve the target areas as determined by the Planning Director; and

- A park may be located on any suitable land in the general vicinity of the sites depicted. However, the zoning of potential park site must be made consistent with the General Plan.

Policy POSS-1-g: Regional Urban Forest. Maintain and implement incrementally through new development projects, additions to Fresno's urban forest to delineate corridors and the boundaries of urban areas, and to provide tree canopy for bike lanes, sidewalks, parking lots, and trails.

Objective POSS-2: Ensure that adequate land, in appropriate locations, is designated and acquired for park and recreation uses in infill and growth areas.

Policy POSS-2-a: Identify opportunities to site, develop and co-locate Fire and Police stations with needed parks and open space as joint-use facilities.

- Capital Improvement Plans should be updated to reflect this policy.

Policy POSS-2-b: Park and Recreation Priorities. Use the following priorities and guidelines in acquiring and developing parks and recreation facilities:

- Acquire and develop neighborhood park space in existing developed neighborhoods that are deficient of such space and in areas along BRT corridors that are designated as priorities for encouraging new mixed-use transit-oriented development;
- Provide accessible recreation facilities in established neighborhoods with emphasis on those neighborhoods currently underserved by recreation facilities;
- Improve established neighborhood parks with emphasis on those neighborhoods with the greatest need;
- Acquire and develop neighborhood and community parks in new Development Areas;
- Recognize community parks as a special need in areas that lack these facilities or are planned for transit supportive urban densities, and explore all potential sources of revenue to secure and develop appropriate sites including joint use facilities;
- Develop new special purpose parks, such as outdoor gym equipment, natural resource based trail parks, equestrian centers, dog parks, and amphitheaters, as well as alternative recreation facilities, such as community recreation centers, passive wildlife observation park, cultural heritage and diversity park, military veterans memorial park, and universal access open space park; and
- Acquire and develop park and open space in established neighborhoods and Development Areas, prioritizing existing neighborhoods with the greatest deficiencies, so that all residents have access to park or open space within one-half mile of their residence. Develop these facilities to be fully accessible to individuals with disabilities as required by law.

Policy POSS-2-c: Review of Development Applications. Coordinate review of all development applications (i.e., site plans, conditional use permits, and subdivision maps) in order to implement the parks and open space standards of this Plan.

- Assure the provision of adequate active and passive open spaces and facilities as appropriate within residential subdivisions through Development Code requirements for mandatory dedication and improvement of land and/or development fees.
- Require the provision of appropriate outdoor living areas or private open space in multi-family residential developments not subject to the Subdivision Map Act.
- Request open space easements where feasible and warranted to secure appropriate public use of sensitive areas with scenic or recreation values, and for buffering space for sensitive areas.
- Require provision of appropriate open space areas in private projects, in the form of trails, enhanced landscaped setbacks, parks, and water features.
- Evaluate the merits of establishing a development bonus entitlement program in which development incentives (i.e., bonus densities, bonus floor area square footage) are provided for contributions to public recreational facilities on-site or in the vicinity of the development project.

Policy POSS-2-e: Open Space Dedication for Residential Development. Ensure new residential developments provide adequate land for parks, open space, landscaping, and trails through the dedication of land or otherwise providing for Pocket Parks, planned trails, and other recreational space, maintained by an HOA, CFD, or other such entity.

Objective POSS-3: Ensure that park and recreational facilities make the most efficient use of land; that they are designed and managed to provide for the entire Fresno community; and that they represent positive examples of design and energy conservation.

Policy POSS-3-a: Centralized Park Locations. Site parks central and accessible to the population served, while preserving the integrity of the surrounding neighborhood.

Policy POSS-3-b: Park Location and Walking Distance. Site Pocket and Neighborhood Parks within a half-mile walking distance of new residential development.

Policy POSS-3-c: Link Parks with Walkways. Link public open space to adjacent, schools, and residential uses and Activity Centers through a series of landscaped linear walkways and bikeways that enhance and encourage pedestrian use.

Policy POSS-3-d: Sidewalks to Connect Neighborhoods. Sidewalks should be designed for internal neighborhood circulation, and to connect neighborhoods to other residential areas, parks, community trails, shopping, and major streets.

Policy POSS-3-e: Minimum Park Size for Active Recreation. Minimize City acquisition or acceptance of dedication of park sites less than two acres in size for active recreational

uses, except where maintenance costs are secured through a CFD, HOA, or other such mechanism.

URBAN FORM, LAND USE, AND DESIGN ELEMENT

Objective D-4: Preserve and strengthen Fresno's overall image through design review and create a safe, walkable and attractive urban environment for the current and future generations of residents.

Policy D-4-d: Design for Safety. Continue to involve the City's Police Department in the development review process to ensure new buildings are designed with security and safety in mind.

Fresno Parks Master Plan

The Fresno Parks Master Plan was adopted in December 2017. The Plan articulates a vision for improving Fresno's park and open space system based on robust community engagement and thorough analysis. The Parks Master Plan is an update to the 1989 Master Plan for Parks and Recreation, which was a component of the 1984 General Plan Open Space and Recreation Element. The 2017 Plan accounts for changes that have occurred since the 1984 General Plan was drafted, and reflects a vision for improving the city's park and recreation system so that it better serves current and future needs of the people of Fresno.

City of Fresno Impact Fees

The City includes a development impact fee schedule to fund public services and facilities, including but not limited to fees to fund police and fire, library, and recreation services. The fees are established in Chapter 12, Impact Fees, Historic Resources, and Other Miscellaneous Topics.

Article 4.6 – Payment of Development Fees and Charges, notes that the development of real property within the city creates demands on existing municipal facilities, improvements, and services. Various development fees and charges are imposed upon new development in order to mitigate such demands. Payment of those fees and charges is required at various stages of the development process, including the amendment of applicable land use plans, rezoning, tentative tract map, tentative parcel map, Urban Growth Management permit, the issuance of special permits, building permits, certificates of occupancy, and similar entitlements. To facilitate the orderly collection and administration of such development fees and charges, this article sets forth the terms and conditions upon which the payment thereof may be deferred and paid simultaneously upon the issuance of a certificate of occupancy for the buildings or structures within such development.

Article 4.7 – Park Facilities Fee, notes that, in order to implement the goals and objectives of the City's General Plan, and to mitigate the impacts caused by future development in the city, certain park facilities must be constructed. The City Council has determined that a park facilities fee is

needed in order to finance these public facilities and to pay for each development's fair share of the construction and acquisition costs of these improvements.

Article 4.8 – Police Facilities Fee, notes that, in order to implement the goals and objectives of the City's General Plan, and to mitigate the impacts caused by future development in the city, certain police facilities must be constructed. The City Council has determined that a Police Facilities Fee is needed in order to finance these public facilities and to pay for each development's fair share of the construction and acquisition costs of these improvements.

Article 4.9 – Fire Facilities Fee, notes that, in order to implement the goals and objectives of the City's general plan, and to mitigate the impacts caused by future development in the city, certain fire department facilities must be constructed. The City Council has determined that a Fire Facilities Fee is needed in order to finance these public facilities and to pay for each development's fair share of the construction and acquisition costs of these improvements.

3.13.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on public services if it would result in:

Substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

- Fire Protection
- Police Protection
- Schools
- Parks
- Other public facilities

It is important to note that, in addressing public service demand issues under CEQA, the appropriate focus is on the environmental effects of whatever steps might be necessary to achieve or maintain adequate service. For example, if proposed new development would create an increased demand for law enforcement or fire protection services, an EIR should inquire as to whether new or expanded physical facilities may be required in order to provide such service. The "impacts" addressed under CEQA are the physical effects of providing service, not any possible failure to provide adequate service under applicable standards. (See *City of Hayward v. Board of Trustees of the Cal. State University* (2015) 242 Cal.App.4th 833, 843 ["[t]he need for additional fire protection services is not an environmental impact that CEQA requires a project proponent to mitigate"]; *Goleta Union School Dist. v. Regents of Univ. of Cal.* (1995) 37 Cal.App.4th 1025, 1031–1034 [school

overcrowding attributable to new development is not an environmental effect subject to CEQA, though the physical effects of new facility construction to serve new students would be]; and CEQA Guidelines, § 15131, subd. (a) ["[e]conomic or social effects of a project shall not be treated as significant effects on the environment"].)

This does not mean, however, that a city or county is powerless to require new development to take the steps needed to ensure adequate public services, such as law enforcement service. Such steps are simply beyond the scope of CEQA. They should instead be imposed under some other body of State statutory law (e.g., the Planning and Zoning Law [Gov. Code, § 65300 et seq.] or the Subdivision Map Act [Gov. Code, § 66410 et seq.]) or under a local government's broad police power under the California Constitution. (See Cal. Const., Art. XI, § 7; *Candid Enterprises, Inc. v. Grossmont Union High School Dist.* (1985) 39 Cal.3d 878, 885.)

It is also important to understand that special legal principles apply to impacts to school facilities. According to Government Code Section 65996, the development fees authorized by Senate Bill 50 (1998) (described earlier) are deemed to be "full and complete school facilities mitigation" for impact caused by new development. The legislation also recognized the need for the fee to be adjusted periodically to keep pace with inflation. The legislation indicated that in January 2000, and every two years thereafter, the State Allocation Board would increase the maximum fees according to the adjustment for inflation in the statewide index for school construction.

Section 65996 also prohibits public agencies from using CEQA or "any other provision of state or local law" to deny approval of "a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property or any change in governmental organization or reorganization" on the basis of the project's impacts on school facilities.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: The proposed Specific Plan may require the construction of fire department facilities which may cause substantial adverse physical environmental impacts. (Less than Significant with Mitigation)

The FFD provides fire prevention, suppression and investigation services, airport fire and rescue, urban search and rescue, response to medical emergencies (EMS), and response to hazardous materials incidents. These services are provided 24-hours per day from 21 fire stations strategically located throughout the City of Fresno. Additionally, FFD has an extensive inventory of fire and emergency response equipment. The FFD service areas are comprised of the City of Fresno, and also includes extra-territorial services via contracts to provide services to the Fig Garden Fire Protection District and Fresno Yosemite International Airport.

Fresno General Plan Policy PU-1-g sets forth the following plan for optimum services: "Create and adopt a program to provide appropriate number of employees to effectively respond to call volume

and type; and establish a long-term plan to attain a level of service of 0.81 firefighters per 1,000 residents."

Additionally, Fresno General Plan Policy PU-2-e outlines the following fire response service standards:

> Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:
>
> - First Unit on Scene – First fire unit arriving with minimum of three firefighters within 5 minutes and 20 seconds from the time the unit was alerted to the emergency incident.
> - Effective Response Force – Provide sufficient number of firefighters on the scene of an emergency within 9 minutes and 20 seconds from the time of unit alert to arrival. The effective response force is measured as 15 firefighters for low risk fire incidents and 21 firefighters for high risk fire incidents and is the number of personnel necessary to complete specific tasks required to contain and control fire minimizing loss of life and property.

As such, fire protection service level is generally defined in terms of the timely arrival of a sufficient number of personnel necessary to stabilize and mitigate various types of emergencies (including low and high-risk fire incidents). This is accomplished through a community wide risk management plan that strives to meet the service objectives for first unit on scene (5 minutes and 20 seconds or less, 90 percent of the time) and effective response force (9 minutes and 20 seconds, 90 percent of the time).

The Plan Area is currently served by Stations 18 (5938 N. La Ventana, Fresno), 16 (2510 N. Polk, Fresno), and 14 (6239 N. Polk, Fresno). Station 18 was constructed in 2005 and is in good condition; this station is staffed with three FFD employees daily (one captain, one engineer and one firefighter) and has one fire engine. Station 18 will be relocated to a permanent location on the south side of the 6000 block of West Shaw Avenue to maximize the department's "4 Minutes to Excellence" response time goal. Relocation of Station 18 is not proposed as part of the Specific Plan; as such, relocation of this station would occur regardless of the proposed Specific Plan. Future relocation of Station 18 would undergo a separate environmental review pursuant to CEQA. Station 16 was constructed in 2009 and is in good condition; this station is staffed with three FFD employees daily (one captain, and two engineers) and has one fire engine and one HAZMAT vehicle. Station 14 was constructed in 1992 and is in good condition; this station is staffed with three FFD employees daily (one captain, one engineer and one firefighter) and has one fire engine, one water tender, and one relief engine.

As shown in Table 2.0-3 in Section 2.0, Project Description, of this EIR, the proposed land use map for the Plan Area would result in the addition of up to 54,953 new residential units and up to

60,621,006.31 square feet of non-residential uses at project build-out. The proposed land use plan also designates public facility uses that are currently existing within the Plan Area, including schools and churches. Consistent with the City's General Plan Master EIR, Mitigation Measure PS-1, as future fire facilities are planned (including the relocation of Station 18), the fire department shall evaluate if specific environmental effects would occur. Typical impacts from fire facilities include noise, traffic, and lighting. Typical mitigation to reduce potential impacts, as noted in Mitigation Measure PS-1 of the General Plan Master EIR, includes:

- Noise: Barriers and setbacks on the fire department sites.
- Traffic: Traffic devices for circulation and a "keep clear zone" during emergency responses.
- Lighting: Provision of hoods and deflectors on lighting fixtures on the fire department sites.

The proposed Specific Plan would not create a need for new or expanded fire protection facilities that could result in offsite physical impacts on the environment. Relocation of Station 18, which was planned independent of the proposed Specific Plan, would improve response times in the Plan Area. Any future development under the approved General Plan, which includes development within the Plan Area, is required to comply with regulations, policies, and standards included in the General Plan and Draft Master EIR (City of Fresno, 2014). Additionally, Development Impact Fees will recover future development's proportionate share of FFD capital asset costs. As outlined in Article 4.9 of the City's Municipal Code, the City collects Development Impact Fees from new development based upon projected impacts from the development, for purposes of mitigating for project impacts on public facilities, including fire protection facilities. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with anticipated future facilities demands, assessed on a fair share basis for new development.

CONCLUSION

The proposed project may require the construction of fire department facilities which may cause substantial adverse physical environmental impacts. Payment of the applicable impact fees by the future project applicants, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by future projects and/or as specified in a Development Agreement, would ensure that project impacts to fire services are ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-1: *Prior to the issuance of a Certificate of Occupancy for each future dwelling unit to be developed within the Plan Area (and prior to issuance of building permits for non-residential uses), the applicant shall pay all applicable project impact fees per the impact fee schedule.*

Impact 3.13-2: The proposed Specific Plan may result in, or have the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts. (Less than Significant)

The Fresno Police Department is responsible for enforcement of state and city laws, investigation of crimes, apprehension of criminals, reducing traffic collisions, maintenance of ongoing crime prevention programs, and building ties with the community and other local law enforcement agencies. The Police Department is divided into four divisions — the patrol division, the investigation division, the professional standards division, and the support division. The Chief of Police supervises all divisions. As of April 24, 2020, the Fresno Police Department employs 1,145 FTE authorized personnel, including 836 FTE sworn safety members and 309 FTE civilians. There are no police department facilities within the Plan Area.

Fresno General Plan Policy PU-1-g sets forth the following plan for optimum services: "Create and adopt a program to provide targeted police services and establish long-term steps for attaining and maintaining the optimum levels of service—1.5 unrestricted officers per 1,000 residents." As noted above, the proposed land use map for the Plan Area would result in the addition of up to 54,953 new residential units and up to 60,621,006.31 square feet of non-residential uses at project build-out. To keep current staffing levels throughout the City, the addition of 163,211 residents would require an additional 244 unrestricted officers, based upon the 1.5 officers per capita standard.

Additional equipment may also be required to accommodate the additional personnel and ensure adequate levels of service and response times throughout the Plan Area. The proposed Specific Plan would not create a need for new or expanded police protection facilities that could result in offsite physical impacts on the environment. Any future development under the approved General Plan, which includes development within the Plan Area, is required to comply with regulations, policies, and standards included in the General Plan and Draft Master EIR (City of Fresno, 2014). Additionally, Development Impact Fees are currently collected for the provision of capital facilities for fire facilities that will provide for future facilities as the City's population increases. Future development within the Plan Area would be subject to the Police Facilities Fee outlined in Article 4.8 of the City's Municipal Code.

CONCLUSION

The proposed Specific Plan would not result in, or have the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts. Development of the Plan Area would not directly trigger the need for a new facility; however, additional staffing and patrols are required to serve the proposed Plan Area. The City collects Development Impact Fees from new development based upon projected impacts from the development. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with anticipated future facilities demands, assessed on a fair share basis

for new development. Payment of the applicable impact fees by future project applicants as required by Mitigation Measure 3.13-1, and ongoing revenues that would come from, property taxes, sales taxes, and other revenues generated by future buildout of the Plan Area, would ensure that project impacts to police services are ***less than significant***.

Impact 3.13-3: The proposed Specific Plan may result in, or have the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts. (Significant and Unavoidable)

As shown in Table 2.0-2 in Section 2.0, Project Description, of this EIR, the proposed land use map for the Plan Area would result in the addition of up to 54,953 new residential units and up to 60,621,006.31 square feet of non-residential uses at project build-out. The increase in population would result in the introduction of additional students to the CUSD.

According to the CUSD Facilities Master Plan (2016), 0.351 students are generated from each residential unit. Using this factor, future buildout of the Specific Plan is expected to generate approximately 19,289 additional students for the CUSD. It is also important to understand that special legal principles apply to impacts to school facilities. According to Government Code Section 65996, the development fees authorized by Senate Bill 50 (1998) (described earlier) are deemed to be "full and complete school facilities mitigation" for impact caused by new development. The legislation also recognized the need for the fee to be adjusted periodically to keep pace with inflation. The legislation indicated that in January 2000, and every two years thereafter, the State Allocation Board would increase the maximum fees according to the adjustment for inflation in the statewide index for school construction. However, even where applicants have agreed to pay school impact mitigation fees, if the proposed development requires the construction or expansion of additional facilities that would cause other physical environmental impacts, then those physical impacts to non-school resources may be analyzed under CEQA (Gov. Code § 65995(i)).

Currently, as shown in Figure 3.13-1, 13 schools are located in the Plan Area, including nine elementary schools, three middle schools, and one high school. The proposed land use map includes an additional 10.0 acres of Elementary School land uses from what is shown in the Fresno General Plan Planned Land Use Map. This additional 10.0 acres for future development of an elementary school is located at the northwestern corner of the N. Brawley Avenue and W. Shields Avenue intersection. This elementary school would be part of the CUSD. In addition to this 10.0-acre elementary school site, there are also proposed and not yet built school sites in the Plan Area, including the following: an elementary school off Shields Avenue and west of Hayes Avenue, an elementary school at the northwest corner of Grantland and Dakota Avenues, and an elementary school off Dakota Avenue and east of Hayes Avenue

Physical impacts from future construction of this 10.0-acre elementary school site within the Plan Area is addressed within this EIR. A discussion of relevant operational and construction impacts can

be found in each respective section of this EIR. Impacts associated with development of the Plan Area, as proposed, would result in significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), and utilities (Impacts 3.15-1 through 3.15-3). Furthermore, site-specific environmental review would be required for this future school by the CUSD prior to approval of a design for the facility and would consider any site-specific impacts unknown at this time.

CONCLUSION

Future buildout of the Specific Plan would include construction of a 10.0-acre elementary school site in the Plan Area, which has the potential to cause substantial adverse physical environmental impacts. Potential environmental impacts associated with the future buildout of the proposed land use map, including the 10.0-acre school site within the Plan Area, are addressed throughout this EIR. This EIR analyzes the physical environmental effects that may occur as a result of development and introduction of new urban land uses within the Plan Area. This future school, if constructed, would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR.

It is noted, however, that future development of schools within the proposed Plan Area would contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), and air quality (Impacts 3.3-1 through 3.3-3). Therefore, consistent with the analysis included in this Draft EIR, impacts related to constructing a school facility to serve the Plan Area are considered ***significant and unavoidable***.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-2: *Prior to the issuance of future building permits for each dwelling unit to be constructed in the West Area Neighborhoods Specific Plan, the applicant shall pay applicable school fees mandated by SB 50 to the Central Unified School District (CUSD) and provide documentation of said payment to the City.*

Impact 3.13-4: The proposed Specific Plan may result in, or have the potential to require the construction of park facilities which may cause substantial adverse physical environmental impacts. (Significant and Unavoidable)

Fresno General Plan Policy POSS-1-a establishes the following parkland dedication standard, consistent with the State Quimby Act:

> Implement a standard of at least three acres of public parkland per 1,000 residents for Pocket, Neighborhood, and Community parks throughout the city, while striving for five acres per 1,000 residents for all parks throughout the city, subject to identifying additional funding for regional parks and trails.

For the purposes of extracting and collecting fees to mitigate for increase park demands (Quimby Act), the California Government Code Section 66477 states: *The amount of land dedicated or fees paid shall be based upon the residential density, which shall be determined on the basis of the approved or conditionally approved tentative map or parcel map and the average number of persons per household. There shall be a rebuttable presumption that the average number of persons per household by units in a structure is the same as that disclosed by the most recent available federal census or a census taken pursuant to Chapter 17 (commencing with Section 40200) of Part 2 of Division 3 of Title 4.* As noted, the Quimby Act population should be based on the most recent available federal census. According the most recent U.S. Census (2014-2018) estimate, the average number of persons residing in a dwelling unit in the City of Fresno is 3.16. As noted above, the proposed land use map for the Plan Area would result in the addition of up to 54,953 new residential units and up to 60,621,006.31 square feet of non-residential uses at project build-out. Using this most recently available federal census figure of 3.16 persons per household and the potential maximum buildout of 54,953 units, the Quimby Act population would be 173,652 persons.[4] This Quimby Act population would require 521 acres of parkland in order to meet the City's parkland dedication standard of three acres of public parkland per 1,000 residents for Pocket, Neighborhood, and Community parks throughout the city.

The proposed Specific Plan land use map includes a total of 118.8 acres of park and open space uses, including pocket parks (1.55 acres), neighborhood parks (86.26 acres), community parks (24.20 acres), and open spaces (6.79 acres). The proposed project would increase the demand for parks and other recreational facilities based on the future maximum population growth, and the amount of parkland and open space provided within the Plan Area does not meets the City's General Plan parkland dedication standard outlined in Policy POSS-1-a. Future development within the Plan Area would be subject to the Park Facilities Fee outlined in Article 4.7 of the City's Municipal Code.

CONCLUSION

As noted previously, the City collects Development Impact Fees from new development based upon projected impacts from the development. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with anticipated future facilities demands, assessed on a fair share basis for new development. Payment of the applicable impact fees by future project applicants as required by Mitigation Measure 3.13-1, and ongoing revenues that would come from, property taxes, sales taxes, and other revenues generated by future buildout of the Plan Area, would ensure that project impacts to park facilities are reduced to the extent feasible.

Specific Plan implementation may result in effects on parks, or has the potential to require the construction of park facilities which may cause substantial adverse physical environmental impact.

[4] The Quimby Act Population was calculated pursuant to California Government Code Section 66477 using the most recently available federal census figure of 3.16 persons per household and the potential maximum buildout of 54,953 units.

Potential environmental impacts associated with the future construction of park and other recreational facilities within the Plan Area are addressed throughout this EIR. This EIR analyzes the physical environmental effects that may occur as a result of future development and introduction of new urban land uses within the Plan Area. Each future park, if constructed, would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR.

It is noted, however, that future development of 118.8 acres of park space within the Plan Area would contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), and utilities (Impacts 3.15-1 through 3.15-3). Therefore, consistent with the analysis included in this Draft EIR, impacts related to constructing new park facilities to serve the Plan Area are considered ***significant and unavoidable***.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-3: *As detailed plans for future parks and recreational facilities in the Plan Area are submitted to the City, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from park facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.*

Impact 3.13-5: The proposed Specific Plan may result in, or have the potential to require the construction of other public facilities which may cause substantial adverse physical environmental impacts. (Significant and Unavoidable)

Future buildout of the Plan Area in accordance with the proposed land use map would increase demand for other public facilities within the City of Fresno, such as libraries, and community/recreation buildings. The proposed land use map includes two land use designations that could be developed with other public facilities: Public Facilities – Public Facilities, and Public Facilities – Church. Future buildout of the Specific Plan may include construction and/or expansion of existing church sites on 55.8 acres, 129.59 acres of ponding basins, and 27.42 acres of other public facility uses in the Plan Area, which has the potential to cause substantial adverse physical environmental impacts. Potential environmental impacts associated with the future buildout of the proposed land use map, including the 55.8-acre church site and 27.42 acres of other public facility uses, are addressed throughout this EIR. This EIR analyzes the physical environmental effects that may occur as a result of development and introduction of new urban land uses within the Plan Area. These future church site and public facility use, if constructed, would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR.

CONCLUSION

Project implementation may result in effects on other public facilities. The Specific Plan would result in new demand for other public facilities, including library facilities, ponding basins, and recreational facilities. Although a specific public facility use is not currently proposed by the Specific Plan, the future development of public facility uses are anticipated by the proposed Plan. Future development would be responsible for paying the applicable impact fees, and ongoing revenues from the Specific Plan would be generated from property taxes, sales taxes, and other appropriate fees/payments.

Future development of public facility uses within the Plan Area would contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), and utilities (Impacts 3.15-1 through 3.15-3). Therefore, consistent with the analysis included in this Draft EIR, impacts related to constructing other public facilities to serve the Plan Area are considered ***significant and unavoidable***.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-4: *As detailed plans for future libraries or other public facilities in the Plan Area are submitted to the City, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from park facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.*

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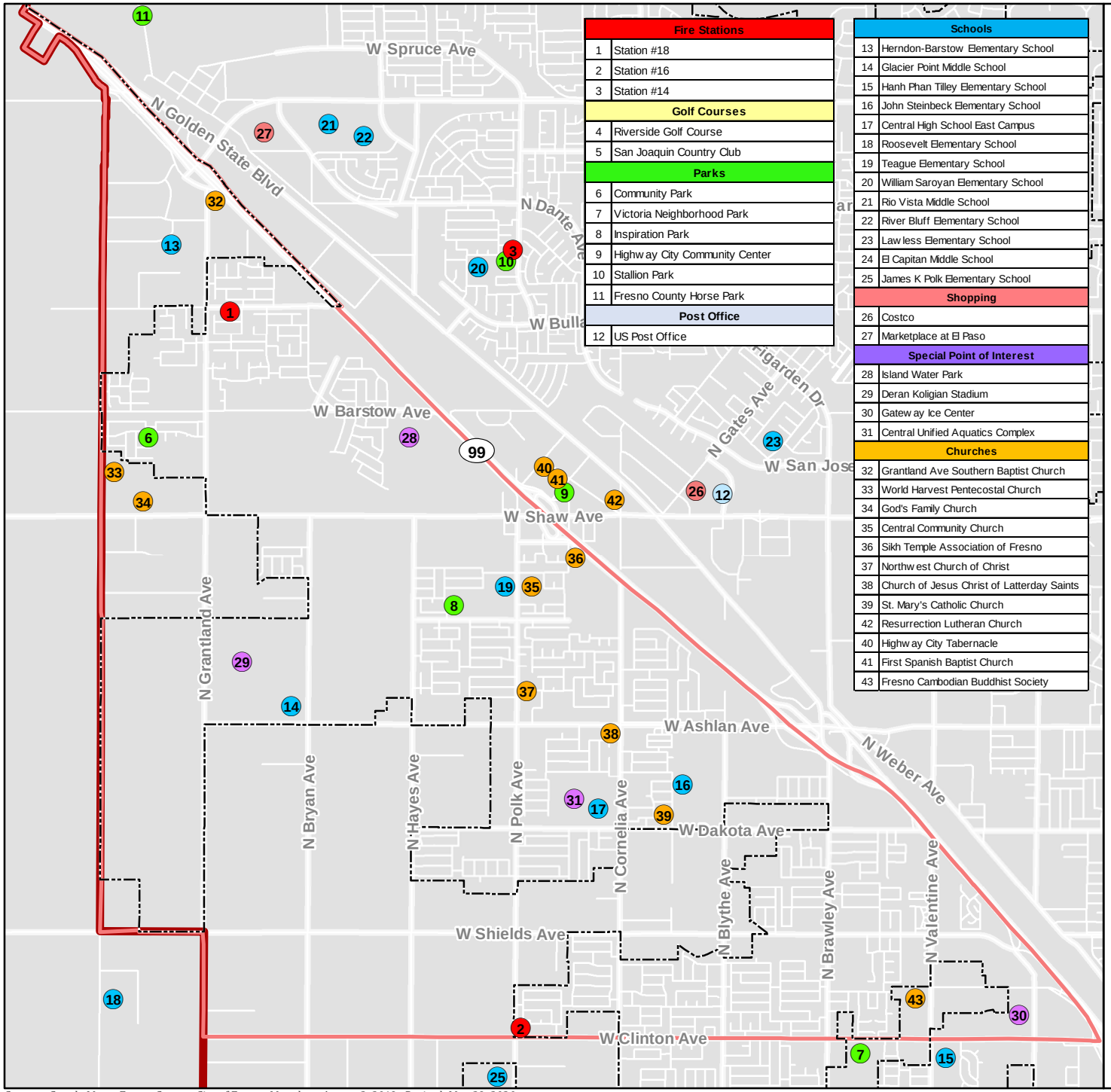
CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 3.13-1. Public Facilities



Fire Stations	
1	Station #18
2	Station #16
3	Station #14
Golf Courses	
4	Riverside Golf Course
5	San Joaquin Country Club
Parks	
6	Community Park
7	Victoria Neighborhood Park
8	Inspiration Park
9	Highway City Community Center
10	Stallion Park
11	Fresno County Horse Park
Post Office	
12	US Post Office

Schools	
13	Herndon-Barstow Elementary School
14	Glacier Point Middle School
15	Hanh Phan Tilley Elementary School
16	John Steinbeck Elementary School
17	Central High School East Campus
18	Roosevelt Elementary School
19	Teague Elementary School
20	William Saroyan Elementary School
21	Rio Vista Middle School
22	River Bluff Elementary School
23	Lawless Elementary School
24	El Capitan Middle School
25	James K Polk Elementary School
Shopping	
26	Costco
27	Marketplace at El Paso
Special Point of Interest	
28	Island Water Park
29	Deran Koligian Stadium
30	Gateway Ice Center
31	Central Unified Aquatics Complex
Churches	
32	Grantland Ave Southern Baptist Church
33	World Harvest Pentecostal Church
34	God's Family Church
35	Central Community Church
36	Sikh Temple Association of Fresno
37	Northwest Church of Christ
38	Church of Jesus Christ of Latterday Saints
39	St. Mary's Catholic Church
42	Resurrection Lutheran Church
40	Highway City Tabernacle
41	First Spanish Baptist Church
43	Fresno Cambodian Buddhist Society

BOUNDARIES

- Specific Plan of the West Area
- Fresno City Limits
- Fresno Sphere of Influence

PUBLIC FACILITY

- Fire Station
- Park
- Post Office
- School
- Shopping
- Special Point of Interest
- Church

N

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Miles

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: Google Maps; Fresno County; City of Fresno. Map date: August 2, 2019. Revised: May 29, 2020.

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This section of the EIR analyzes the potential impacts of the proposed West Area Neighborhoods Specific Plan (Specific Plan) on the surrounding transportation system including roadways, bicycle and pedestrian facilities, and transit services. An evaluation of emergency access and design features is also provided. This section is based on the Technical Memorandum for the Specific Plan of the West Area – CEQA Impacts and Mitigations that was completed for the project (Kittelson & Associates, Inc., July 2020), which is included in **Appendix G**.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: City of Fresno Department of Transportation (July 29, 2019), Forgotten Fresno (July 17, 2019), San Joaquin Valley Air Pollution Control District (July 15, 2019), Carl and Lydia Franklin (August 2, 2019), Cathy Caples (August 1, 2019), and Patricia and Clifford Upton (July 24, 2019). Each of the comments related to this topic are addressed within this section. Full comments received are included in **Appendix A**.

3.14.1 ENVIRONMENTAL SETTING

REGIONAL SETTING AND LOCATION

The West Area Neighborhoods Specific Plan (also-known-as "Specific Plan", "West Area") encompasses approximately 7,077 acres (or a little more than 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. The footprint of the Specific Plan is referred to as the "Plan Area." Of the eleven square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth.

The Plan Area is triangular in shape and located west of State Route 99 (SR-99). It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to SR-99.

ROADWAY NETWORK

The existing roadway network in the Plan Area is comprised of a street system made up of freeways, super arterials, arterial roads, and collector roads. Roadway classifications listed are from the City of Fresno General Plan.

Freeway

State Route 99 (SR-99) is a six-lane freeway with a posted speed limit of 65 miles per hour (MPH). The northwest-southeast freeway connects most major cities in Central California including Chico, Bakersfield, Selma, Sacramento, Modesto, and Fresno. It also provides access to the greater freeway network with direct connections to State Route 180 and State Route 41.

The Plan Area is generally bordered by SR-99 on the northeast. The average daily traffic on SR-99 near the Plan Area ranges between approximately 82,000 and 112,000 vehicles per day. Bicyclists and pedestrians are not allowed on this facility.

Super Arterial

Grantland Avenue is a two-lane to four-lane north-south roadway with a posted speed limit of 40 MPH near the Plan Area. The facility extents from SR-99 on the north to Kearny Boulevard on the south. The facility is a four-lane roadway with a median north of Shaw Avenue, and a two-lane roadway south of Shaw Avenue. Sidewalks are limited; additional sidewalks, Class I, and Class II bikeways are planned along the roadway.

Veterans Boulevard is currently a single lane in each direction between Riverside Drive and N. Hayes Avenue east of SR-99 and a six-lane stub roadway west of SR-99. However, the Veterans Boulevard Interchange and Corridor Improvement Project is currently underway which will connect these two facilities and create a six-lane super arterial in northwest Fresno connecting Herndon Avenue in the north to Shaw Avenue in the south including the construction of an interchange with SR-99.

Arterials

Polk Avenue is a two-lane north-south roadway with a posted speed limit of 35 or 40 MPH near the Plan Area. The facility extends from SR-99 on the north to Olive Avenue on the south. Sidewalks and Class II bike lanes exist intermittently and are proposed along the roadway.

Shaw Avenue is a two-lane east-west roadway with a posted speed limit of 35 to 45 MPH near the Plan Area. The facility extents from the San Joaquin River on the west to the Friant-Kern Canal on the east. Sidewalks and Class II bike lanes are proposed along the roadway.

Ashlan Avenue is a two-lane to four-lane east-west roadway with a posted speed limit of 40 to 50 MPH near the Plan Area. The facility extends from Grantland Ave on the west and becomes Watts Valley Road on the east. Sidewalks and Class II bike lanes exist intermittently and are proposed along the roadway.

Grantland Avenue north of Shaw Avenue is a two lane north-south roadway with a posted speed limit of 40 MPH in the Plan Area. North of Shaw Avenue, Grantland Avenue extends north to SR-99 near the Herndon Avenue interchange. There are no sidewalks of bicycle facilities on this roadway.

Blythe Avenue from Ashlan Avenue to Dakota Avenue is a two lane north-south roadway with a center median located along most of its length. The speed limit is posted as 40 MPH. Sidewalks are generally available along frontages that have been developed but no sidewalks are present along undeveloped parcels. Class II bicycle lane exist intermittently in both the northbound and southbound directions.

Collectors

Collectors in the Plan Area include the following:

- North-south collectors:
    - Garfield Avenue

  - Bryan Avenue
  - Hayes Avenue
  - Cornelia Avenue
  - Blythe Avenue
  - Brawley Avenue
  - Valentine Avenue
  - Marks Avenue
- East-west collectors:
  - Bullard Avenue
  - Barstow Avenue
  - Gettysburg Avenue
  - Dakota Avenue
  - Shields Avenue
  - Clinton Avenue

Collectors are generally two-lane roadways with posted speeds of 30 to 45 MPH. Sidewalks and bike lanes are generally not present but are proposed along most collectors.

BICYCLE AND PEDESTRIAN FACILITIES

Bicycle and pedestrian facilities are important components of the transportation network in the Plan Area. These facilities not only offer non-vehicular opportunities for both commute and recreational trips, but also provide connections to the region's transit network.

Existing Bicycle Facilities

Bicycle facilities are defined by the following four classes[1]:

- **Class I** – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- **Class II** – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- **Class III** – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.
- **Class IV** – Provides a restricted right-of-way designated lane for the exclusive use of bicyclists that is separated by a vertical element to provide further separation from motor vehicle traffic.

[1] As detailed in Chapter 1000 of the Highway Design Manual (Caltrans, 2015).

The City of Fresno adopted the Active Transportation Plan (ATP) in March 2017. This plan identifies existing and future planned bicycle facilities within the City's jurisdiction.

As shown in Figure 3.14-1, the following bikeways are currently present within the Plan Area and vicinity at intermittent locations on major roads:

- East-west streets with **Class II Bike Lanes:**
  - Bullard Avenue, east of Grantland Avenue
  - Barstow Avenue, west of Grantland Avenue
  - Gettysburg Avenue, east of Hayes Avenue
  - Ashlan Avenue, east of Cornelia Avenue
  - Dakota Avenue, east of Polk Avenue
  - Clinton Avenue, east of Cornelia Avenue
- North-south streets with **Class II Bike Lanes:**
  - Grantland Avenue, south of SR-99
  - Bryan Avenue, south of Gettysburg Avenue
  - Hayes Avenue, south of Shaw Avenue
  - Polk Avenue, south of Shaw Avenue
  - Cornelia Avenue, south of Gettysburg Avenue
  - Brawley Avenue, south of Dakota Avenue

Planned and Proposed Bicycle Facilities

As shown in Figure 3.14-1, the ATP includes the following planned and proposed bikeway facilities in the Plan Area:

- Streets with **Class I Bike Paths:**
  - Grantland Avenue, south of Gettysburg Avenue
  - Veteran's Boulevard, north of Gettysburg Avenue
  - Gettysburg Avenue, east of Cornelia Avenue

Class II Bike Lanes are located along all arterials and collectors. Bike lanes on Veterans Boulevard, Gettysburg Avenue, and Cornelia Avenue are identified as priority bikeways in the ATP.

Pedestrian Facilities

Pedestrian facilities are present in the Plan Area. Sidewalks are present intermittently along some major roadways. Sidewalks are proposed on most arterials and collectors. Crosswalks are present intermittently at signalized and unsignalized intersections in the Plan Area. Figure 3.14-2 shows existing and planned sidewalks in the Plan Area.

The City of Fresno adopted the 2016 Update to the ADA Transition Plan for the Right of Way (ROW) in February 2016. The ROW Transition Plan incorporates retrofitting Curb Ramps, Sidewalks, and Accessible Pedestrian Signals and replaced the 2003 Amended Curb Ramp Transition Plan.

TRANSIT FACILITIES

Fresno is primarily served by the Fresno Area Express (FAX) transit system which operates bus service and paratransit operations servicing the city. Regional connections are provided by the Fresno County Rural Transit Agency (FCRTA) and Amtrak for travel outside of the Fresno-Clovis Metropolitan Area.

Fresno Area Express (FAX)

FAX provides the principal bus service in the City of Fresno. It operates eighteen fixed routes with a fleet of over 100 buses, and Handy Ride, its paratransit operation, with a fleet of over 50 vehicles. The paratransit service, FAX Handy Ride, is a service designed to meet the transportation needs of eligible persons with disabilities who cannot functionally use the FAX fixed-route bus system. Handy Ride is a shared ride, curb-to-curb service, provided from any origin to any destination throughout the service area for any trip purpose. Handy Ride operates during the same hours and days as the FAX fixed-route bus system. The service area boundaries for the FAX Handy Ride service are generally Copper Avenue to the north, east to Willow Avenue, south to Ashlan Avenue, east to Temperance Avenue, south to Central Avenue, west to Polk Avenue, north to the Fresno County line, and east to Copper Avenue.

FAX operates two routes that directly serve the Plan Area through curbside bus stops, with additional service coming into the Plan Area in 2021. Bus service on these routes is detailed in Table 3.14-1 with the routes near the Plan Area shown in Figure 3.14-3.

TABLE 3.14-1: BUS ROUTES SERVING THE PLAN AREA

ROUTE	*SERVING*	*DAY*	*TIMES*		*FREQUENCY*
12-35	Starting at Shaw and Brawley and serving Forestiere Underground Gardens, Teague Elementary School, Inspiration Park, Central High School East, Tower District, DMV, Roeding Park, Yosemite Middle School, and Social Security Office	Week-day	6:00 AM	10:00 PM	Every 30 minutes
		Week-end	7:00 AM	7:30 PM	Every 30 minutes
39	Starting at Brawley Avenue/Shields Ave. and serving Hamilton K-8, Fresno High, Fresno City College, VA Medical Center, McLane High, Alliant University, and Fresno Yosemite International Air Terminal primarily along Clinton Ave.	Week-day	5:30 AM	10:00 PM	Every 30 minutes
		Week-end	7:30 AM	7:00 PM	Every 30 minutes
45	Along Ashlan Avenue serving Central High School East, Cooper Middle School, Blackbeard's Family Entertainment, Army Navy Reserve, and ARC Fresno Production Center	Week-day	5:45 AM	9:30 PM	Every 45 minutes
		Week-end	6:30 AM	6:30 PM	Every 45 minutes

SOURCE: FAX WEBSITE, WWW.FRESNO.GOV/FAX, ACCESSED MARCH 11, 2021, KITTELSON & ASSOCIATES, INC., 2021.

Route 12 provides local commuter and weekend service with the route originating or terminating at Shields Avenue/Brawley Avenue and San Jose Avenue/Marty Avenue intersections. Between these two origin/destinations, the route has fixed stops as it runs mostly along Brawley Avenue and Cornelia in the Plan Area, from Clinton Avenue to Shaw Avenue. Key destinations served include Central High School, Inspiration Park, and Forestriere Underground Gardens.

Route 35 provides local commuter and weekend served with the route originating or terminating in the Plan Area at Shields Avenue/Brawley Avenue and on the east side of Fresno at the intersection of Belmont Avenue/Clovis Avenue. In the Plan Area, the route provides fixed stops along Brawley and Clinton Avenues. Key destinations served by the route include the DMV, Talking Book Library, Post Office, and the Social Security Office.

Route 39 provides local commuter and weekend service with the route originating or terminating at Brawley Avenue/Shields Avenue intersection and Fresno Yosemite International Air Terminal. Between these two origin/destinations, Route 39 runs in a loop from Clinton Avenue/Marks Avenue to Brawley Avenue/Shields Avenue in the Plan Area where it has fixed stops. Key destinations served include Fresno High School, Fresno City College, Veteran's Medical Center, and Alliant University.

TRUCK FACILITIES

According to the City of Fresno Public Works Department, there are designated truck routes in the Plan Area. Existing and future truck routes are shown in Figure 3.14-4.

3.14.2 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the proposed project are summarized below. This information provides a context for the impact discussion related to the project's consistency with applicable regulatory conditions and development of significance criteria for evaluating project impacts.

FEDERAL

No federal plans, policies, regulations, or laws pertaining to transportation have been determined to be applicable to this project.

STATE

Senate Bill 743

Senate Bill (SB) 743 (Steinberg, 2013) required changes to the California Environmental Quality Act (CEQA) Guidelines regarding the analysis of transportation impacts. Those proposed changes identify vehicle-miles-traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Since the bill has gone into effect, automobile delay, as measured by "level of service" and other similar metrics, no longer constitutes a significant environmental effect under CEQA. Auto-mobility (often expressed as "level of service") may continue to be a measure for planning purposes.

In December 2018, the California Governor's Office of Planning and Research (OPR) and the State Natural Resources Agency submitted updated CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law approved the updated CEQA Guidelines, thus implementing SB 743 and making VMT the primary metric used to analyze

transportation impacts. Beginning July 1, 2020 local agencies are required to implement the updated guidelines.

LOCAL

Fresno Council of Governments

The Fresno Council of Governments (COG) is a voluntary association of local governments and a regional planning agency comprised of 16 member jurisdictions, including the City of Fresno. The members are represented by a Policy Board consisting of mayors of each incorporated city, and the Chairman of the County Board of Supervisors, or their designated elected official. The Fresno COG's purpose is to establish a consensus on the needs of the Fresno County area and further action plans for issues related to the Fresno County region. The current regional transportation plan, known as the Fresno County Regional Transportation Plan (RTP) (2042), was adopted in 2018. The RTP addresses GHG emissions reductions and other air emissions related to transportation, with the goal of preparing for future growth in a sustainable way. The plan specifies how funding will be sourced and financed for the region's planned transportation investments, ongoing operations, and maintenance. The goals, objectives, and policies of the RTP are established to direct the courses of action that will provide efficient, integrated multimodal transportation systems to serve the mobility needs of people, including accessible pedestrian and bicycle facilities, and freight, while fostering economic prosperity and development, and minimizing mobile sources of air pollution. These goals, objectives, and policies are organized into six categories:

- General Transportation;
- Highway, Streets, and Roads;
- Mass Transportation;
- Aviation;
- Active Transportation; and
- Rail

The RTP is updated every four years. The Fresno COG is currently updating their RTP. The 2020-2022 RTP is anticipated to be adopted in June 2022.

Fresno County Congestion Management Process

In June 1990, California voters approved legislation that required Congestion Management Plans (CMP) be developed in urbanized counties to address congestion on California's highways and roads. The Fresno County Congestion Management Process (CMP) implements this requirement and its responsibilities include providing information on transportation system performance and assessing alternative strategies for alleviating congestion and improving mobility for people and goods to levels that meet State and local needs. The Fresno County CMP identifies four general objectives:

1. Optimize the transportation facilities through efficient system management;

2. Invest in strategies that reduce travel demand, improve system performance, increase safety, and provide effective incident management;
3. Reduce VMT by encouraging alternative modes of transportation and promotion of sustainable land use development; and
4. Improve public transit, extend bicycle and pedestrian systems, and promote car-sharing and bike-sharing programs to facilitate the development of an integrated multimodal transportation system in the Fresno region.

Fresno General Plan

The City of Fresno adopted the Fresno 2035 General Plan[2] in December 2014 as an update to the previous Fresno General Plan approved in 2002. It serves as the City's guide for the continued development, enhancement, and revitalization of the Fresno metropolitan area.

It is noted that the approved General Plan text was updated in order to reflect changes in applicable statutes and regulations related to VMT, as well as updating the General Plan EIR to include a current baseline for the continued implementation of the approved General Plan, and reflect changes in City planning documents that have occurred since adoption of the approved General Plan in 2014. The City did not propose any land use changes as a part of the recent General Plan changes. The following objectives and policies reflect the most recent (2021) General Plan policies and objectives.

The Fresno General Plan contains the following objectives and policies that are relevant to transportation and circulation:

MOBILITY AND TRANSPORTATION ELEMENT

Objective MT-1: Create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes.

> **Policy MT-1-d**: Integrate Land Use and Transportation Planning. Plan for and maintain a coordinated and well-integrated land use pattern, local circulation network and transportation system that accommodates planned growth, reduces impacts on adjacent land uses, and preserves the integrity of established neighborhoods.
>
> **Policy MT-1-f**: Match Travel Demand with Transportation Facilities. Designate the types and intensities of land uses at locations such that related travel demands can be accommodated by a variety of viable transportation modes and support Complete Neighborhoods while avoiding the rerouting of excessive or incompatible traffic through local residential streets.

[2] City of Fresno General Plan 2035, December 18, 2014.

Policy MT-1-g: Complete Streets Concept Implementation. Provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-I and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.
- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.
- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.
- Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation

Objective MT-2: Make efficient use of the City's existing and proposed transportation system and strive to ensure the planning and provision of adequate resources to operate and maintain it.

Policy MT-2-b: Reduce Vehicle Miles Traveled and Trips. Partner with major employers and other responsible agencies, such the San Joaquin Valley Air Pollution Control District and the Fresno Council of Governments, to implement trip reduction strategies, such as eTRIP, to reduce total vehicle miles traveled and the total number of daily and peak hour vehicle trips, thereby making better use of the existing transportation system.

Policy MT-2-c: Reduce VMT through Infill Development. Provide incentives for infill development that would provide jobs and services closer to housing and multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).

Policy MT-2-d: Street Redesign where Excess Capacity Exists. Evaluate opportunities to reduce right of way and/or redesign streets to support non-automobile travel modes along

streets with excess roadway capacity where adjacent land use is not expected to change over the planning period

Policy MT-2-e: Driveway and Access Consolidation. Take advantage of opportunities to consolidate driveways, access points, and curb cuts along designated major roadways when a change in development or a change in intensity occurs or when traffic operation or safety warrants

Policy MT-2-f: Optimization of Roadway Operations. Optimize roadway operations by continuing to expand the use of techniques such as the City's intelligent transportation system (ITS) to manage traffic signal timing coordination in order to improve traffic operations and increase traffic-carrying capacity, while reducing unnecessary congestion and decreasing air pollution emissions. In order to facilitate roadway optimization and as a potential revenue source for the optimization, the following strategies need to be implemented:

- Dig Once Policy. Install conduit for telecommunications use when trenching or construction occurs.
- Telecommunications Strategy. Develop a costing mechanism for allowing the use of excess conduit within the City for use by communication carriers. The Policy shall follow regulations of the California Public Utilities Commission.
- Grant Funding. Pursue grant funding to assist in construction and/or implementation of fiber-optic or other telecommunication infrastructure for additional public services such as education, economic development, reaching underserved populations, and public safety communications.

Policy MT-2-g: Transportation Demand Management and Transportation System Management. Pursue implementation of Transportation Demand Management and Transportation System Management strategies to reduce peak hour vehicle traffic and supplement the capacity of the transportation system.

Policy MT-2-i: Transportation Impact Studies. Require a Transportation Impact Study (currently named Traffic Impact Study) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.

- When a project includes a General Plan amendment that changes the General Plan Land Use Designation.
- When the project will substantially change the off-site transportation system (auto, transit, bike or pedestrian) or connection to the system, as determined by the City Traffic Engineer.

- Transportation impact criteria are tiered based on a project's location within the City's Sphere of Influence. This is to assist with areas being incentivized for development. The four zones, as defined on Figure MT-4, are listed below. The following criteria apply:
    - Traffic Impact Zone I (TIZ-I): TIZ-I represents the Downtown Planning Area. Maintain a peak hour LOS standard of F or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
    - Traffic Impact Zone II (TIZ-II): TIZ-II generally represents areas of the City currently built up and wanting to encourage infill development. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
    - Traffic Impact Zone III (TIZ-III): TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.
    - Traffic Impact Zone IV (TIZ-IV): TIZ-IV represents the southern employment areas within and planned by the City. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIZ will be required for all development projected to generate 200 or more peak hour new vehicle trips.

Policy MT-2-l: Region-Wide Transportation Impact Fees. Continue to support the implementation of metropolitan-wide and region-wide transportation impact fees sufficient to cover the proportional share of a development's impacts and need for a comprehensive multi-modal transportation system that is not funded by other sources. Work with the Council of Fresno County Governments, transportation agencies (e.g., Caltrans, Federal Transportation Agency) and other jurisdictions in the region to develop a method for determining:

- Regional transportation impacts of new development;
- Regional highways, streets, rail, trails, public transportation, and goods movement system components, consistent with the General Plan, necessary to mitigate those impacts and serve projected demands;
- Projected full lifetime costs of the regional transportation system components, including construction, operation, and maintenance; and
- Costs covered by established funding sources.

Policy MT-2-m: Use VMT analysis for CEQA. Use Vehicle Miles Traveled (VMT) as the criteria for evaluating transportation impacts under the California Environmental Quality Act

(CEQA), pursuant to Senate Bill 743. Level of Service (LOS) may still be used for planning purposes and implementation of Capital Improvement Projects; however, VMT shall be used for determining mitigation under CEQA beginning in July of 2020.

Objective MT-4: Establish and maintain a continuous, safe, and easily accessible bikeways system throughout the metropolitan area to reduce vehicle use, improve air quality and the quality of life, and provide public health benefits.

Policy MT-4-b: Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.

Policy MT-4-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers

Objective MT-5: Establish a well-integrated network of pedestrian facilities to accommodate safe, convenient, practical, and inviting travel by walking, including for those with physical mobility and vision impairments.

Policy MT-5-a: Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in established neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes

Policy MT-5-b: Sidewalk Requirements. Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.

Policy MT-5-d: Pedestrian Safety. Minimize vehicular and pedestrian conflicts on both major and non-roadways through implementation of traffic access design and control standards addressing street intersections, median island openings and access driveways to facilitate accessibility while reducing congestion and increasing safety. Increase safety and accessibility for pedestrians with vision disabilities through the installation of Accessible Pedestrian Signals at signalized intersections

Policy MT-5-e: Traffic Management in Established Neighborhoods. Establish acceptable design and improvement standards and provide traffic planning assistance to established neighborhoods to identify practical traffic management and calming methods to enhance the pedestrian environment with costs equitably assigned to properties receiving the benefits or generating excessive vehicle traffic

Objective MT-6: Establish a network of multi-purpose pedestrian and bicycle paths, as well as limited access trails, to link residential areas to local and regional open spaces and recreation areas and urban Activity Centers in order to enhance Fresno's recreational amenities and alternative transportation options.

Policy MT-6-g: Path and Trail Development. Require all projects to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of project approval

Objective MT-8: Provide public transit options that serve existing and future concentrations of residences, employment, recreation and civic uses and are feasible, efficient, safe, and minimize environmental impacts.

Policy MT-8-a: Street Design Coordinated with Transit. Coordinate the planning, design, and construction of the major roadway network with transit operators to facilitate efficient direct transit routing throughout the Planning Area.

Policy MT-8-c: New Development Facilitating Transit. Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX's comments in decision-making

Objective MT-11: Achieve necessary capacity increasing and inter-modal connectivity enhancing improvements to the goods movement transportation system to support the growth in critical farm product and value added industries.

Policy MT-11-c: Truck Route Designations. Continue to plan and designate truck routes within the Metropolitan Area to facilitate access to and from goods production and processing areas while minimizing conflicts with other transportation priorities

The General Plan also has policies related to maintaining acceptable Levels of Service (LOS). However, LOS can no longer be used for CEQA evaluations and is, therefore, not relevant to this section which focuses on CEQA impacts. Additional analyses of the Specific Plan will be documented in another report that will detail LOS.

City of Fresno VMT Guidelines

The City of Fresno adopted their VMT guidelines on June 25, 2020[3]. This document serves as a detailed guideline for preparing VMT analysis consistent with SB 743 requirements for development projects, transportation projects, and plans. Key elements of these guidelines include:

- The County of Fresno was selected as the region for assessing VMT impacts. Therefore, all projects will compare their VMT metrics against the county averages.
- The draft guidelines recommend the following significant thresholds for land development projects in the City of Fresno:
    - 13 percent below existing regional average VMT per capita for residential projects
    - 13 percent below existing regional average VMT per employee for office projects
    - No net increase in VMT for retail projects.
- For land use plans such as specific plans and general plans, the guidelines recommend comparing the existing VMT per capita and/or VMT per employee for the region with the expected horizon year VMT per capita and/or VMT per employee for the land use plan. If there is a net increase in the applicable VMT metrics (VMT/capita and VMT/employee) under horizon year conditions, then the project will have a significant impact.

City of Fresno Active Transportation Plan

The City of Fresno Active Transportation Plan (ATP)[4] is a comprehensive guide that creates a vision for active transportation in the City of Fresno. It is an update to the City of Fresno Bicycle, Pedestrian, & Trails, Master Plan that was adopted in 2010. The ATP lays out specific goals to improve bicycle access and connectivity in Fresno. The goals include the following:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno;
- Increase walking and bicycling trips in Fresno by creating user friendly facilities;
- Improve the geographical equity of access to walking and bicycling facilities in Fresno; and
- Fill key gaps in Fresno's walking and bicycling networks.

City of Fresno ADA Transition Plan for the Right of Way (ROW)

On February 25, 2016 the City Council adopted the 2016 Update to the ADA Transition Plan for the Right of Way (ROW). The ROW Transition Plan incorporates retrofitting Curb Ramps, Sidewalks, and Accessible Pedestrian Signals and replaces the 2003 Amended Curb Ramp Transition Plan. The goal of the ADA Transition Plan for the ROW is to ensure that the City maintains accessible paths of travel in the ROW for people with disabilities.

[3] https://www.fresno.gov/darm/planning-development/plans-projects-under-review/#tab-02
[4] City of Fresno Active Transportation Plan, December 2016.

3.14.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The transportation analysis assesses how the study area's transportation system would operate with the implementation of the proposed project. The analysis includes effects that would result in significant impacts as set forth in the CEQA Guidelines.

The project's impact is not considered to be significant unless it would:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
b) Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
d) Result in inadequate emergency access.

Significance criteria "b" is related to the implementation of VMT as the primary performance metric. The following criteria are used to assess a significant impact related to VMT consistent with the City of Fresno "CEQA Guidelines for Vehicle Miles Traveled Thresholds" dated June 25, 2020:

- A proposed (residential) project exceeding a level of 13 percent below existing regional average[5] VMT per capita may indicate a significant transportation impact.
- A similar threshold would apply to office projects (13 percent below existing regional average VMT per employee).
- VMT generated by retail projects would indicate a significant impact for any net increase in total VMT.
- Section 6 of the VMT guidelines includes Significance Criteria for Specific Plans: For land use plans such as the Specific Plan for the West Area, the recommended methodology for conducting VMT assessments is to compare the existing VMT per capita and/or VMT per employee for the region with the expected horizon year VMT per capita and/or VMT per employee for the land use plan. If there is a net increase in the VMT metric under horizon year conditions, then the project will have a significant impact.

[5] The City of Fresno defines the region for applying these thresholds as Fresno County.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: Implementation of the Specific Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. (Less than Significant)

Development associated with the proposed Plan would increase the amount of multimodal transportation activity which would require the improvement and expansion of the local transportation network in the Plan Area to serve the associated travel demand. The West Area Neighborhoods Specific Plan includes the following guiding principles related to transit, bicycle, and pedestrian travel:

- Accommodate and improve roadway access, connectivity and mobility among all modes of transportation, and prioritize roadway widening where bottlenecks exist.
- Accommodate planned transit services in the West Area by locating routes near or adjacent to the community centers, schools, parks, and retail centers.
- Provide a complete, safe, and well-maintained sidewalk network from residential neighborhoods to commercial centers, schools, parks, and community centers.
- Provide a complete, safe, and well-maintained roadway network that allows for efficient and smooth access from the West Area to other sections of the City and region.

These guiding principles are consistent with General Plan policies which detail how the circulation system will be improved to meet the needs of all users. Implementation of the proposed Specific Plan would promote the use of alternative transportation modes by accelerating development in the Plan Area, which would in turn require development of a circulation system that addresses all users. Development of the Specific Plan would be required to be consistent with the following General Plan policies that address transit, roadway, bicycle, and pedestrian travel:

- **Policy MT-1-g**: Complete Streets Concept Implementation.
    - Requires transportation facilities be based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals
- **Policy MT-1-m**: Standards for Planned Bus Rapid Transit Corridors and Activity Centers.
    - Requires intersections and roadways along transit corridor and in activity centers maintain acceptable operations to facilitate transit movement.
- **Policy MT-2-d**: Street Redesign where Excess Capacity Exists.
    - Requires roadways with extra capacity to be modified to “right size” the roadway.
- **Policy MT-4-b**: Bikeway Improvements.
    - Requires new development to set aside an adequate amount of right of way to construct bicycle facilities.
- **Policy MT-4-d**: Prioritization of Bikeway Improvements.

  - Prioritizes connections between existing facilities to complete a comprehensive bicycle network.
- **Policy MT-5-a**: Sidewalk Development.
  - Establishes a goal of developing sidewalks to improve connectivity to transit
- **Policy MT-5-b**: Sidewalk Requirements.
  - Requires sidewalks to be constricted to the latest standards
- **Policy MT-6-g**: Path and Trail Development.
  - Requires planned multi use paths be constructed along with new development
- **Policy MT-8-a**: Street Design Coordinated with Transit.
  - Requires coordination with roadway design and transit to ensure an efficient public transportation system
- **Policy MT-8-c**: New Development Facilitating Transit.
  - Requires new development to facilitate transit.

Additionally, the Specific Plan has a strong emphasis on Complete Neighborhoods, which is a tool to achieve environmental justice. The concept of Complete Neighborhoods is to enable residents of Fresno to live in communities with convenient access to services, employment, and recreation within walking distance. It provides residents with amenities that make their neighborhood mostly self-sufficient and interconnected. According to the Specific Plan, planning for Complete Neighborhoods will help support the provision of resources to neighborhoods where they are currently lacking or are under-resourced. Section 5.4 of the Specific Plan includes a series of maps which show a reasonable walkshed from existing and planned schools; bus stops; commercial uses; and existing and planned parks.

Since the guiding principles of the Specific Plan support the policies of the General Plan, no conflict with policies, plans, and programs for alternative transportation would occur from future development and redevelopment under the proposed Specific Plan. Therefore, the impact would be ***less than significant*** and no mitigation measures would be required.

Impact 3.14-2: Implementation of the Specific Plan would not conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b). (Less Than Significant with Mitigation)

The Fresno COG Activity Based travel demand model was used to estimate existing and horizon year average VMT per capita and VMT per employee for the traffic analysis zones (TAZs) that comprise the Specific Plan Area and Fresno County. The number of dwelling units and employment for the Specific Plan Area were calculated at buildout and provided to Fresno COG. Fresno COG used the buildout numbers to run a population synthesizer to generate land use input files for running the activity-based model. These land use input files were then run through the activity-based model to develop horizon year (2035) forecasts with the buildout of the Specific Plan Area.

Table 3.14-2 presents VMT per capita and VMT per employee findings for existing conditions in Fresno County and for the Plan Area at buildout in the horizon year. Based on the City of Fresno VMT Guidelines, a specific plan would have a significant impact if the VMT per capita and VMT per

employee of the Specific Plan Area exceeded the same metrics for existing conditions in all of Fresno County.

TABLE 3.14-2: VMT PER CAPITA AND VMT PER EMPLOYEE - EXISTING AND HORIZON YEAR CONDITIONS

TRIP TYPES	*FRESNO COUNTY (2019)*	*SPECIFIC PLAN AREA (2035)*	*DIFFERENCE (%)*
VMT Per Capita	16.1	8.7	-7.4 (46%)
VMT Per Employee	25.6	13.2	-12.4 (48%)

NOTE: THESE NUMBERS ARE BASED ON FRESNO COG'S ACTIVITY-BASED TRAVEL DEMAND MODEL, AND THE LAND USE INPUTS OBTAINED FOR HORIZON YEAR 2035 FROM FRESNO COG (ASSUMING FULL BUILDOUT OF THE FRESNO WEST AREA OUTLINED IN THE SPECIFIC PLAN).
SOURCE: FRESNO COG TRAVEL DEMAND MODEL, AND KITTELSON & ASSOCIATES, INC., 2020.

As Table 3.14-2 shows, the projected VMT per capita and VMT per employee in the Plan Area are lower than existing conditions. Under the Specific Plan, VMT per capita is 7.4 lower, or 46% lower, while VMT per employee is 12.4 lower, or 48% lower. The decrease in VMT is the result of the proposed land use mix within the Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today.

CONCLUSION

The City of Fresno VMT Guidelines state specific plans would have an impact if the VMT per capita or VMT per employee in the specific plan area for the horizon year increases compared to the existing VMT per capita or VMT per employee in the region (Fresno County). The VMT per capita in the Specific Plan Area during the horizon year is 8.7, while VMT per employee is 13.2. Under existing conditions in Fresno County, the VMT per capita is 16.1, while the VMT per employee is 25.6. Because the VMT per capita and VMT per employee in the Specific Plan Area during the horizon year is less than the VMT per capita and VMT per employee for existing conditions in Fresno County, the proposed Specific Plan would not result in a significant impact for residential and office projects. Therefore, impacts related to CEQA Guideline section 15064.3, subdivision (b), would be ***less than significant***.

Impact 3.14-3: Implementation of the Specific Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (Less than Significant)

The proposed Specific Plan would result in a relocation of density in the Plan Area to central corridors compared to what would develop under the City's General Plan where density is more distributed throughout the Plan Area; however, the Specific Plan does not propose to change the types (i.e., residential, commercial, office, etc.) of land uses in the Plan Area. The West Area

Neighborhoods Specific Plan includes the following guiding principles related to transportation and hazards:

- Provide a complete, safe, and well-maintained sidewalk network from residential neighborhoods to commercial centers, schools, parks, and community centers.
- Provide a complete, safe, and well-maintained roadway network that allows for efficient and smooth access from the West Area to other sections of the city and region.

Buildout of the proposed Specific Plan would result in some changes to the City's circulation network, but would not increase hazards or incompatible uses due to design features. All future roadway system improvements associated with development and redevelopment activities under the Specific Plan would be designed in accordance with the established roadway design standards, some of which have also been incorporated into the Circulation Element of the City's General Plan.

The City's General Plan policies that would address design and safety issues are:

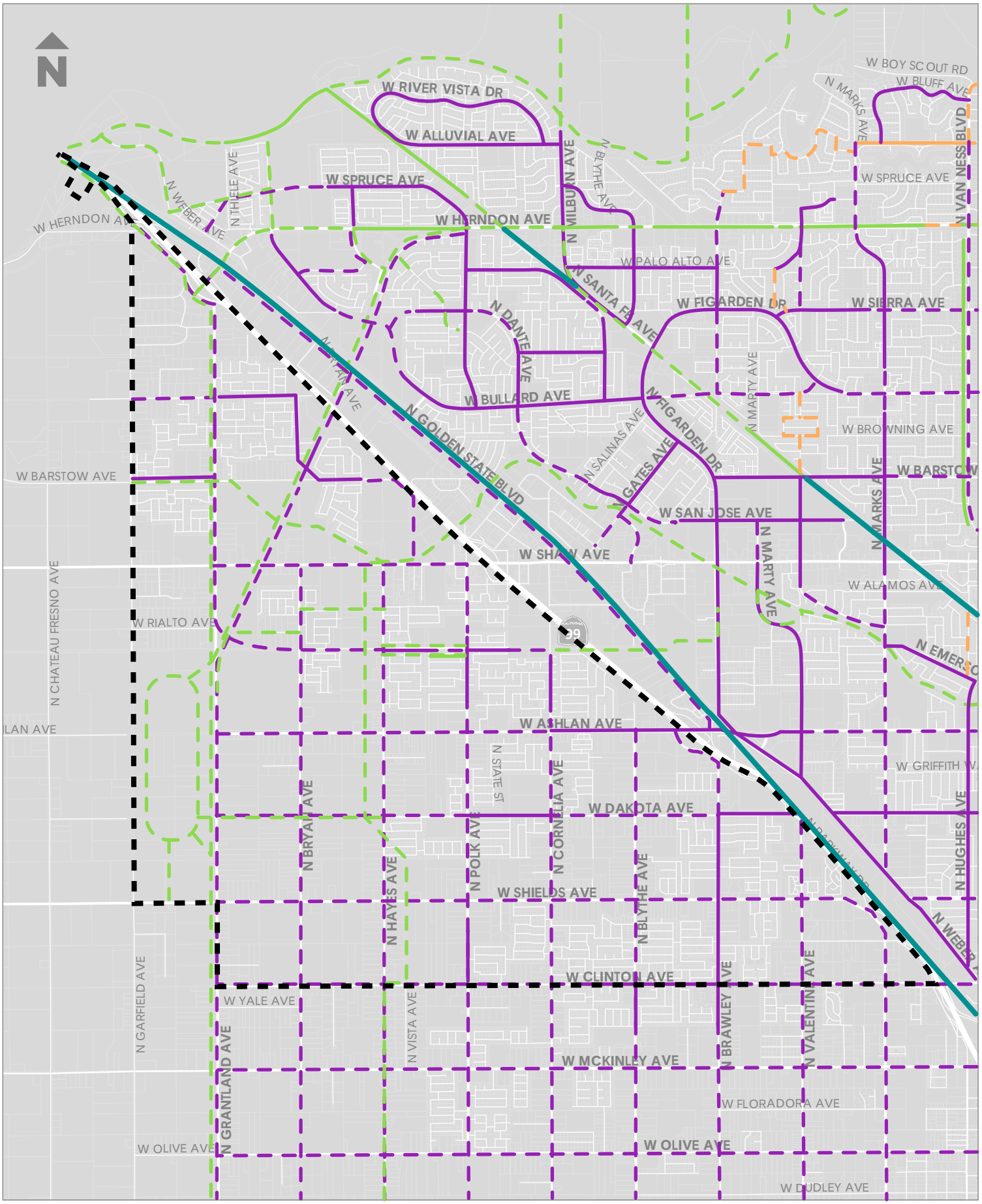
- **Policy MT-2-e**: Driveway and Access Consolidation.
- **Policy MT-2-i**: Transportation Impact Studies.
- **Policy MT-5-d**: Pedestrian Safety.
- **Policy MT-5-e**: Traffic Management in Established Neighborhoods.

The future roadway improvements that would result with implementation of the Specific Plan would be subject to review and future consideration by the City of Fresno. An evaluation of the roadway alignments, intersection geometrics, and traffic control features would be needed. Roadway improvements would be made in accordance with the City's Circulation Plan, roadway functional design guidelines, and would have to meet design guidelines such as the accessibility requirements of Title 24 (California Building Code), ADA standards, California Manual of Uniform Traffic Control Devices (MUTCD), and the Caltrans Roadway Design Manual. Implementation of the Specific Plan would not result in hazardous conditions, or create conflicting uses. With implementation of General Plan Policy MT-2-e, Policy MT-2-I, and application of the conditions of approval at the time of review of land development projects, the Specific Plan would be designed to ensure that no hazardous circulation conditions are created as a result of implementation of the Plan. The Specific Plan would implement components of the roadway system consistent with the City's General Plan. Therefore, impacts related to hazards due to a geometric design feature or incompatible uses would be ***less than significant***, and no mitigation measures would be required.

Impact 3.14-4: Implementation of the Specific Plan would not result in inadequate emergency access. (Less than Significant)

Emergency response requires a balance of emergency response time and evacuation needs with other community concerns, such as urban design and traffic calming. Future roadway improvements associated with buildout of the Plan Area would be made in accordance with the City's Circulation Plan and roadway functional design guidelines.

With the application of the conditions of approval at the time of review of land development projects, the Specific Plan would be designed to ensure that adequate emergency access is provided. The Specific Plan would implement components of the roadway system consistent with the City's General Plan. Therefore, impacts related to inadequate emergency access would be ***less than significant***, and no mitigation measures would be required.



Project Boundary

Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Lane

Planned Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Lane

Rails-to-Trails

Figure 3.14-1
Existing and Proposed Bicycle Routes in the Specific Plan Area

KITTELSON & ASSOCIATES

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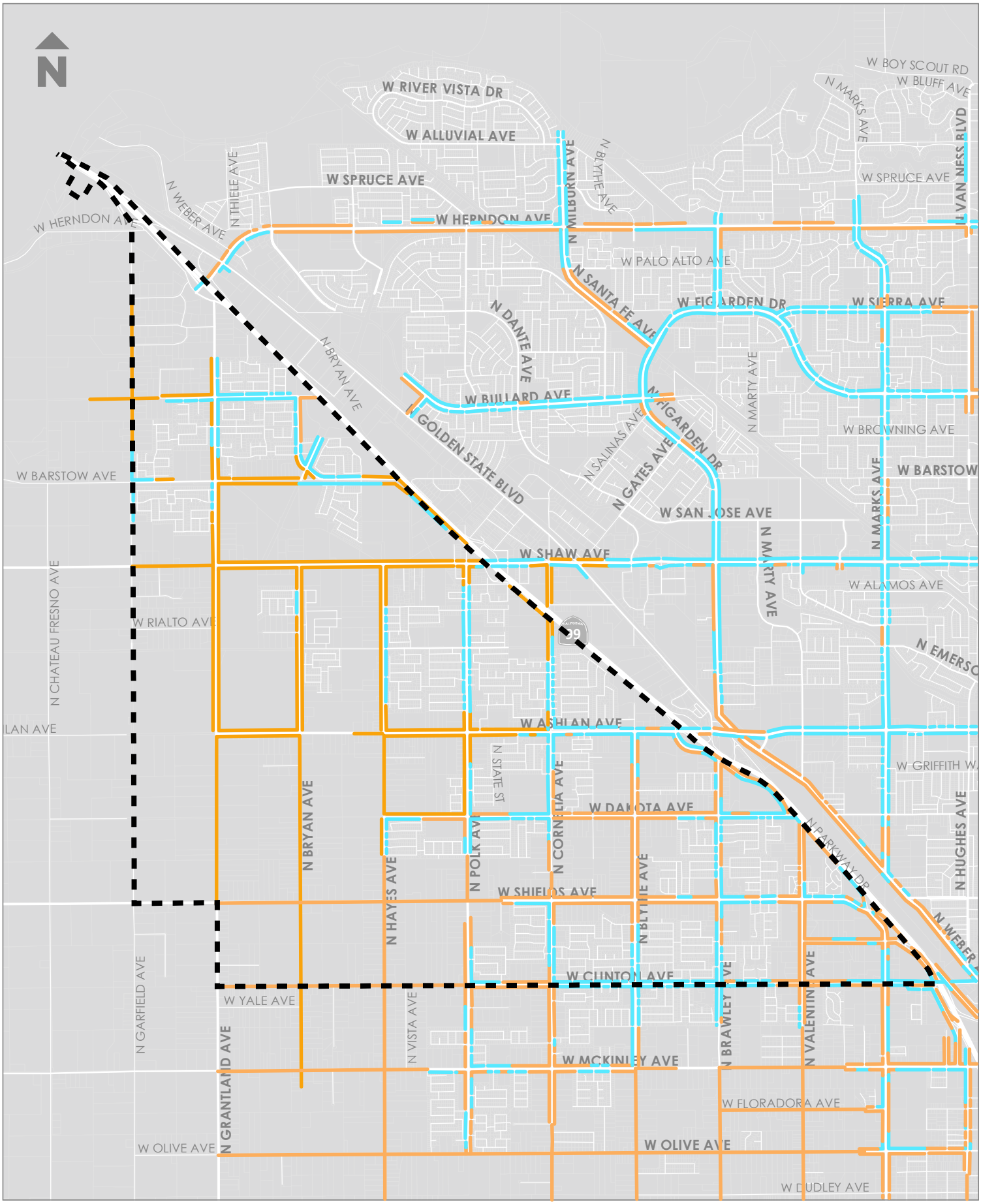

Figure 3.14-2

Existing and Proposed Sidewalks in the Specific Plan Area

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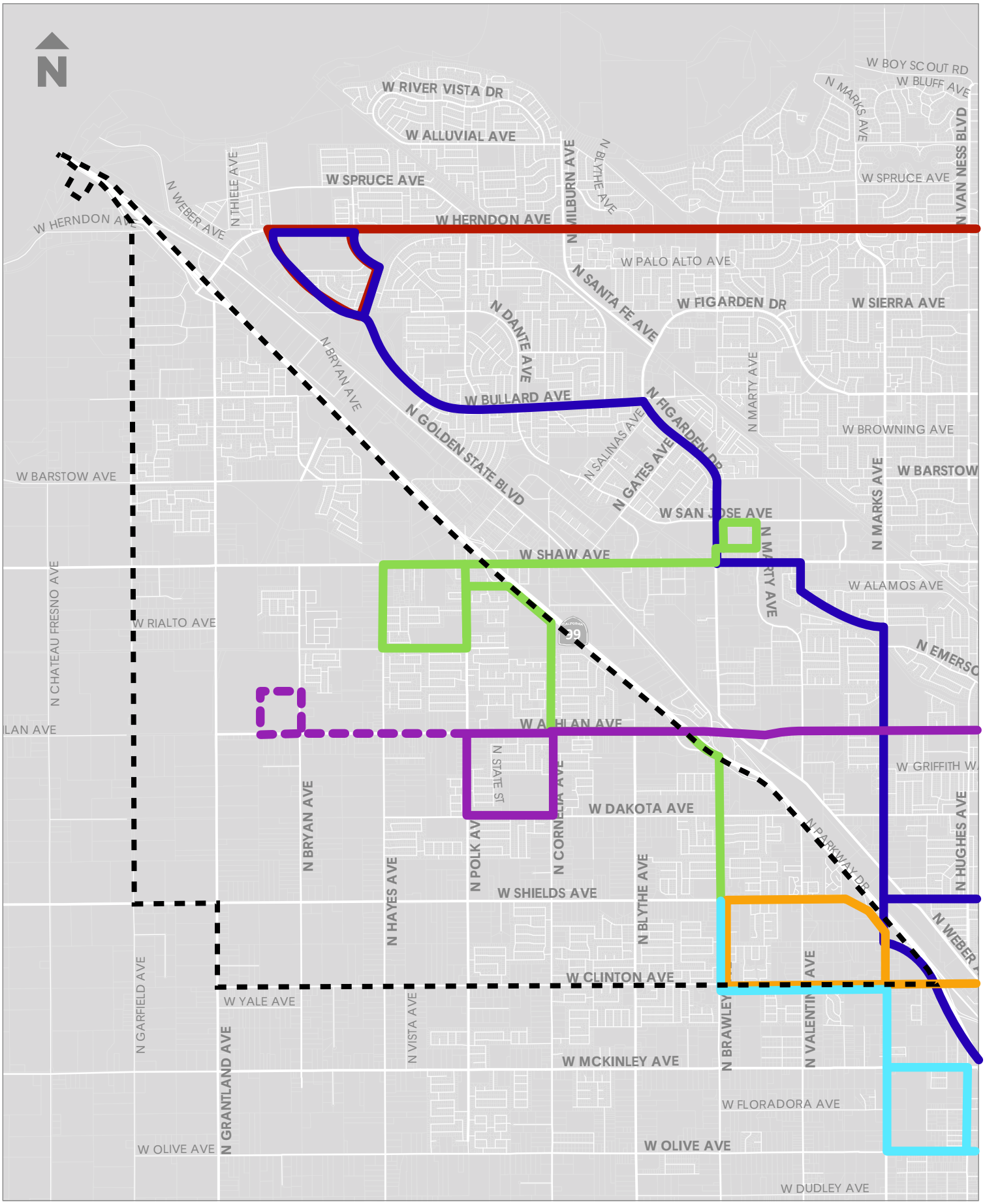

Project Boundary
Route 12
Route 35
Route 3
Route 39
Route 45
Route 12

Figure 3.14-3
Existing and Proposed Transit Service in the Specific Plan Area

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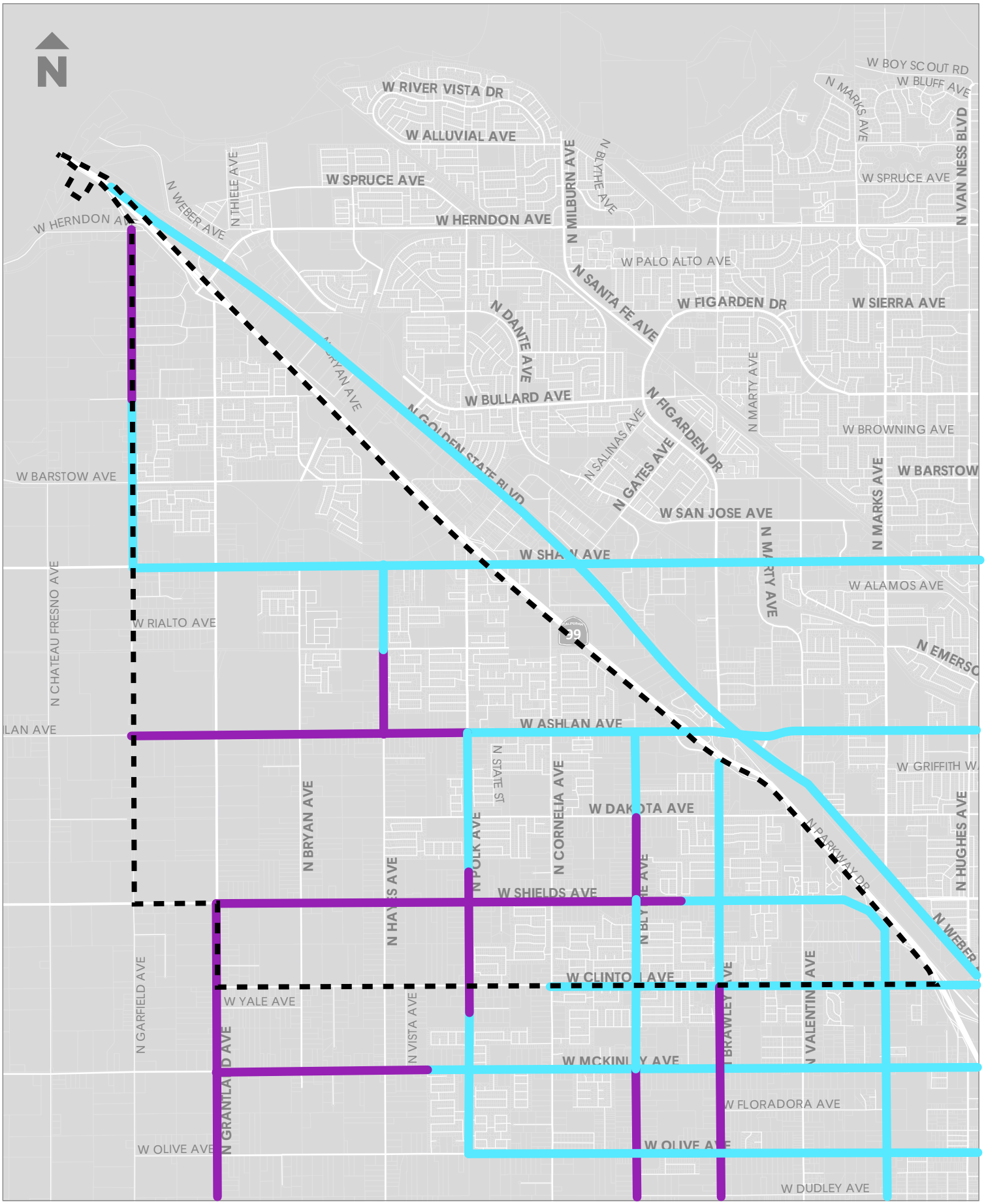

Figure 3.14-4
Existing and Planned Truck Routes in the Specific Plan Area

KITTELSON & ASSOCIATES

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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from Specific Plan implementation, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities.

This section is based in part on the following documents, reports and studies:

- CalRecycle *Solid Waste Information System* (CalRecycle, 2020);
- CalRecycle *Jurisdiction Diversion/Disposal Rate Summary* (CalRecycle, 2020);
- *City of Fresno Municipal Service Review and Sphere of Influence Update* (City of Fresno, 2016);
- *City of Fresno 2020 Urban Water Management Plan* (City of Fresno, 2021);
- *Fresno General Plan* (City of Fresno, 2014);
- *Fresno General Plan Public Review Draft Program Environmental Impact Report* (City of Fresno, 2020);
- *Response to Comments on the Draft Master Environmental Impact Report General Plan and Development Code Update - City of Fresno, Fresno County, California* (City of Fresno, 2014);
- *City of Fresno Specific Plan for the West Area Utility Background Summary* (West Yost Associates, 2022) (included in **Appendix D** of this EIR).
- *Specific Plan of the West Area Water Supply Assessment* (West Yost Associates, 2022) (included in **Appendix E** of this EIR);

Comments were received during the public review period for the Notice of Preparation (NOP) regarding stormwater from Cathy Caples (August 1, 2019) and the Fresno Metropolitan Flood Control District (August 1, 2019). These comments are included in **Appendix A** of this EIR.

3.15.1 WASTEWATER SERVICES

EXISTING SETTING

The City is the regional sewer agency for the Fresno-Clovis Metropolitan Area (FCMA). The City of Fresno owns and operates two wastewater treatment facilities that serve the Fresno metropolitan area: the Fresno-Clovis Regional Wastewater Reclamation Facility (Regional Facility) and the North Fresno Wastewater Reclamation Facility (NFWRF).

Wastewater is composed of sanitary flow and Infiltration and Inflow (I&I):

- The **sanitary flow** is the actual wastewater that is generated in the homes and businesses that are connected to the sewer system. The sewer system (or collection system) is intended to collect and convey all the sanitary flow from the homes and businesses to the wastewater treatment plant. The sanitary flow is often called the Average Dry Weather Flow (ADWF) because it is the primary source of wastewater during dry weather.
- **I&I** is stormwater that enters the wastewater collection system through flooded maintenance holes; defects in pipes, pipe joints, and sewer structures; or as inflow through illicitly connected downspouts, area drains, and catch basins. Sewer systems are intended

to prevent (or minimize) the I&I that enters the sewer system so that the stormwater does not cause the sewer capacities to be exceeded or result in treating stormwater at the wastewater treatment plant. The combined ADWF and I&I is called the peak wet weather flow (PWWF).

Collection systems are sized, designed, and constructed to the convey the PWWF to the City's wastewater treatment plants. The City's wastewater collection system has roughly 23,000 manholes, 15 lift stations, 1.7 force mains, and 1,500 miles of gravity sewer pipes (Carollo, 2015). Generally, the collection system flows from northeast to southwest across the entire City. In the West Area, wastewater generally flows from the north to the south.

The City of Fresno owns and maintains the majority of the wastewater collection systems that convey wastewater to the Regional Facility, and all of the wastewater collection system that conveys wastewater to the NFWRF. The City's wastewater collection system consists of more than 1,500 miles of gravity flow pipelines, ranging in size from 4 inches to 84 inches in diameter, and ranging in age from new to more than 100 years old. The system also includes some pressure flow pipelines, by which pumped wastewater is conveyed to a point of discharge usually tributary to a gravity flow pipeline. Wastewater collection system pipelines consist of a number of different pipe materials, but the majority of the gravity flow pipelines consist of polyvinyl chloride (PVC) pipe, vitrified clay pipe (VCP) or concrete pipe, which includes both reinforced concrete pipe (RCP) and standard or non- reinforced concrete pipe (SCP). Together, these pipe materials account for approximately 98.4 percent of the wastewater collection system pipelines.

Fresno-Clovis Regional Wastewater Reclamation Facility

The Regional Facility is located southwest of the City in the area generally bounded by Jensen, Cornelia, Central and Chateau Fresno Avenues. Wastewater from the Plan Area is treated at the Regional Facility, which has an average annual flow of approximately 60 million gallons per day (MGD). The Regional Facility receives and treats wastewater from three additional service areas, including the: City of Clovis, Pinedale County Water District, and Pinedale Public Utility District. The Regional Facility has an ADWF capacity of 92 MGD; however, it can treat the PWWF that occurs during storm events, which is higher than the ADWF but lasts for short duration. The City of Clovis owns 12.86 MGD of ADWF capacity, while the remaining capacity belongs to the City.

The Regional Facility received and treated approximately 72,302 acre-feet (AF) of wastewater during 2011, representing an annual average daily flow of approximately 64.5 MGD. The quantity of wastewater received and treated by the Regional Facility has been declining since 2006, when it peaked at a total of approximately 80,801 AF, representing an annual average daily flow of approximately 72.1 MGD.

Wastewater treatment plant capacities are typically rated based on the ADWF flow. The permitted wastewater treatment capacity of the Regional Facility is currently 80.0 MGD as an annual monthly average flow, and 88.0 MGD as a maximum monthly average flow. The City is currently evaluating upgrades and modifications to the existing Regional Facility that may result in a capacity rating increase of 15.0 MGD.

The Regional Facility employs an activated sludge wastewater treatment process, which produces un-disinfected secondary effluent. Most of the effluent is discharged to an array of percolation basins, where it percolates through the underlying soil strata and into the groundwater beneath the basin. However, some of the effluent is recycled by direct delivery to nearby farmland where it is used for restricted irrigation for feed/fodder and fiber crops. In addition, some of the percolated effluent is extracted from the groundwater beneath the basins by pumping and is recycled for irrigation by delivery to the Fresno Irrigation District (FID) canal system. The Regional Facility also has a 5 MGD tertiary treatment facility, which treats a portion of the overall plants rated capacity.

The facility includes the following major processes/facilities:

- Headworks and Grit Chambers – The screening facilities remove the larger trash and grit from the raw wastewater. From the headworks, the wastewater is pumped into pipes that flow to the primary clarifiers.
- Primary Clarifiers – These six tanks allow finer sediment to settle out of the effluent and skim fats, oils and grease from the top. Wastewater leaving the settling tanks is called primary effluent and either flows to the aeration basins or is diverted for additional screening prior to tertiary treatment.
- Aeration Basins – In the aeration basins air is pumped into the wastewater to increase the growth of bacteria and other micro-organisms that consume the organic waste. From the aeration basins the partially treated wastewater flows to the Secondary Clarifiers.
- Secondary Clarifiers – The secondary clarifiers are basins where the bacteria and micro-organisms settle out of the wastewater. There are 16 secondary clarifiers. Effluent leaving the secondary clarifiers is called secondary effluent, and it flows to storage ponds. There is currently no disinfection system for the secondary effluent.
- Membrane Bioreactor Tanks – Primary effluent designated for tertiary treatment is passed through a fine screen and two pre-aeration basins before entering four membrane bioreactor (MBR) tanks. MBRs combine biological treatment with membrane filtration. Effluent leaving the MBRs flows to ultraviolet (UV) disinfection vessels.
- UV Disinfection – Effluent from the MBRs is exposed to UV light to inactivate pathogens. There are four in-vessel UV disinfection trains. After disinfection, effluent is called tertiary effluent and is sent to recycled water storage.
- Storage Ponds – There are 1,720 acres of storage ponds where the effluent percolates into the groundwater, evaporates, or is pumped for irrigation of non-food crops.
- Solids Treatment – The bacteria and micro-organisms that settle out of the wastewater in the clarifiers are called the solids. Flotation thickeners, digesters, and belt filter presses are used to extract liquid from the solids. The liquid is returned to the settling tanks. The remaining solids are then stored in silos to await disposal.

North Fresno Wastewater Reclamation Facility

The NFWRF is a tertiary level wastewater treatment facility located in north Fresno, near the intersection of Copper Avenue and Cedar Avenue. The NFWRF treats wastewater from the northern portion of the City. It was constructed in late 2006 to provide wastewater treatment service for residential and commercial development in the surrounding area of north Fresno. The NFWRF

employs a sequencing batch reactor (SBR) treatment process for secondary treatment, cloth media filtration for tertiary treatment, and an ultraviolet system to produce disinfected tertiary treated effluent. The effluent is used for golf course irrigation at the nearby Copper River Country Club.

The permitted capacity of the plant is 0.71 MGD average monthly flow and 1.07 MGD maximum daily flow. Treatment processes include a sequencing batch reactor for secondary treatment, cloth media filtration for tertiary treatment and sodium hypochlorite for disinfection. The tertiary treated wastewater is currently used for landscaping irrigation. Although the NFWRF does not serve the Plan Area directly, it contributes to the City's total wastewater treatment capacity.

The North Facility operates under a Waste Discharge Requirement (WDR), Order No 5-2006-0090-01, and a NPDES Permit (No. CA0085189). The WDR for the North Facility establishes limits for the average dry weather flow discharge. The current permitted average dry weather flow discharge is 0.71 MGD. The North Fresno Facility's current average dry weather flow is less than 0.71 MGD.

Effluent Disposal and the Recycled Water System

The Regional Facility includes preliminary, primary, secondary, and tertiary treatment units with disinfection. Secondary treatment consists of three treatment trains with an annual average capacity of 87 mgd, consisting of 30 mgd for Train A and 57 mgd for Trains B and C combined. In 2017, a 5-mgd tertiary treatment system — the Tertiary Treatment and Disinfection Facility — was completed. The system can be expanded to 15 mgd and ultimately to 30 mgd (Water Systems Consulting Inc., 2021).

The City has three primary means of effluent disposal:

1. Undisinfected secondary effluent to on-site and off-site farmland for restricted irrigation;
2. Undisinfected secondary effluent to percolation ponds; and
3. Disinfected tertiary effluent to the recycled water distribution system.

The percolated effluent has been deemed equivalent to Title 22 tertiary treated water by the State Water Resources Control Board Division of Drinking Water (DDW). The City has been extracting this water for reuse in areas within and surrounding the Regional Facility, as well as to FID's canals, through an exchange agreement for delivery to FID agricultural customers.

The discharged effluent is disposed within the City boundaries and just southwest of the metropolitan area. The treated effluent percolation ponds are within the City's SOI and hydrologic sphere that benefit the City's overall regional water budget.

In addition to the Regional Facility, the NFWRF serves the residential and commercial development and golf course in a portion of northeast Fresno. Since the treatment includes filtration and disinfection producing water quality that meets Title 22 tertiary criteria, it is suitable for additional future uses such as landscape irrigation, freeway irrigation, and many industrial water reuse opportunities.

Future Wastewater Flow and Effluent Disposal

The City has the capacity to produce more recycled water than it can currently use. The City will continue to expand the recycled water delivery system. The City's most recent Wastewater Collection System Master Plan Update (Carollo, 2015) was based on land uses from the City's 2014 General Plan. At General Plan build-out, the City will encompass approximately 156.6 square miles of land and is projected to generate 202.4 MGD of future PWWF.

REGULATORY SETTING – WASTEWATER

The following is an overview of the federal, State and local regulations related to wastewater that are applicable to the proposed Specific Plan.

State and Federal

CLEAN WATER ACT (CWA) / NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority, in this case the Central Valley Regional Water Quality Control Board. NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, stormwater associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into the sanitary sewer system for treatment. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

Local

FRESNO GENERAL PLAN

The Fresno General Plan contains the following objectives and policies that are relevant to wastewater for the proposed Specific Plan:

Objective PU-4: Ensure provision of adequate trunk sewer and collector main capacities to serve existing and planned urban development, consistent with the Wastewater Master Plan.

> **Policy PU-4-a: Plan for Regional Needs.** Coordinate and consult with the City of Clovis, pursuant to the Fresno-Clovis Sewerage System Joint Powers Agreement, so that planning and construction of sewer collection facilities will continue to meet the regional needs of the Metropolitan Area.
>
> **Policy PU-4-b: New Trunk Facilities.** Pursue construction of new or replacement sewer trunk facilities or other alternatives consistent with the Wastewater Master Plan to accommodate the uses as envisioned in this General Plan.
>
> **Policy PU-4-c: System Extension and Cost Recovery.** Pursue enlargement or extension of the sewage collection system where necessary to serve planned urban development, with the capital costs and benefits allocated equitably and fairly between the existing users and new users.
>
> **Policy PU-4-d: Capacity Modeling.** Continue development and utilization of citywide sewer flow monitoring and computerized flow modeling to determine availability of sewer collection system capacity to serve planned urban development.
>
> **Policy PU-4-e: Evaluate and Maintain Infrastructure.** Promote the health and safety of the community, and preserve the longevity and sound condition of the sewer collection system through evaluation and maintenance of the sewer infrastructure.
>
> - Continue assessments of existing infrastructure and facilitate necessary repair to damaged and worn-out pipelines.
> - Continue routine sewer line maintenance and cleaning programs to prevent line blockages caused by root intrusion, grease buildup, and pipe failure.
> - Continue a sewer line replacement program and funding to repair or replace sewer lines damaged or worn beyond useful life.

Objective PU-5: Preserve groundwater quality and ensure that the health and safety of the entire Fresno community is not impaired by use of private, onsite disposal systems.

> **Policy PU-5-a: Mandatory Septic Conversion.** Continue to evaluate and pursue where determined appropriate the mandatory abatement of existing private wastewater disposal (septic) systems and mandatory connection to the public sewage collection and disposal system.

Policy PU-5-b: Non-Regional Treatment. Discourage, and when determined appropriate, oppose the use of private wastewater (septic) disposal systems, community wastewater disposal systems, or other nonregional sewage treatment and disposal systems within or adjacent to the Metropolitan Area if these types of wastewater treatment facilities would cause discharges that could result in groundwater degradation.

Objective PU-7: Promote reduction in wastewater flows and develop facilities for beneficial reuse of reclaimed water and biosolids for management and distribution of treated wastewater.

Policy PU-7-a: Reduce Wastewater. Identify and consider implementing water conservation standards and other programs and policies, as determined appropriate, to reduce wastewater flows.

THRESHOLDS OF SIGNIFICANCE –WASTEWATER

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on Utilities if it would:

- Require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-1: The proposed Specific Plan would require or result in the relocation or construction of new or expanded wastewater facilities, the construction of which could cause significant environmental effects. (Significant and Unavoidable)

The Specific Plan does not trigger a need to expand the Regional Facility. There would be a network of sewer collection infrastructure installed throughout the Plan Area to serve the West Area Specific Plan. The Specific Plan wastewater collection system will include future construction of sewer improvements and replacements of existing lines, some of which are now over 75 years old. Approximately 3.6 miles of public and privately-owned (i.e., homeowner's responsibility) sewer system drainage lines are proposed to serve the Plan Area at buildout.

Physical impacts from future construction of the wastewater infrastructure within the Plan Area is addressed within this EIR. A discussion of relevant operational and construction impacts can be found in each respective section of this EIR. Impacts associated with development of the Plan Area, as proposed, would result in significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), public services and recreation (Impacts 3.13-3 through 3.13-5).

CONCLUSION

The construction of the new wastewater facilities, which are associated with future buildout of the Plan Area, has the potential to cause environmental impacts. The potential for environmental impacts associated with the installation of the wastewater system, and all construction activities within the Plan Area, are addressed throughout this EIR. In some cases, the direct and indirect impacts are potentially significant and warrant mitigation measures, while in other cases there are significant and unavoidable impacts. The future wastewater infrastructure would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR.

It is noted, however, that future development of wastewater infrastructure within the proposed Plan Area would contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), public services and recreation (Impacts 3.13-3 through 3.13-5). Therefore, consistent with the analysis included in this Draft EIR, impacts related to construction of new or expanded stormwater drainage facilities to serve the Plan Area are considered ***significant and unavoidable***.

Impact 3.15-2: The proposed Specific Plan would not result in a determination by the wastewater treatment provider which serves or may serve the Plan Area that it does not have adequate capacity to serve the Specific Plan's projected demand in addition to the provider's existing commitments. (Less than Significant)

PROJECT WASTEWATER GENERATION

The projected future average dry weather base flow as a result of buildout of the City's General Plan is 150 MGD. This flow includes 8.7 MGD from large dischargers and 15.86 MGD from Clovis. The 8.40 MGD designated by Clovis for treatment at a satellite wastewater treatment plant is not included. This flow also includes all flow from the Southeast Growth Area and the flow from the anticipated treatment plant in the North Growth Area.

The wastewater generation resulting from buildout of the Specific Plan Area is shown in Table 3.15-1. As shown, buildout of the Specific Plan Area would result in 11,490,429.94 gpd, or approximately 11.5 MGD. It is noted, however, the wastewater generation calculated and shown in Table 3.15-1 includes much of the wastewater that is currently generated by the existing developed uses in the Plan Area.

TABLE 3.15-1: WASTEWATER GENERATION

PROPOSED LAND USE CATEGORY	*PROPOSED GROSS ACREAGE*	*UNIT FACTOR (EDU/ACRE)[1]*	*GPD*
Residential - Low	516.57	1	149,805.82
Residential - Medium Low	1,440.22	1	417,664.66
Residential - Medium	2,118.00	12	7,370,641.09
Residential - Medium High	280.27	12	975,343.84
Residential - Urban Neighborhood	154.21	15	670,830.55

PROPOSED LAND USE CATEGORY	*PROPOSED GROSS ACREAGE*	*UNIT FACTOR (EDU/ACRE)[1]*	*GPD*
Residential - High	46.61	15	202,746.79
Commercial - Community	57.74	4	66,983.50
Commercial - Recreation	41.34	3	35,963.04
Commercial - General	215.07	7	436,596.37
Commercial - Regional	4.24	4	4,913.79
Employment - Office	82.25	7	166,976.87
Employment - Business Park	74.97	4	86,964.60
Employment - Light Industrial	32.75	4	37,989.85
Mixed Use - Neighborhood	308.43	4	357,775.70
Mixed Use - Corridor/Center	96.00	7	194,885.67
Mixed Use - Regional	0.00	15	0.00
Open Space - Pocket Park	1.55	-	-
Open Space - Neighborhood Park	86.26	-	-
Open Space - Community Park	24.20	-	-
Open Space - Regional Park	0.00	-	-
Open Space - Open Space	6.79	-	-
Open Space - Ponding Basin	129.59	-	-
Public Facility - Public Facility	27.42	2	15,903.47
Public Facility - Church	55.80	2	32,361.46
Public Facility - Special School	18.38	3	15,988.15
Public Facility - Elem. School	91.82	3	79,882.00
Public Facility - Elem./Middle/High School	145.37	3	126,474.18
Public Facility - High School	46.95	3	40,847.21
Public Facility - Fire Station	3.32	3	2,891.32
TOTAL	**6,106.14**	**--**	***11,490,429.94***

NOTE: [1] ACCORDING TO THE CITY'S WASTEWATER COLLECTION SYSTEM MASTER PLAN, 290 GALLONS PER DAY (GPD) OF WASTEWATER ARE GENERATED PER EQUIVALENT DWELLING UNIT (EDU). UNIT FACTORS ARE PROVIDED IN TABLE 4-4 OF THE CITY'S WASTEWATER COLLECTION SYSTEM MASTER PLAN.
SOURCE: DE NOVO PLANNING GROUP, 2020.

COLLECTION AND TREATMENT SYSTEM

As noted previously, the Regional Facility is located southwest of the City in the area generally bounded by Jensen, Cornelia, Central and Chateau Fresno Avenues. Wastewater from the Plan Area is treated at the Regional Facility, which has an average annual flow of approximately 60 MGD. The Regional Facility receives and treats wastewater from three additional service areas, including: the City of Clovis, Pinedale County Water District, and Pinedale Public Utility District. The Regional Facility has an ADWF capacity of 92 MGD; however, it can treat the PWWF that occurs during storm events, which is higher than the ADWF but lasts for short duration. The City of Clovis owns 9.3 MGD of ADWF capacity, while the remaining capacity belongs to the City. Additionally, although the NFWRF does not serve the Plan Area directly, it contributes to the City's total wastewater treatment capacity.

Wastewater treatment plant capacities are typically rated based on the ADWF flow. The permitted wastewater treatment capacity of the Regional Facility is currently 80.0 MGD as an annual monthly average flow, and 88.0 MGD as a maximum monthly average flow. The City is currently evaluating

upgrades and modifications to the existing Regional Facility that may result in a capacity rating increase of 15 MGD.

The Specific Plan would require wastewater collection and treatment services. The City owns and operates their own collection system. Sewer collection and treatment issues and opportunities that would result from buildout of the Plan Area (as noted in the City of Fresno Specific Plan for the West Area Utility Background Summary) are discussed below.

At build out, the City's wastewater flows are expected to increase substantially. As such, there are some areas of the existing collection system that cannot convey the build out PWWF within the established maximum flow to full flow (q/Q) ratio of 1.15. There are several localized driven improvements needed in the Downtown area (C-1 through C-7), and an additional upsizing for the pipeline along the City's southern border that feeds the Regional Facility (C-8, C-10).

Four development driven projects (D-26A, D-26B, D-27A, D-27B) are identified within or along the borders of the Plan Area. Approximately 3.6 miles of public and privately-owned (i.e., homeowner's responsibility) sewer system drainage lines are proposed to serve the West Area at buildout. The City does not currently collect supervisory control and data acquisition (SCADA) data for their lift stations. Were feasible, Collection System Master Plan (Carollo, 2015) recommends that upgrades be performed to allow for proper flow monitoring data acquisition, which will help confirm lift station capacity and monitor lift station performance.

Additional agricultural or urban water reuse in the future is a possibility with additional distribution and/or treatment facilities. The Regional Facility currently delivers approximately 4,700 AFY (Water Systems Consulting Inc., 2021) of undisinfected secondary effluent to growers of non-food crops within the City. An additional 1,400 acres could be served with an expansion of the conveyance system or the establishment of an exchange agreement with FID. Within the Plan Area, approximately 6.3 miles of new recycled water distribution pipelines are planned to be constructed by buildout.

The 2010 Recycled Water Master Plan outlines three locations for potential regional recharge areas. Also referenced as a "super recharge basin", one of the regional recharge areas is located partially within the Plan Area. If the basins are constructed, a portion of the recharge water could be made up of recycled water, provided there is at least six months travel time from the super recharge basin to the nearest drinking water well.

CONCLUSION

The proposed Specific Plan would increase the amount of wastewater requiring treatment. The wastewater would be treated at the Regional Facility. Given the capacity of 92 MGD, the average annual flow of approximately 56 MGD, and the 11.5 MGD generated by the buildout of the Plan Area (including existing demand and future demand), there is sufficient plant capacity. This is a ***less than significant*** impact.

3.15.2 WATER SUPPLIES
EXISTING SETTING

Water Purveyor and System

The existing incorporated area of the City of Fresno encompasses approximately 115 square miles (2020 UWMP). The City's General Plan includes the City's the area outside of the City limits that the City expects to annex and urbanize in the future, also known as the SOI. With a few exceptions, the City's water service area is coterminous with the City limits. As future developments within the SOI, but outside the City limits, are approved, they will be annexed into the City and served by the City water system.

The City's water system consists of about 1,860 miles of distribution and transmission mains, 260 municipal groundwater wells, three surface water treatment facilities (SWTFs) with current rated capacities ranging from 4 to 54 MGD, five water storage facilities with pump stations, including one at each of the SWTFs plus two in the distribution system, and three booster pump facilities.

As of the close of the 2020 calendar year, the City has over 139,500 residential, commercial, industrial, and institutional water service connections and produced nearly 122,000 AF of water.

In addition to the City's water system, there are four independent water systems located within the City limits, including Bakman Water Company, Pinedale County Water District, California State University Fresno, and Park Van Ness Mutual Water Company. These independent water systems have their own water supplies, and do not receive water from the City, with the exception of a portion of the Pinedale County Water District east of Highway 41 and south of Herndon Avenue. The City has emergency interties with the City of Clovis and California State University, Fresno, that provides additional water supply flexibility.

The Plan Area is served by nearly 96 miles of distribution pipelines and just under a mile of recycled water service (in North Cornelia Avenue between West Clinton Avenue and West Shields Avenue).

Water Demand

HISTORICAL AND EXISTING WATER DEMAND

The following information is based on the *Specific Plan of the West Area Water Supply Assessment* (WSA) (West Yost, 2022).

The City's water demand has decreased as a result of the economic downturn of 2008 through 2011, water use reductions in response to recent drought conditions, and metering of residential properties. Since 2013, all water services in the City's water service area have been metered. Single-family residential water use has decreased since the Single-Family Metering Program was completed in 2013. Landscape irrigation demands did decrease in 2015 and 2016, likely due to the drought

restrictions, and continue to recover after the drought ended in 2017. Table 3.15-2 shows the City's historical water demands for 2013 through 2020.

TABLE 3.15-2: HISTORICAL WATER DEMAND

	2013[a]	*2014[a]*	*2015[a]*	*2016[a]*	*2017[a]*	*2018[a]*	*2019[a]*	*2020[b]*
Total Potable and Raw Water Demand, af/yr	133,692	122,191	102,308	103,045	110,525	110,725	106,500	121,993

NOTES: [A] CITY OF FRESNO 2020 UWMP, FIGURE-4-1.
[B] CITY OF FRESNO 2020 UWMP, TABLE 4-2.
SOURCE: WEST YOST, 2022.

FUTURE WATER DEMAND

The City's 2045 projected water demand at buildout (based on existing water demand, the projected demands for the Plan Area under the General Plan, the difference in demands for the Plan Area between the Specific Plan and the General Plan, and undefined future developments) is summarized in Table 3.15-3. The General Plan is expected to be built out by 2056, but for the purposes of the WSA that was completed for the proposed Specific Plan, the Plan Area was assumed to be annexed and built out by 2045. The City's preliminary water demand projections for the Plan Area under the General Plan were higher than for the Specific Plan, resulting in a negative value if the proposed Specific Plan land use map is built out instead of the General Plan.

TABLE 3.15-3: PROJECTED FUTURE WATER DEMAND AT 2045

UNITS, AF/YR	*WATER DEMAND*
Current (2020) Water Demand[a]	121,993
General Plan for West Area[b]	23,730
Subtotal (without Project)	*145,723*
Project (West Area Specific Plan)[b,c]	-381
Subtotal (with Project)	*145,723*
Undefined Future Developments	95,724
Total Water Demand	**241,447**

NOTES:
[A] DATA FROM TABLE 5-1 OF THE WSA [TABLE 3.15-2 OF THIS SECTION].
[B] DATA FROM TABLE 2-2 OF THE WSA [TABLE 3.15-2 OF THIS SECTION].
[C] DIFFERENCE BETWEEN WEST AREA NEIGHBORHOODS SPECIFIC PLAN AND GENERAL PLAN FOR THE PLAN AREA.
[D] BALANCE BETWEEN SUBTOTAL (WITH PROJECT) AND TOTAL WATER DEMAND.
SOURCE: WEST YOST, 2022.

DRY YEAR WATER DEMAND

As shown in Table 3.15-2, the City's 2015 water demand was significantly lower than the 2013 demand in response to the drought and the Governor's April 2015 Executive Order B-29-15 mandating 25 percent water conservation statewide. To reduce water use by 25 percent statewide, the State Water Resources Control Board (SWRCB) adopted a regulation which placed each urban water supplier into one of nine tiers which are assigned a conservation standard, ranging between four percent and 36 percent. Each month, the SWRCB compared every urban water suppliers' water use with their use for the same month in 2013 to determine if they were on track for meeting their conservation standard. The City of Fresno was initially placed into Tier 7 with a water conservation

standard of 28 percent as compared to 2013 use (the City's conservation standard was reduced to 25 percent in early 2016).

The City currently has a demand management program in place, as described in Section 9 of the City's 2020 Urban Water Management Plan (UWMP). The City's Water Shortage Contingency Plan, outlined in Section 8 and Appendix J of the City's 2020 UWMP, includes a five-stage plan describing specific actions to reduce water demand by up to 50 percent in the event of a water supply shortage or emergency. Demand is expected to decrease as the City implements water conservation measures in response to multiple dry years or other supply changes.

Table 3.15-4 presents the projected future dry year potable water demand.

TABLE 3.15-4: PROJECTED FUTURE DRY YEAR TOTAL WATER DEMAND, AF/YR

HYDROLOGIC CONDITION	*2025*	*2030*	*2035*	*2040*	*2045*
Single Dry Year[a]	164,092	176,132	184,174	192,228	200,287
Multiple Dry Years First Year[b]	199,204	212,756	222,310	231,876	241,447
Multiple Dry Years Second Year[b]	199,204	212,756	222,310	231,876	241,447
Multiple Dry Years Third Year[b]	190,267	193,637	197,736	201,753	205,708
Multiple Dry Years Fourth Year[b]	162,551	165,920	170,020	174,036	177,992
Multiple Dry Years Fifth Year[b]	199,204	212,756	222,310	231,876	241,447

NOTES:
[A] DATA FROM THE CITY OF FRESNO 2020 UWMP, TABLE 7-2.
[B] DATA FROM THE CITY OF FRESNO 2020 UWMP, TABLE 7-3.
SOURCE: WEST YOST, 2022.

Water Supply

The City currently receives water supplies from four sources:

- Surface water contract water that is delivered to the City by two separate sources:
  - FID Agreement for Kings River water.
  - USBR Central Valley Project (CVP) Friant Division Contract for San Joaquin River water.
- Groundwater that is pumped from groundwater wells located within the City.
- Recycled water that is treated at the Regional Facility and NFWRF. This water may only be used for non-potable uses.

Each of these existing supplies is described below.

SURFACE WATER CONTRACTS

The cumulative supply these contracts bring to the City provide the opportunity to construct surface water treatment facilities and optimize the use of these supplies. This conjunctive use approach continues the process of allowing the groundwater system to recover. Each of the surface water supplies is summarized in the following two sections.

Surface Water Supplies through FID Agreement: In May of 1976 the City of Fresno and FID executed an agreement that stipulated that as land is annexed to the City, the City will receive a pro rata share

of FID's Kings River entitlement; this agreement was revised, amended and restated in December, 2016. The pro rata share is based on the area annexed to the City, and within FID's boundaries, as compared to the total area of FID's water service area. The agreement stipulates the allocation amount will be reviewed each year by the two agencies to address new annexations to the City. So, as the City annexes new areas, the allocation will increase up to the limits stipulated in the 2016 agreement. Utilizing GIS, there will be approximately 71,925 acres of land within the SOI and within FID's water service boundaries at SOI buildout, excluding Bakman Water Company, CSU Fresno, and County islands.

As the City incorporates new land area into its service area, the percentage of FID supply increases. However, the 2016 FID Agreement sets the maximum percentage as 29.0 percent, although the City's service area is anticipated to expand and encompass more than 29.0 percent of FID's service area between 2025 and 2030. In 2020, the City's percentage of overall FID Kings deliveries was 25.79 percent. The supply projections in this plan limit the City's FID supply with the 29.0 percent cap, but if the agreement were revised in the future the City's FID allocation percentage could grow beyond 29.0 percent as the water service area expands. (City of Fresno 2020 UWMP)

Surface Water Supplies through USBR Contract: The City, through an agreement originally executed in January of 1961, secured a surface water supply from USBR CVP - Friant Division. This agreement, for an annual water supply of 60,000 af of Class 1 water, was last renewed in 2010 as a Section 9(d) Contract that provides water from the San Joaquin River in perpetuity. The USBR CVP – Friant Division facilities generally include: Friant Dam (Millerton Reservoir); the Friant Kern Canal; and the Madera Canal. The Friant-Kern Canal is maintained and operated by the Friant Water Authority. The USBR water supply is a wholesale supply.

Class 1 water was intended to be a supply that would be dependable in practically every year, regardless of the type of hydrologic water year. Class 2 water is essentially excess water available as determined by USBR and less reliable than Class 1 water. Class 1 water has historically been very reliable until the San Joaquin River Restoration Settlement and more recently by the restrictions on diversions from the Delta due to concerns over the declining health of Delta ecosystem.

GROUNDWATER

The City pumps groundwater from a portion of the Kings Subbasin underlying the City. The City's 2020 UWMP states that the City has a network of over 270 municipal wells and currently operates approximately 202 municipal supply wells within the Kings Subbasin. Groundwater quality is a concern because the groundwater basin has several major contaminant plumes involving organic compounds, inorganic compounds, solvents, pesticides, and other contaminants. The total well capacity, when the City's Water Master Plan was written, was approximately 460 MGD.

Groundwater Basin Description: The City's wells are located within the northern part of the Kings Subbasin of the San Joaquin Valley Groundwater Basin. The following section describes the Kings Subbasin, including its water-bearing formations, water levels, and water quality. Much of the following information has been incorporated from the City's 2020 UWMP. Except where noted, the description of the sub-basin is based largely on information provided in the 2016 DWR Bulletin 118 Interim Update, in which the groundwater basin description was last updated in December 2016.

The Kings Subbasin is not adjudicated and there are no legal restrictions to groundwater pumping. The Kings Subbasin is generally bounded: on the north by the San Joaquin River; on the west by the Fresno Slough; on the south by the Kings River and Cottonwood Creek; and on the east by the Sierra foothills. The upper several hundred feet within the Kings Subbasin generally consists of highly permeable, coarse-grained deposits, which are termed older alluvium. Coarse-grained stream channel deposits, associated with deposits by the ancestral San Joaquin and Kings Rivers, underlie much of the northwest portions of the City. Below the older alluvium to depths ranging from about 600 to 1,200 feet below ground surface, the finer-grained sediments of the Tertiary-Quaternary continental deposits are typically encountered. Substantial groundwater has been produced and utilized from these depths by the City; however, deeper deposits located in the southeastern and northern portions of the City have produced less groundwater. There are also reduced deposits in the northern and eastern portions of the City, at depths generally below 700 or 800 feet, which are associated with high concentrations of iron, manganese, arsenic, hydrogen sulfide, and methane gas. Groundwater at these depths does not generally provide a significant source for municipal supply wells. The City's average groundwater depth in 2015 is approximately 130 feet below the ground surface.

Conditions of Overdraft: The Sustainable Groundwater Management Act (SGMA) directs DWR to identify groundwater basins and subbasins that are in conditions of critical overdraft. This designation is determined based upon the presence of "undesirable impacts" such as seawater intrusion, land subsidence, groundwater depletion, and chronic lowering of groundwater levels. Per DWR's current list of critically overdrafted basins, finalized in February 2019, the Kings Subbasin is designated as a critically overdrafted basin.

As part of the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, DWR is required to prioritize California groundwater basins to help identify, evaluate, and determine the need for additional groundwater level monitoring. Per the current CASGEM draft prioritization, completed in April 2019, the Kings Subbasin is a high priority subbasin.

The City has long made efforts toward offsetting the decline of groundwater levels and minimizing overdraft conditions through an active intentional recharge program that started in 1971. Through cooperative agreements with Fresno Metropolitan Flood Control District (FMFCD) and FID, the City has access to not only City-owned basins, but also those of these two agencies. The City has averaged over 60,000 AFY the previous five years and plans to gradually increase recharge by about 540 AFY each year. However, during wet years the City will recharge more water when it is available to allow to the City to draw on additional groundwater during dry years when surface water is not available.

Groundwater Management: As part of a partnership of local municipal water purveyors, irrigation districts, a flood control district, and the overlying county, the Fresno Area Regional Groundwater Management Plan (FARGMP) was prepared in conformance with AB 3030 and SB 1938. The objectives of the FARGMP have been developed to monitor, protect, and sustain groundwater within the region. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006 (City of Fresno 2020 UWMP). The City of Fresno falls within the North Kings Groundwater Sustainability Agency (NKGSA). The NKGSA prepared and submitted

its GSP on January 28, 2020 and is awaiting completion of DWR's review (DWR SGMA Portal GSP Status Summary).

Historical Groundwater Use: As discussed previously, the City has a network of over 270 municipal wells and currently operates approximately 202 municipal supply wells within the Kings Subbasin, according to the 2020 UWMP. The City's groundwater production over the last 18 years is provided in Table 3.15-5.

TABLE 3.15-5: CITY OF FRESNO HISTORICAL GROUNDWATER PRODUCTION

YEAR	*TOTAL GROUNDWATER PRODUCTION (AFY)*
2003	165,200
2004	160,000
2005	141,500
2006	136,000
2007	146,300
2008	148,700
2009	138,200
2010	128,600
2011	119,900
2012	119,500
2013	123,200
2014	106,800
2015	82,500
2016	99,100
2017	105,200
2018	76,800
2019	54,600
2020	55,000

NOTES: [A] FROM CITY OF FRESNO 2020 UWMP, TABLE 6-7.
SOURCE: WEST YOST, 2022.

Projected Future Groundwater Use: The amount of groundwater pumped during dry years is not projected to differ from the amount pumped during normal years. The City's projected future groundwater production through 2045 is provided in Table 3.15-6.

TABLE 3.15-6: CITY OF FRESNO PROJECTED FUTURE GROUNDWATER PRODUCTION IN NORMAL AND DRY YEARS

	2025	*2030*	*2035*	*2040*	*2045*
Total Groundwater Production During a Normal Year[a]	138,090	143,630	149,100	154,490	159,820
Total Groundwater Production During Dry Years[b]	138,090	143,630	149,100	154,490	159,820

NOTES: [A] FROM CITY OF FRESNO 2020 UWMP, TABLE 7-1. [B] FROM CITY OF FRESNO 2020 UWMP, TABLE 7-2.
SOURCE: WEST YOST, 2022.

REGULATORY SETTING – WATER SUPPLIES

The following is an overview of the State and local regulations related to water supplies that are applicable to the proposed Specific Plan.

State

URBAN WATER MANAGEMENT PLANNING ACT

The Urban Water Management Planning Act (California Water Code Sections 10610-10610.4) requires urban water suppliers such as Cal Water that provide water for municipal purposes to more than 3,000 customers, or more than 3,000 AFY of water, to prepare an UWMP. UWMPs assist water supply agencies in water resource planning given existing and anticipated future demands and must include a water supply and demand assessment comparing total water supply available to the water supplier with the total projected water use over a 20-year period. The Act requires that the plans be updated every five years and submitted to the California Department of Water Resources. The purpose of the plans is to support long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. UWMPs must also report progress on a 20% reduction in per-capita urban water consumption by 2020.

SENATE BILL (SB) 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for compliance with SB 610 is the UWMP, which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment (WSA) required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project. The City of Fresno has been identified in the WSA as the public water supplier to the West Area Specific Plan.

In addition, SB 610 requires the preparation of a WSA if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A hotel or motel, or both, with more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects identified in Section 10912(a); or
- A project creating the equivalent demand of 500 residential units or greater.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. Thus, the City has prepared a WSA as required by these criteria under SB 610. The WSA is included in this EIR as **Appendix E** of this EIR.

A WSA must include analysis of the estimated water demands and proposed water sources for a new project. More specifically, the WSA must address whether existing supplies of domestic water available to the development are adequate to serve the project, and will continue to be adequate over the next 20 years during normal, dry, and multiple-dry years, taking into account the public water system's existing and planned future uses, including agricultural and manufacturing uses. (Wat. Code, § 10910, subds. (c)(3), (c)(4).)

If the public water system concludes that existing supplies will be sufficient for all such demands, including the demand created by a proposed project, the public water system must demonstrate the availability of such water by providing the following as part of a WSA:

(A) Written contracts or other proof of entitlement to an identified water supply.
(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
(C) Federal, State, and local permits for construction of necessary infrastructure associated with delivering the water supply.
(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(Id., subd. (d)(2).)

> If the WSA concludes that existing supplies will not be sufficient, the WSA must include a strategy for acquiring "additional supplies." (Wat. Code, § 10911, subd. (a).) Under such a scenario, the WSA should include information concerning the following:
>
> (1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.
> (2) All federal, State, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.
> (3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city and county. . . expects to be able to acquire additional water supplies.

(*Ibid*.)

A finding of insufficiency in a WSA does not require a city or county to deny or downsize a proposed development project. In preparing the environmental document for a project requiring a WSA, the city or county lead agency may include its own evaluation of the information contained in the WSA. (Wat. Code, § 10911, subd. (c).) At the time of project approval, the lead agency must then "determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses." (Ibid.) Even if, after the lead agency's own evaluation, it determines that there are not sufficient water supplies for the project, there is nothing to prevent the agency from approving the project, so long as the agency "include[s] that determination in its findings for the project." (*Ibid*.; see also CEQA Guidelines, § 15155, subd. (e).)

In 2016, the Legislature amended SB 610 to require WSAs for projects anticipating groundwater usage to address whether any groundwater sustainability agency has adopted a groundwater sustainability plan pursuant to SGMA, and to include information from any such plan. (See Wat. Code, § 10910, subd. (f)(2)(C)(ii).)

The Water Code also specifically references unadjudicated basins:

> (f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment . . .
>
> (C) For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following. . . .
>
> (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

SENATE BILL (SB) 221

SB 221 (Business and Professional Code Section 11010 and Government Code Section 65867.5, Section 66455.3, and 66473.7) amended State law to improve the link between information on water supply availability and certain land use decisions made by cities and counties.[1]

SB 221 establishes the relationship between a project WSA and the tentative and final subdivision map approvals under the Subdivision Map Act. Pursuant to California Government Code, the public water system must provide a written verification of sufficient water supply prior to the approval of a new subdivision.[2] SB 221 prohibits a local planning agency from approving a final subdivision map for a residential subdivision of more than 500 units unless the water supplier has issued a written verification that a sufficient water supply is available for the project, or the local agency finds that alternate water supplies are, or will be, available prior to the completion of the project. This outcome can be accomplished by imposing a tentative subdivision map condition precluding the approval of final subdivision map absent the required showing of water availability. Nor may a local agency approve a development agreement for a project that will result in more than 500 residential units without the agreement expressly providing that required tentative maps will be subject to these water availability requirements.

A "sufficient water supply" under SB 221 is the total water supplies available to the water provider during normal, single dry, and multiple dry years within a 20-year projection that will meet the projected demand of the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses.[3] The water provider's verification must be based on substantial evidence such as water supply contracts, capital outlay programs, and regulatory permits and approvals regarding the water provider's right to and capability of delivering the project supply.

THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT

In California, there are two statutory schemes dealing with groundwater management. The first is the Groundwater Management Act, first introduced in 1992 as Assembly Bill (AB) 3030 and since modified by Senate Bill (SB) 1938 in 2002, and AB 359 in 2011. The second is the Sustainable Groundwater Management Act (SB 1168, SB 1319, and AB 1739) (SGMA), enacted in 2014.

The intent of the SGMA is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing voluntary groundwater management plans. The Act enables, but does not require, water agencies to develop and implement groundwater management plans (GWMPs) to manage the groundwater resources in the jurisdiction of the participating parties.

The SGMA defines sustainable groundwater management as the "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon

[1] California Business and Professions Code, Section 11010 and California Government Code, Section 66473.4.
[2] California Government Code, Section 66473.7(b).
[3] California Government Code, Section 66473.7(a)(2).

without causing undesirable results." The legislation defines "undesirable results" to be any of the following effects caused by groundwater conditions occurring throughout the basin:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality;
- Significant and unreasonable land subsidence; and
- Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

The legislation provides for financial and enforcement tools to carry out effective local sustainable groundwater management through formation of groundwater sustainability agencies consisting of local public agencies, water companies regulated by the California Public Utilities Commission, and mutual water companies. The legislation requires that groundwater sustainability agencies within high- and medium priority basins under the California Statewide Groundwater Elevation Monitoring Program subject to critical conditions of overdraft prepare and submit groundwater sustainability plans for the basin by January 31, 2020, and requires groundwater sustainability agencies in all other groundwater basins designated as high- or medium priority basins to prepare and submit a groundwater sustainability plan by January 31, 2022. Following State approval, the basin would thereafter be managed under the groundwater sustainability plan. The legislation does not require adjudicated basins to develop groundwater sustainability plans, but they are required to report their water use.

The key intended outcomes and benefits of the Sustainable Groundwater Management Act are numerous, and include:

- Advancement in understanding and knowledge of the State's groundwater basins and their issues and challenges;
- Establishment of effective local governance to protect and manage groundwater basins;
- Management of regional water resources for regional self-sufficiency and drought resilience;
- Sustainable management of groundwater basins through the actions of Groundwater Sustainability Agencies, utilizing State assistance and intervention only when necessary;
- All groundwater basins in California are operated to maintain adequate protection to support the beneficial uses for the resource;
- Surface water and groundwater are managed as "a Single Resource" to sustain their interconnectivity, provide dry season base flow to interconnected streams, and support and promote long-term aquatic ecosystem health and vitality;
- A statewide framework for local groundwater management planning, including development of sustainable groundwater management best management practices and plans;
- Development of comprehensive and uniform water budgets, groundwater models, and engineering tools for effective management of groundwater basins;

- Improved coordination between land use and groundwater planning; and
- Enforcement actions as needed by the SWRCB to achieve region-by-region sustainable groundwater management in accordance with the 2014 legislation.

As ultimately approved, groundwater sustainability plans must include, among other things, (i) a "general discussion of historical and projected water demands and supplies," (ii) "[m]easurable objectives, as well as interim milestones in increments of five years, to achieve the sustainability goal in the basin within 20 years of the implementation of the plan, and (iii) a "description of how the plan helps meet each objective and how each objective is intended to achieve the sustainability goal for the basin for long-term beneficial uses of groundwater." (Wat. Code, § 10727.2, subds. (a)(3), (b)(1), and (b)(2).)

To assist in attaining the above outcomes, the California Department of Water Resources (DWR) will provide groundwater sustainability agencies with the technical and financial assistance necessary to sustainably manage their water resources. The benefits of these outcomes include:

- A reliable, safe and sustainable water supply to protect communities, farms, and the environment, and support a stable and growing economy; and
- Elimination of long-term groundwater overdraft, an increase in groundwater storage, avoidance or minimization of subsidence, enhancement of water flows in stream systems, and prevention of future groundwater quality degradation.

In short, SGMA is landmark legislation that, for the first time in the history of California, requires comprehensive groundwater management, with the mandatory goal of bringing all currently overdrafted basins into sustainable conditions by no later than 2040 or 2042, with five-year increments of progress starting in 2025 and 2027.

As noted previously, the FARGMP was prepared in conformance with AB 3030 and SB 1938. The objectives of the FARGMP have been developed to monitor, protect, and sustain groundwater within the region. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006. The City of Fresno falls within the NKGSA. As a high priority basin, the Kings Subbasin must be managed under a GSP by January 31, 2020. The NKGSA finalized the GSP and submitted it to the California DWR on January 28, 2020, ahead of the January 31, 2020 mandate.

Local

FRESNO GENERAL PLAN

The Fresno General Plan contains the following objectives and policies that are relevant to water supply for the proposed Specific Plan:

Objective PU-8: Manage and develop the City's water facilities on a strategic timeline basis that recognizes the long life cycle of the assets and the duration of the resources, to ensure a safe, economical, and reliable water supply for existing customers and planned urban development and economic diversification.

Policy PU-8-a: Forecast Need. Use available and innovative tools, such as computerized flow modeling to determine system capacity, as necessary to forecast demand on water production and distribution systems by urban development, and to determine appropriate facility needs.

Policy PU-8-b: Potable Water Supply and Cost Recovery. Prepare for provision of increased potable water capacity (including surface water treatment capacity) in a timely manner to facilitate planned urban development consistent with the General Plan. Accommodate increase in water demand from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users, as authorized by law, and recognizing the differences in terms of quantity, quality and reliability of the various types of water in the City's portfolio.

Policy PU-8-c: Conditions of Approval. Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.

Policy PU-8-d: CIP Update. Continue to evaluate Capital Improvement Programs and update them, as appropriate, to meet the demands of both existing and planned development consistent with the General Plan.

Policy PU-8-e: Repairs. Continue to evaluate existing water production and distribution systems and plan for necessary repair or enhancement of damaged or antiquated facilities.

Policy PU-8-f: Water Quality. Continue to evaluate and implement measures determined to be appropriate and consistent with water system policies, including prioritizing the use of groundwater, installing wellhead treatment facilities, constructing above-ground storage and surface water treatment facilities, and enhancing transmission grid mains to promote adequate water quality and quantity.

Policy PU-8-g: Review Project Impact on Supply. Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.

THRESHOLDS OF SIGNIFICANCE – WATER SUPPLY

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on Utilities if it would:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-3: The proposed Specific Plan would require or result in construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. (Significant and Unavoidable)

The provision of public services and the construction of onsite and offsite infrastructure improvements will be required to accommodate future development consistent with the Specific Plan land use map. The Specific Plan would likely require extension of offsite water infrastructure to the undeveloped and underdeveloped portions of the Plan Area for water service. All offsite water piping improvements would be in or adjacent to existing roadways, thereby limiting new environmental impacts.

More than 15 percent (42 wells out of 270) of the City's wells were constructed prior to 1960 (over 60 years ago) and almost 40 percent (98 of 270) were constructed prior to 1970 (over 50 years ago). According to the Utility Background Summary completed for the Specific Plan, it has been recommended that the wells be replaced after 45 to 50 years; thus, about 40 percent of the City's wells are overdue for replacement. Also, mechanical and electrical well component upgrades are required about every 20 to 25 years. Therefore, it is anticipated that significant well installations, replacements, and upgrades may be needed to these systems in the near future to maintain existing groundwater supply capacity and meet increased water demands.

One of the greatest challenges facing the City's water distribution system is conveying water from areas of high-water production to areas of high-water demand. The water production and distribution system historically has been a distributed system whereby groundwater wells would be constructed on an as-needed basis in the area where the water was needed. This distributed water system does not require large diameter transmission mains to convey water from one portion of the City to another.

Physical impacts from future construction of the water infrastructure within the Plan Area is addressed within this EIR. A discussion of relevant operational and construction impacts can be found in each respective section of this EIR. Impacts associated with development of the Plan Area, as proposed, would result in significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), public services and recreation (Impacts 3.13-3 through 3.13-5).

CONCLUSION

The construction of the new water facilities, which are associated with future buildout of the Plan Area, has the potential to cause environmental impacts. The potential for environmental impacts associated with the installation of the water system, and all construction activities within the Plan Area, are addressed throughout this EIR. In some cases, the direct and indirect impacts are potentially significant and warrant mitigation measures, while in other cases there are significant and unavoidable impacts. The future water infrastructure would fall within the range of

environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR.

It is noted, however, that future development of water infrastructure within the proposed Plan Area would contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), public services and recreation (Impacts 3.13-3 through 3.13-5). Therefore, consistent with the analysis included in this Draft EIR, impacts related to construction of new or expanded stormwater drainage facilities to serve the Plan Area are considered ***significant and unavoidable***.

Impact 3.15-4: The proposed Specific Plan would not have insufficient water supplies available to serve the Plan Area and reasonably foreseeable future development during normal, dry and multiple dry years. (Less than Significant)

PROJECTED WATER DEMAND

The projected water demand for future buildout of the proposed Specific Plan is based on the calculations described in the Water Supply Assessment (the "Water Supply Assessment" or "WSA") developed by West Yost Associates for the proposed Specific Plan.

Table 3.15-7 summarizes the projected availability of the City's existing and planned future potable water supplies and the City's projected water demands in normal, single dry and multiple dry years through 2045. As shown in Table 3.15-7, demand within the City's service area is not expected to exceed the City's supplies in any normal, single dry, or multiple dry year between 2025 and 2045.

The WSA completed for the West Area Specific Plan demonstrates that the City's existing and additional potable water supplies are sufficient to meet the City's existing and projected future potable water demands, including those future water demands associated with the Specific Plan, to the year 2045, under all hydrologic conditions.

As described in the WSA, the City's 2020 UWMP addressed the sufficiency of the City's groundwater supplies, in conjunction with the City's other existing and additional water supplies, to meet the City's existing and planned future uses. Based on the information provided above and that included in the City's 2020 UWMP, the City's groundwater supply, together with the City's other existing and additional planned future water supplies, is sufficient to meet the water demands of the proposed Specific Plan, in addition to the City's existing and planned future uses.

TABLE 3.15-7: FRESNO SUMMARY OF WATER DEMAND VERSUS SUPPLY DURING HYDROLOGIC NORMAL, SINGLE DRY, AND MULTIPLE DRY YEARS, MGD

HYDROLOGIC CONDITION		*2020*	*2025*	*2030*	*2035*	*2040*
NORMAL YEAR						
Available Water Supply[(a)]		329,030	341,140	346,610	352,000	357,330
Total Water Demand[(b)]		199,204	212,756	222,310	231,876	241,447
Potential Surplus (Deficit)		129,826	128,384	124,300	120,124	115,883
Percent Shortfall of Demand		-	-	-	-	-
SINGLE DRY YEAR						
Available Water Supply[(c)]		189,852	195,392	200,862	206,252	211,582
Total Water Demand[(d)]		164,092	176,132	184,174	192,228	200,287
Potential Surplus (Deficit)		25,760	19,260	16,688	14,024	11,295
Percent Shortfall of Demand		-	-	-	-	-
MULTIPLE DRY YEARS						
Multiple Dry Year 1	Available Water Supply[(e)]	273,725	279,265	284,735	290,125	295,455
	Total Water Demand[(d)]	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	74,521	66,509	62,425	58,249	54,008
	% Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 2	Available Water Supply[(e)]	274,626	280,166	285,636	291,026	296,356
	Total Water Demand[(d)]	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	75,422	67,410	63,326	59,150	54,909
	% Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 3	Available Water Supply[(e)]	217,568	223,108	228,578	233,968	239,298
	Total Water Demand[(d)]	190,267	193,637	197,736	201,753	205,708
	Potential Surplus (Deficit)	27,301	29,471	30,842	32,215	33,590
	% Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 4	Available Water Supply[(e)]	189,852	195,392	200,862	206,252	211,582
	Total Water Demand[(d)]	162,551	165,920	170,020	174,036	177,992
	Potential Surplus (Deficit)	27,301	29,472	30,842	32,216	33,590
	% Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 5	Available Water Supply	314,840	320,380	325,850	331,240	336,570
	Total Water Demand	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	115,636	107,624	103,540	99,364	95,123
	% Shortfall of Demand	-	-	-	-	-

NOTES:

(A) FROM TABLE 6-3 OF THE WSA.

(B) DATA FOR 2040 FROM THE CITY OF FRESNO 2020 UWMP, TABLE 7-3.

(C) FROM THE CITY OF FRESNO 2020 UWMP, TABLE 7-2.

(D) FROM TABLE 5-3 OF THE WSA [TABLE 3.15-4 OF THIS SECTION].

(E) DATA FROM THE CITY OF FRESNO 2020 UWMP, TABLE 7-2.

SOURCE: WEST YOST, 2022.

CONCLUSION

Water supplies are sufficient to meet the City's existing and projected future potable water demands, including those future water demands associated with the Specific Plan, to the year 2045 under all hydrologic conditions. Therefore, overall, buildout of the Specific Plan would result in a ***less than significant*** impact relative to this topic.

3.15.3 STORMWATER

EXISTING SETTING

Storm Drain System

The FMFCD has primary responsibility for managing the local stormwater flows for the City, as well as a large area beyond the City's boundaries. The City's stormwater drains to urban stormwater basins, where it is retained for groundwater recharge or pumped to local irrigation canals owned by FID and then conveyed away from the municipal area.

Regionally, the City is protected by the U.S. Army Corps of Engineers' (USACE) Redbank-Fancher Creeks Flood Control Project. This project includes dams, detention basins, and levees designed to control upstream flood flows to approximately the 200-year storm event. Major facilities of this project include levee systems, the Big Dry Creek, Fancher Creek, and Redbank Creek dams and reservoirs, and the Alluvial Drain, Redbank Creek, Pup Creek, Fancher Creek, Big Dry Creek, Pup Creek Enterprise, and Dry Creek Extension detention basins.

Locally, the District's drainage system consists of approximately 680 miles of pipeline and more than 150 stormwater retention basins. The storm drainage pipeline system is designed to accept the peak flow rate of runoff from a two-year intensity storm event (a storm that has a 50 percent probability of occurring in any given year). When storm events occur that exceed the two-year intensity, ponding begins to occur in the streets until the pipeline system can remove the water. In the event of larger storms, "major storm breakover", the District has planned for streets or other conveyance to move the excess runoff to the basins.

The drainage system discharges to a system of irrigation canals, creeks, and the San Joaquin River, but is designed to retain and infiltrate as much runoff as possible into the underlying groundwater aquifer. The local drainage service area is subdivided into over 160 drainage areas, most of which drain to a retention basin. Drainage channels within the Plan Area include:

- East Branch Victoria Canal
- Epstein Canal
- Herndon Canal
- Minor Thornton Ditch
- Silvia Ditch
- Teague School Canal
- Tracy Ditch
- West Branch Victoria Canal
- Wheaton Ditch
- Austin Ditch

The Plan Area is drained by 15 drainage watersheds, six of which are fully within the Plan Area, and nine of which drain to areas immediately south or west of the Plan Area. There are seven existing retention basins within the Plan Area and an additional five that serve the Plan Area. An additional basin is planned to serve the drainage shed in the far southwestern corner of the Plan Area.

Floodplain Mapping

Flood Hazards in the City are described in the Federal Emergency Management Agency (FEMA)'s January 20, 2016 Flood Insurance Study but are largely based on hydraulic modeling performed in

1981. Although the Plan Area's northern boundary is very near the San Joaquin River, the area is not within a Special Flood Hazard Area. Local flooding can occur for events larger than a two-year event, but runoff is generally contained in the streets or other breakover easements. Such flooding is not reflected on FEMA's maps.

Improvements to storm drainage facilities are accomplished either as a part of privately funded on-site developments or as a part of the master plan, funded by drainage fees. FMFCD maintains an on-going update to the system hydraulic model for flood control and prepares a capital improvement plan update every 5 years.

Climate change is likely to increase the volume, frequency, and intensity of events in the future in the Central Valley.

REGULATORY SETTING – STORMWATER

The following is an overview of the federal, State and local regulations related to stormwater that are applicable to the proposed Specific Plan.

Federal

CLEAN WATER ACT

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 (also known as Section 401) of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 (also known as Section 404) of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);
- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters. In the City of Fresno, the Central Valley RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the City were established by the Central Valley RWQCB and are listed in the Basin Plan.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC Section 1342 and Sections 1341-1346).

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and its implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Coast Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB. The SWRCB adopted general permits for Phase II Regulated Small MS4s and Small Construction Activity. On March 10, 2003, Operators of Phase II Regulated Small MS4s and Small Construction Activity were required to obtain permit coverage.

The Central Valley RWQCB issued a region-wide MS4 Permit (Order No. R5-2016-0040) covering the entire Central Valley RWQCB Region, and covering storm drainage systems in cities as small as 10,000 population, in June 2016. Permittees must develop and implement a Storm Water Management Program (SWMP) including the following elements:

- Illegal Connection and Illicit Discharge Elimination Program

- Construction Storm Water Runoff Control Program
- Industrial/Commercial Storm Water Runoff Control Program
- Municipal Operations Storm Water Runoff Control Program (Pollution Prevention/Good Housekeeping)
- Public Involvement and Participation Program
- Planning and Land Development/Post Construction Storm Water Management Program
- Priority development projects, identified below, are required to incorporate stormwater mitigation measures:
    - Single-family hillside residences.
    - Residential subdivisions of ten or more units.
    - 100,000-square-foot industrial/commercial development.
    - Automotive repair shops.
    - Restaurants.
    - Parking lots with 5,000 square feet or more or with 25 or more parking spaces.
    - Redevelopment projects that are within one of above categories and that add or create at least 5,000 square feet of new impervious surface.
- Stormwater management strategies include:
    - Site Design Measures: Emphasize conservation and use of existing natural site features integrated with distributed, small-scale stormwater controls to mimic natural drainage.
    - Source Control Measures: Intended to keep pollutants from mixing with runoff, and thus minimize the transport of urban runoff and pollutants off-site and into storm drains. Source control measures include standards for design and operation of outdoor areas where substances that could contaminate stormwater are used, such as fueling areas, loading areas, material storage areas, and work areas.
    - Treatment Control Measures: remove pollutants from site runoff; measures include bioretention planters, vegetated swales, and infiltration trenches and basins.
    - Low Impact Development (LID) Measures: emphasize conservation and use of existing natural site features integrated with distributed, small-scale stormwater controls to mimic natural drainage. LID measures include stream setbacks and buffers, soil amendments, tree planting and preservation, rooftop and impervious area disconnection, porous pavement, eco roofs, bioretention planters, and rain barrels or cisterns.
- Monitoring Program.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

Fresno County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year.

Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

State

DEPARTMENT OF WATER RESOURCES

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

CALIFORNIA WATER CODE

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the State to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this State discharging waste, or proposing to discharge waste, outside the boundaries of the State in a manner that could affect the quality of the waters of the State within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO-SAN JOAQUIN RIVER BASIN

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

Local

FRESNO GENERAL PLAN

The Fresno General Plan contains the following objectives and policies that are relevant to stormwater and drainage for the proposed Specific Plan:

Objective POSS-3: Ensure that park and recreational facilities make the most efficient use of land; that they are designed and managed to provide for the entire Fresno community; and that they represent positive examples of design and energy conservation.

> **Policy POSS-3-i: Joint Use with Drainage Facilities.** Continue to seek joint use agreements for use of FMFCD stormwater drainage facilities.

Objective POSS-6: Maintain and restore, where feasible, the ecological values of the San Joaquin River corridor.

> **Policy POSS-6-b: Effects of Stormwater Discharge.** Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.
>
> - Avoid discharge of runoff from urban uses to the San Joaquin River or other riparian corridors.
> - Approve development on sites having drainage (directly or indirectly) to the San Joaquin River or other riparian areas only upon a finding that adequate measures for preventing pollution of natural bodies of water from their runoff will be implemented.
> - Periodically monitor water quality and sediments near drainage outfalls to riparian areas. Institute remedial measures promptly if unacceptable levels of contaminant(s) occur.

Objective PU-7: Promote reduction in wastewater flows and develop facilities for beneficial reuse of reclaimed water and biosolids for management and distribution of treated wastewater.

> **Policy POSS-7-b: Reduce Stormwater Leakage.** Reduce storm water infiltration into the sewer collection system, where feasible, through a program of replacing old and deteriorated sewer collection pipeline; eliminating existing stormwater sewer cut-ins to the sanitary sewer system; and avoiding any new sewer cut-ins except when required to protect health and safety.

Objective NS-3: Minimize the risks to property, life, and the environment due to flooding and stormwater runoff hazards.

> **Policy NS-3-a: Stormwater Drainage and Flood Control Master Plan.** Support the full implementation of the FMFCD Storm Drainage and Flood Control Master Plan, the completion of planned flood control and drainage system facilities, and the continued maintenance of stormwater and flood water retention and conveyance facilities and capacities. Work with the FMFCD to make sure that its Storm Drainage and Flood Control Master Plan is consistent with the General Plan.
>
> **Policy NS-3-b: Curb and Gutter Installation.** Coordinate with Fresno Metropolitan Flood Control District (FMFCD) to install curbing, gutters, and other drainage facilities with priority

to existing neighborhoods with the greatest deficiencies and consistent with the Storm Drainage and Flood Control Master Plan.

Policy NS-3-c: Dual Use Facilities. Support multiple uses of flood control and drainage facilities as follows:

- Use, wherever practical, FMFCD facilities for groundwater management and recharge; and
- Promote recreational development of ponding basin facilities located within or near residential areas, compatible with the stormwater and groundwater recharge functions.

Policy NS-3-d: Landscaped Buffer. City will support the development of FMFCD ponding basins including the landscaping and irrigation for the top one third of the side sloped areas consistent with the FMFCD Basin Design Criteria.

Policy NS-3-e: **Pollutants.** Work with FMFCD to prevent and reduce the existence of urban stormwater pollutants pursuant to the requirements of the National Pollution Discharge Elimination Systems Act.

Policy NS-3-h: **Runoff Controls.** Implement grading regulations and related development policies that protect area residents from flooding caused by urban runoff produced from events that exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities. Place all structures and/or flood-proofing in a manner that does not cause floodwaters to be diverted onto adjacent property, increase flood hazards to other property, or otherwise adversely affect other property.

Policy NS-3-i: **New Development Must Mitigate Impact.** Require new development to not significantly impact the existing storm drainage and flood control system by imposing conditions of approval as project mitigation, as authorized by law. As part of this process, closely coordinate and consult with the FMFCD to identify appropriate conditions that will result in mitigation acceptable and preferred by FMFCD for each project.

FRESNO MUNICIPAL CODE

Chapter 6, Municipal Services and Utilities, Article 7, Urban Storm Water Quality Management and Discharge Control, of the Fresno Municipal Code establishes provisions regarding stormwater discharges. The purpose of the City's Urban Storm Water Quality Management and Discharge Control Ordinance is to ensure the health, safety, and general welfare of citizens and protect the water quality of watercourses and water bodies in a manner pursuant to and consistent with the CWA (33 U.S.C. Section 1251, et seq.) by reducing pollutants in urban stormwater discharges to the maximum extent practicable and by effectively prohibiting non-stormwater discharges to the storm drain system.

Chapter 11, Building Permits and Regulations, Article 6 Fresno Flood Plain Ordinance establish methods of reducing flood losses by: restricting or prohibiting uses which are dangerous to health,

safety, and property due to water or erosion hazards or flood heights or velocities; requiring that uses vulnerable to floods be protected against flood damage at the time of initial construction; controlling filling, grading, dredging, and other development which may increase flood damage; preventing or regulating the construction of flood barriers which will unnaturally divert flood water or which may increase flood hazards in other areas; and controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.

THRESHOLDS OF SIGNIFICANCE – STORMWATER

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on Utilities if it would:

- Require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-5: The proposed Specific Plan would require or result in the construction of new or expanded stormwater drainage facilities, the construction of which could cause significant environmental effects. (Significant and Unavoidable)

Stormwater represents a water supply opportunity that the City is currently leveraging with its extensive recharge basin system. Infiltration of captured stormwater allows groundwater to be recharged, improves overall water quality, and reduces the need for additional other water supplies.

Since the system is designed to handle approximately a two-year event within the underground drainage system, a significant amount of drainage is conveyed in the streets or through "major storm breakover" conveyances to detention/retention flood basins. This tends to result in shallow flooding over significant areas during larger events, but coupled with large regional flood control projects, the system can handle up to a 200-year, 30-day event.

Installation of storm drainage infrastructure would occur during the construction phases of individual future projects within the Plan Area. There is significant storm drainage infrastructure remaining to be constructed to serve the Plan Area. About 32 miles of additional drainage pipelines is anticipated to be constructed to meet buildout needs.

Physical impacts from future construction of the storm drainage infrastructure within the Plan Area is addressed within this EIR. A discussion of relevant operational and construction impacts can be found in each respective section of this EIR. Impacts associated with development of the Plan Area, as proposed, would result in significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), public services and recreation (Impacts 3.13-3 through 3.13-5).

CONCLUSION

The construction of the new on-site stormwater drainage facilities, which are associated with future buildout of the Plan Area, has the potential to cause environmental impacts. The potential for environmental impacts associated with the installation of the stormwater system, and all construction activities within the Plan Area, are addressed throughout this EIR. In some cases, the direct and indirect impacts are potentially significant and warrant mitigation measures, while in other cases there are significant and unavoidable impacts. The future storm drainage infrastructure would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR.

It is noted, however, that future development of storm drainage infrastructure within the proposed Plan Area would contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), public services and recreation (Impacts 3.13-3 through 3.13-5). Therefore, consistent with the analysis included in this Draft EIR, impacts related to construction of new or expanded stormwater drainage facilities to serve the Plan Area are considered ***significant and unavoidable***.

3.15.4 SOLID WASTE

EXISTING SETTING

Fresno diverts a majority of its solid waste away from landfills and into recycling and composting programs. Recycling of construction and demolition debris and materials is required for any City-issued building, relocation or demolition permitted project that generates at least eight cubic yards of material by volume, and all waste must be hauled to a City-approved facility.

The Solid Waste Division of the City of Fresno provides curbside collection of residential bulky goods through operation cleanup. The solid waste division also collects through a three-cart system solid waste, recycling, green waste, as well as waste oil and waste oil filters weekly.

Currently, the City of Fresno has granted franchises for non-exclusive roll off services to 24 roll off companies for bins which were 10 cubic yards or greater. The City also granted exclusive franchise agreements for the collection of commercial solid waste, recyclables and green waste to two franchises. Allied Waste Services (formally Republic) is responsible for all commercial services north of Ashlan Avenue. Mid Valley has all commercial locations south of Ashlan. Both haulers are responsible for Commercial, Multifamily, and Industrial up to 8 cubic yards, which fall into City of Fresno jurisdiction. Both city and (non-exclusive) / exclusive franchise haulers provide and maintain containers; respond to customer complaints/concerns and provide roll-off and compactor services to residential, multi-family and commercial customers respective to their agreements. Garbage disposed of in the City of Fresno is taken to Cedar Avenue Recycling and Transfer Station (CARTS).

Once trash has been off-loaded at the transfer station, it is sorted and non-recyclable solid waste is loaded onto large trucks and taken to the American Avenue Landfill (i.e. American Avenue Disposal Site, Site Solid Waste Information System [SWIS] Number 10-AA-0009) located approximately six miles southwest of Kerman. American Avenue Landfill is owned and operated by Fresno County and began operations in 1992 for both public and commercial solid waste haulers. The American Avenue Landfill is a sanitary landfill, meaning that it is a disposal site for non-hazardous solid waste spread in layers, compacted to the smallest practical volume, and covered by material applied at the end of each operating day.

The American Avenue Landfill has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day.

One other active disposal site is located in Fresno County. The City of Clovis Landfill (SWIS Number 10-AA-0004) has a maximum permitted capacity of 7,800,000 cubic yards and a remaining capacity of 7,740,000 cubic yards, with an estimated closure date of April 30, 2047. The maximum permitted throughput is 2,000 tons per day.

Green waste hauled by the residential solid waste operations is delivered to one of two locations. Earthwise/Green Valley Recycling located at 2365 North Avenue and West Coast Waste at 30777 Golden State Frontage Road are within a quarter mile of one another in southwest Fresno.

Commercial green waste and organics delivered to Elm Avenue Recycling by Mid Valley are then transferred to the Kerman facility and composted with organic compost, which is then used by organic farms in the region. Commercial green waste and organics being delivered by Allied Waste are taken to Rice Road Transfer Station, which are then trans-loaded into trucks, which are delivered to Kochergen Farms for composting and land application.

Recycling collected by residential is delivered to both CARTS and Elm Ave. Both facilities have Material Recovery Facilities (MRF's) which sort through the co-mingled recycling stream to sort the materials. Commercial franchises deliver recycling to Elm Avenue only. The City's diversion rate has declined over the last decade from 74 percent to 63 percent. It is anticipated that the County will complete the relocation of their Environmental Compliance Center (HHW) facility, which is currently housed at the American Avenue landfill to the new location at the corner of West Avenue and West Dan Ronquillo Drive in 2022. The new County location will alleviate the need for the twice a year drop off events, opting for a closer location open every weekend to the public.

REGULATORY SETTING – SOLID WASTE

The following is an overview of the State and local regulations related to solid waste that are applicable to the proposed Specific Plan.

State

AB 939: CALIFORNIA'S INTEGRATED WASTE MANAGEMENT ACT OF 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

AB 341 (75 PERCENT SOLID WASTE DIVERSION)

In 2011, the Legislature implemented a new approach to the management of solid waste. AB 341 (Chesbro, Chapter 476, Statutes of 2011) required that CalRecycle oversee mandatory commercial recycling and established a new statewide goal of 75 percent recycling through source reduction, recycling, and composting by 2020. This paradigm adds to the policies in AB 939 in several significant ways. First, AB 341 established a statewide policy goal, rather than a jurisdictional mandate. This places the onus for achieving the goal on the State rather than on the cities and counties that are directly responsible for waste disposal and recycling. Under the law, individual jurisdictions are not required to meet the new policy goal.

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the State to divert 75 percent of the solid waste generated in the State from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERSION)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

Local

FRESNO GENERAL PLAN

The Fresno General Plan contains the following objectives and policies that are relevant to solid waste for the proposed Specific Plan:

Objective PU-9: Provide adequate solid waste facilities and services for the collection, transfer, recycling, and disposal of refuse.

> **Policy PU-9-a: New Techniques.** Continue to collaborate with affected stakeholders and partners to identify and support programs and new techniques of solid waste disposal, such as recycling, composting, waste to energy technology, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.
>
> **Policy PU-9-b: Compliance with State Law.** Continue to pursue programs to maintain conformance with the Solid Waste Management Act of 1989 or as otherwise required by law and mandated diversion goals.

Objective RC-11: Strive to reduce the solid waste going to landfills to zero by 2035.

> **Policy RC-11-a: Waste Reduction Strategies.** Maintain current targets for recycling and re-use of all types of waste material in the city and enhance waste and wastewater management practices to reduce natural resource consumption, including the following measures:

- Continue to require recyclable material collection and storage areas in all residential development.
- Establish recycling collection and storage area standards for commercial and industrial facilities to size the recycling areas according to the anticipated types and amounts of recyclable material generated.
- Provide educational materials to residents on how and what to recycle and how to dispose of hazardous waste.
- Provide recycling canisters and collection in public areas where trash cans are also provided.
- Institute a program to evaluate major waste generators and identify recycling opportunities for their facilities and operations.
- Continue to partner with the California Integrated Waste Management Board on waste diversion and recycling programs and the CalMax (California Materials Exchange) program.
- Evaluate the feasibility of a residential, restaurant, and institutional food waste segregation and recycling program, to reduce the amount of organic material sent to landfill and minimize the emissions generated by decomposing organic material.
- Evaluate the feasibility of "carbon footprinting" for the City's wastewater treatment facilities, biomass and composting operations, solid waste collection and recycling programs.
- Expand yard waste collection to divert compostable waste from landfills.
- Study the feasibility and cost-benefit analysis of a municipal composting program to collect and compost food and yard waste, including institutional food and yard waste, using the resulting compost matter for City park and median maintenance.

THRESHOLDS OF SIGNIFICANCE – SOLID WASTE

Consistent with Appendix G of the CEQA Guidelines, the proposed Specific Plan will have a significant impact on Utilities if it would:

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-6: The proposed Specific Plan would be served by a landfill with sufficient permitted capacity to accommodate the Plan Area's solid waste disposal needs, and would comply with federal, State, and local statutes and regulations related to solid waste. (Less than Significant)

As noted previously, the American Avenue Landfill has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day. Additionally, the City of Clovis Landfill (SWIS Number 10-AA-0004) has a maximum permitted capacity of 7,800,000 cubic yards and a remaining capacity of 7,740,000 cubic yards, with an estimated closure date of April 30, 2047. The maximum permitted throughput is 2,000 tons per day.

New residential, commercial, mixed use, and industrial land uses in the Specific Plan Area would increase the amount of solid waste generated by residents and businesses. The increase in growth and development as a result of the implementation of the Specific Plan could result in an increase of solid waste to transfer stations and landfills, and could contribute to an increased demand for solid waste services throughout the Plan Area.

Table 3.15-8 shows the estimated solid waste generation for maximum buildout of the Plan Area using the solid waste generation rates in the City's General Plan EIR (2020). As shown in the table, buildout of the Specific Plan could generate up to approximately 800,825.04 pounds of solid waste per day (or approximately 400 tons per day).

TABLE 3.15-8: ESTIMATED SOLID WASTE GENERATION

LAND USE	*SOLID WASTE GENERATION RATE*	*MAXIMUM DEVELOPMENT POTENTIAL*	*ESTIMATED SOLID WASTE (LBS/DAY)*
Single-Family Residential[1]	10 lbs/unit/day	35,865 units	358,650.00
Multi-Family Residential[2]	7 lbs/unit/day	11,207 units	78,449.00
Commercial/Office[3]	6 lbs/1,000 sf/day	32,768,957.77 sf	196,613.75
Mixed Use[4]	6 lbs/1,000 sf/day	26,425,464.10 sf	158,552.78
Industrial[5]	6 lbs/1,000 sf/day	1,426,584.42	8,559.51
		TOTAL	**800,825.04**

NOTES: [1] SINGLE-FAMILY RESIDENTIAL USES WERE ASSUMED FOR THE LOW, MEDIUM LOW, AND MEDIUM RESIDENTIAL LAND USE DESIGNATIONS.

[2] MULTI-FAMILY RESIDENTIAL USES WERE ASSUMED FOR THE MEDIUM HIGH, URBAN NEIGHBORHOOD, AND HIGH RESIDENTIAL LAND USE DESIGNATIONS.

[3] COMMERCIAL/OFFICE USES WERE ASSUMED FOR THE COMMUNITY COMMERCIAL, RECREATION COMMERCIAL, GENERAL COMMERCIAL, REGIONAL COMMERCIAL, OFFICE EMPLOYMENT, AND BUSINESS PARK EMPLOYMENT LAND USE DESIGNATIONS.

[4] MIXED USE USES WERE ASSUMED FOR THE NEIGHBORHOOD, CORRIDOR/CENTER, AND REGIONAL MIXED-USE LAND USE DESIGNATIONS.

[5] INDUSTRIAL USES WERE ASSUMED FOR THE LIGHT INDUSTRIAL EMPLOYMENT LAND USE DESIGNATION.

SOURCE: DE NOVO PLANNING GROUP, 2020.

Based on the estimated closure dates of the American Avenue Landfill in 2031 and the Clovis Landfill in 2047, development under the Specific Plan would not result in a significant impact on landfill capacity.

It is noted that AB 939 mandates the reduction of solid waste disposal in landfills, and the City is currently achieving a 71 percent diversion rate (based on 2009 data) which is anticipated to increase due to a Fresno City Council resolution that commits the City to the goal of a Zero Waste goal by 2025. This analysis assumes a worst-case scenario and does not factor in the diversion rate which is already occurring.

CONCLUSION

The Specific Plan would be required to comply with applicable State and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. The addition of the volume of solid waste associated with future buildout of the Specific Plan Area, approximately 400 tons per day at total buildout, would increase the total to the American Avenue Landfill and the Clovis Landfill; however, this increase would not cause an exceedance of the landfill's remaining capacity. This is a ***less than significant*** impact.

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) evaluate a project's effect in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed West Area Neighborhoods Specific Plan.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the Specific Plan. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable," as defined in section 15065(a)(3), means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The geographic scope for the cumulative analysis covers the entire Fresno General Plan Planning Area, which includes the City limits and the Sphere of Influence. The analysis of cumulative effects considered the cumulative projected General Plan buildout throughout the City, as described in the Fresno General Plan.

The Fresno General Plan was approved in December 2014 and assumes two levels of development, including the "General Plan Horizon" and "General Plan Buildout". The General Plan Horizon will occur in the year 2035 and assumes that vacant and underutilized land available for development in the City's Sphere of Influence will not be developed by the year 2035. Therefore, the General Plan Buildout is anticipated to occur past the horizon year of 2035 and analyzes the complete development under the General Plan, including the Sphere of Influence.

Table 4.0-1, below, shows the residential development potential under the General Plan Horizon and General Plan Buildout development scenarios, as described within the City of Fresno General Plan. As shown, approximately 191,000 dwelling units currently exist in the General Plan Planning Area. Under the General Plan Horizon scenario, the total residential capacity would be 267,000 dwelling units. Under the General Plan Buildout scenario, the total residential capacity would be 336,000 dwelling units.

TABLE 4.0-1: RESIDENTIAL GROWTH PROJECTIONS UNDER FRESNO GENERAL PLAN[1]

RESIDENTIAL DWELLING UNITS	*GENERAL PLAN HORIZON*	*GENERAL PLAN BUILDOUT*
Existing[2]	191,000	191,000
Additional Capacity	76,000	145,000
Total Capacity	**267,000**	**336,000**

NOTES: 1. CALCULATIONS WERE BASED ON AUGUST 9, 2012 LAND USE DIAGRAM DRAFT FIGURE 2 OF THE INITIATION DRAFT
2. EXISTING DWELLING UNIT COUNT IS BASED ON THE 2010 CENSUS FOR DWELLING UNITS WITHIN THE CITY LIMITS (APPROXIMATELY 171,000 DWELLING UNITS) ADDED TO THE FRESNO COUNCIL OF GOVERNMENTS INFORMAL AERIAL PHOTO AND CENSUS TRACT STUDY ESTIMATE OF 2010 POPULATION OF DWELLING UNITS WITHIN THE AREA LOCATED OUTSIDE OF THE CITY LIMITS AND INSIDE THE CITY'S SOI BOUNDARY (APPROXIMATELY 20,000 DWELLING UNITS).
SOURCE: FRESNO GENERAL PLAN TABLE 1-2, DECEMBER 2014.

Table 4.0-2, below, presents the anticipated population under the General Plan Horizon and General Plan Buildout development scenarios. As shown, approximately 545,000 people currently reside in the General Plan Planning Area. The General Plan Horizon is anticipated to accommodate a population of 226,000 new residents by 2035, resulting in a total population of 771,000. The General Plan Buildout anticipates an additional 425,000 new residents over the existing population by an unspecified date within the Sphere of Influence, resulting in a total population of 970,000.

TABLE 4.0-2: POPULATION PROJECTIONS UNDER FRESNO GENERAL PLAN[1]

POPULATION	*GENERAL PLAN HORIZON*	*GENERAL PLAN BUILDOUT*
Existing[2]	545,000	545,000
Additional Estimated	226,000	425,000
Total	**771,000**	**970,000**

NOTES: 1. CALCULATIONS WERE BASED ON AUGUST 9, 2012 LAND USE DIAGRAM DRAFT FIGURE 2 OF THE INITIATION DRAFT
2. EXISTING POPULATION INCLUDES THE ENTIRE SOI AREA POPULATION FROM THE 2010 CENSUS DATA.
SOURCE: FRESNO GENERAL PLAN TABLE 1-5, DECEMBER 2014.

The amount of new non-residential development identified within the City of Fresno General Plan for the General Plan Horizon and General Plan Buildout are presented below in Table 4.0-3. Under the General Plan Horizon scenario, an estimated 55,019,275 square feet of non-residential uses could result by 2035, while nearly 104,000,000 square feet of non-residential capacity above current levels (approximately 49,000,000 square feet more than the 2035 horizon) is anticipated under General Plan Buildout.

TABLE 4.0-3: NON-RESIDENTIAL DEVELOPMENT UNDER FRESNO GENERAL PLAN[1]

TYPE	*ADDITIONAL FLOOR AREA ABOVE CURRENT LEVELS IN SQUARE FEET*	
	GENERAL PLAN HORIZON	*GENERAL PLAN BUILDOUT*
Retail[2]	10,925,293	20,613,762
Office[3]	18,334,371	34,593,153
Industrial and Business Parks[4]	25,759,611	48,603,040
Total	**55,019,275**	**103,809,955**

NOTES: 1. CALCULATIONS WERE BASED ON AUGUST 9, 2012 LAND USE DIAGRAM DRAFT FIGURE 2 OF THE INITIATION DRAFT
2. SUM OF COMMERCIAL FLOOR AREA PLUS 50 PERCENT OF NON-RESIDENTIAL CMX FLOOR AREA, 80 PERCENT NON-RESIDENTIAL NMX FLOOR AREA, 87.5 PERCENT OF NON-RESIDENTIAL RMX FLOOR AREA, AND 10 PERCENT OF BP/RBP FLOOR AREA.
3. SUM OF OFFICE FLOOR AREA PLUS 50 PERCENT OF NON-RESIDENTIAL CMX FLOOR AREA, 20 PERCENT NON-RESIDENTIAL NMX FLOOR AREA, 12.5 PERCENT OF NON-RESIDENTIAL RMX FLOOR AREA, AND 60 PERCENT OF BP/RBP FLOOR AREA.
4. SUM OF LIGHT AND HEAVY INDUSTRY LAND USE FLOOR AREA PLUS 30 PERCENT OF BP/RBP FLOOR AREA.
SOURCE: FRESNO GENERAL PLAN TABLE 1-6, DECEMBER 2014.

According to the Fresno General Plan, the City estimates that there would be 0.48 jobs per new resident at the General Plan Horizon Year of 2035. Therefore, at the General Plan Horizon, the Planning Area could accommodate approximately 108,000 new jobs above current levels, consisting of 50,000 new retail jobs, 32,500 new office jobs, and 25,500 new other jobs. With respect to General Plan Buildout after 2035, the Fresno General Plan estimates that there would be 0.45 new jobs per resident. Therefore, at General Plan Buildout, the Planning Area could accommodate approximately 189,500 new jobs above current levels, consisting of 87,700 new retail jobs, 57,000 new office jobs, and 44,700 new other jobs.

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach identifies potential cumulative impacts through the use of a summary of projections found in adopted local, regional or statewide plans (e.g., General Plans) or related planning or environmental documents as sometimes supplemented by additional information such as a regional modeling program. This EIR uses the projection approach for the cumulative analysis and considers the development anticipated to occur upon General Plan buildout in the area in addition to the pending and proposed projects in the area.

Project Assumptions

The West Area Neighborhoods Specific Plan’s contribution to environmental impacts under cumulative conditions is based on full buildout of the Plan Area. See Chapter 2.0, Project Description, for a complete description of the Specific Plan.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed qualitatively as they pertain to development patterns in the surrounding region. Exceptions to this are topics like traffic and utilities, which may be quantified by estimating future traffic patterns, demand for specific utilities, etc. and determining the combined effects that may result. The potential cumulative impacts associated with the Specific Plan are summarized below.

AESTHETICS AND VISUAL RESOURCES

The cumulative setting for aesthetics is the Fresno Planning Area, as defined in the City of Fresno General Plan.

Impact 4.1: Specific Plan implementation will contribute to the cumulative degradation of the existing visual character of the region. (Considerable Contribution and Significant and Unavoidable)

Under cumulative conditions, buildout of the Fresno General Plan would result in changes to the visual character of the Fresno General Plan Planning Area and result in impacts to localized views as new development occurs within the City and the General Plan Planning Area.

As described in Section 3.1, Aesthetics and Visual Resources, no part of Plan Area is designated as a scenic vista by the City of Fresno General Plan, nor does the Plan Area contain any unique or distinguishing features that would qualify it for designation as a scenic vista. Furthermore, there are no designated or eligible State Scenic Highways within or in the vicinity of the Specific Plan Area and no highways in Fresno County are listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System.

Implementation of the proposed Specific Plan would change the visual character of the Specific Plan Area by facilitating the development of urban uses within an area largely comprised of undeveloped sites. Regional growth has and will continue to result in a cumulative aesthetic effect by converting undeveloped land into developed and occupied areas and increasing overall levels of nighttime lighting. Cumulative development entails grading/landform alteration, the development of structures, and the installation of roadways and other infrastructure that has altered and will continue to permanently alter the region's existing visual character. As described in Section 3.1, compliance with the City's General Plan and Municipal Code, and implementation of the proposed Specific Plan's development regulations would reduce visual impacts to the greatest extent feasible; however, the proposed Plan would permanently convert undeveloped rural, agricultural, and open space areas to urbanized uses.

According to the General Plan EIR, buildout of the General Plan would result in the permanent alteration of the visual character of the City of Fresno's General Plan Planning Area from a more rural setting to a setting that is characterized by suburban or urban uses (i.e., streets, residences, and community commercial shopping centers). In addition, buildout of the General Plan would contribute to cumulatively considerable aesthetic impacts. Consequently, even with implementation of the policies and implementation programs identified in the City's General Plan, as well as adopted City regulations to enhance the City's current community character and preserve open space, development of the General Plan area was determined in the General Plan EIR to result in a significant and unavoidable cumulative impact to aesthetics. Although the proposed project would comply with all applicable standards and regulations, impacts related to a substantial adverse effect on a scenic vista, degradation of the existing visual character and quality of the project site and surrounding area, and creation of new sources of light or glare would still occur. Therefore, consistent with the General Plan EIR conclusion, the proposed Specific Plan's incremental

contribution towards cumulative aesthetic impacts would be ***cumulatively considerable*** *and* ***significant and unavoidable*****.**

AGRICULTURAL RESOURCES

The cumulative setting for agricultural resources includes the Fresno General Plan Planning area, as defined in the City of Fresno General Plan, in combination with portions of the San Joaquin Valley area, including Fresno County.

Impact 4.2: Specific Plan implementation may contribute to the cumulative impact on agricultural land and uses. (Considerable Contribution and Significant and Unavoidable)

Cumulative development anticipated in the City and County of Fresno, including growth projected by adopted general plans and those being updated, will result in the permanent loss of agricultural land, including important farmlands, significant farmlands, land under Williamson Act contracts, and other farmlands.

As described in Section 3.2, Agricultural Resources, there are no forest lands or land designated or zoned as forest land within the Plan Area or surrounding area; therefore, cumulative development would not contribute to the conversion of some forest lands or timber lands. However, there are approximately 285.65 acres of Farmland of Statewide Importance, 509.39 acres of Unique Farmland, and 1,562.82 acres of Farmland of Local Importance within the proposed Specific Plan Area. Additionally, under the proposed Specific Plan, the approximately 120 acres of Williamson Act Contract land are proposed for Low Density, Medium Low Density, and Medium Density Residential development where agricultural uses are no longer a permitted use. Consequently, adoption of the proposed Specific Plan would result in revisions to the zoning ordinance resulting in a significant impact on existing zoning for agricultural uses because non-agricultural uses, such as low, medium low density, and medium density residential would be allowed on the existing Contract land.

Agricultural land is a limited resource and the cumulative loss of this land is considered significant. Buildout of the proposed Specific Plan would require the future annexation and development of land into the City. If future annexation and development would involve the loss of important farmlands to non-agricultural uses, implementation of Mitigation Measure 3.2-1 would be required. While implementation of Mitigation Measure 3.2-1 would reduce the above-identified impact through preservation of agricultural land at a 1:1 ratio, the impact would not be reduced to a less-than-significant level due to the fact that active agricultural land would still be permanently converted to urban uses. Therefore, impacts on Williamson Act contracts, and important or significant farmlands and forest resources remain ***cumulatively considerable*** *and* ***significant and unavoidable***.

AIR QUALITY

The cumulative setting for this analysis is the San Joaquin Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus.

Impact 4.3: Specific Plan implementation would contribute to cumulative impacts on the region's air quality. (Cumulatively Considerable and Significant and Unavoidable)

In accordance with San Joaquin Valley Air Pollution Control District's (SJVAPCD's) methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Cumulative projects within the local area include new development and general growth within the Plan Area. The greatest source of emissions within the SJVAB is mobile sources. Due to the extent of the area potentially impacted from cumulative project emissions (i.e., the SJVAB); SJVAPCD considers a project cumulatively significant when project-related emissions exceed the SJVAPCD's regional emissions thresholds. No significant cumulative impacts were identified with regard to carbon monoxide (CO) hotspots.

Construction

The SJVAB is designated nonattainment for ozone and fine particulate matter ($PM_{2.5}$) under the California and National Ambient Air Quality Standards (AAQS) and nonattainment for respirable particulate matter (PM_{10}) under the California AAQS. Construction of cumulative projects will further degrade the regional and local air quality. Air quality will be temporarily impacted during construction activities. As shown in Table 3.3-6 in Section 3.3, construction emissions associated with the proposed Plan would exceed the SJVAPCD's regional construction emissions thresholds for CO, oxides of nitrogen (NOx), reactive organic compounds (ROG), PM_{10}, and $PM_{2.5}$. Thus, the project's contribution to cumulative air quality impacts would be cumulatively considerable and therefore significant.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by the SJVAPCD to be a substantial source of air pollution and does not add significantly to a cumulative impact. As discussed, SJVAPCD Rules 9510 and 9410 would contribute to reducing emissions of NOx and particulate matter associated with future individual projects accommodated under the proposed Specific Plan and may reduce impacts for these individual development projects to a less than significant level. In addition, the planned improvements, and goals and policies under the proposed project would generally support a more sustainable development pattern for the Plan Area. Creation of more complete neighborhoods in addition to improving the public transit, pedestrian, and bicycle networks and infrastructure would contribute to the overall reduction in vehicle trips and VMT, which would reduce mobile-source emissions. However, as shown in Table 3.3-7, due to the amount of growth for the proposed Plan Area, operation of the cumulative projects accommodated under the proposed Specific Plan would result in emissions in excess of the SJVAPCD regional emissions thresholds for ROG, NOx, CO, PM_{10}, and $PM_{2.5}$. Thus, the proposed Specific Plan's air pollutant emissions would be cumulatively considerable and therefore significant.

Conclusion

The mitigation measures provided within the air quality discussion (refer to Section 3.3) have been designed to be consistent with the guidance as promulgated by the SJVAPCD, where applicable. As is currently proposed, the Specific Plan is expected to be built out under a staged approach, and all mitigation would be applicable to each stage. However, even with the application of mitigation measures, operational and constructions emissions levels for the aforementioned criteria pollutants would remain above the defined thresholds of significance. Exceedance of the threshold within an area designated as nonattainment would be a cumulatively considerable impact. As such, implementation of the Specific Plan would have a ***cumulatively considerable contribution*** and a ***significant and unavoidable cumulative impact*** on the region's air quality.

BIOLOGICAL RESOURCES

The cumulative context for a cumulative analysis can be defined by region, by political subdivision, or by the geography.

Impact 4.4: Specific Plan implementation would not contribute to the cumulative loss of biological resources including habitats and special status species. (Less than Significant and Less than Cumulatively Considerable)

This cumulative analysis utilizes the "Bioregion" as its cumulative setting. The Plan Area is located in the San Joaquin Valley Bioregion, which has a wide variety of habitats and vegetation, including vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah, among many other habitats. The San Joaquin Valley Bioregion is the appropriate cumulative context because environmental impacts related to biological resources are best addressed in the context of geographic areas defined by natural features rather than by political or administrative boundaries.[1]

Agricultural land is scattered throughout the Plan Area, but mainly in the southern, western, and southwestern portions of the Plan Area. Irrigation ditches are also located throughout the Plan Area near these active agricultural lands. Developed uses are mainly in the northern, eastern, southern, and southeastern portions of the Plan Area. Undeveloped vacant land previously used for agricultural uses is also scattered throughout the Plan Area.

There remains a potential that special status species could occupy the Plan Area from time to time. Mitigation measures were developed to avoid, minimize, and compensate for direct and indirect effects to biological resources, including special status species and their habitats. It has been found in this EIR that, with the implementation of mitigation measures, the project would not, directly or indirectly, have a substantial adverse effect through habitat modifications or reductions, cause populations to drop below self-sustaining levels, substantially eliminate a community, or substantially reduce the number of, or restrict the range of, an endangered, rare or threatened

[1] U.S.G.S. Bioregions of the Pacific U.S. Available at: <https://www.usgs.gov/centers/werc/science/bioregions-pacific-us?qt-science_center_objects=0#qt-science_center_objects>.

species, including those considered candidate, sensitive, or special status in local or regional plans, policies, regulations, or by the CDFW or USFWS.

The Plan Area does not contain any natural hydrologic features. The Plan Area contains an internal network of agricultural ditches along the margins of the farm fields. The ditches in proximity to active agricultural areas of the Plan Area are likely regularly maintained to control/collect irrigation runoff from the fields. These features are manmade and are fed only by local irrigation water during the irrigation season or rainfall during the winter/spring season. Because the proposed Specific Plan is a planning document and thus, no physical changes will occur to the environment, adoption of the Specific Plan would not directly impact the environment. There is a reasonable chance that water features could be impacted throughout the buildout of the individual projects. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process. It has been found in this EIR that the project would not have substantial adverse effects, directly or indirectly, on protected wetlands and jurisdictional waters.

Wildlife movement includes migration (i.e., usually movement one way per season), inter-population movement (i.e., long-term dispersal and genetic flow), and small travel pathways (i.e., daily movement within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities, such as foraging or escape from predators, they also provide connection between outlying populations and the main populations, permitting an increase in gene flow among populations. These habitat linkages can extend for miles and occur on a large scale throughout the greater region. Habitat linkages facilitate movement between populations located in discrete locales and populations located within larger habitat areas.

Impacts from development, such as habitat fragmentation and/or isolation, and the creation of impassable barriers can cause a significant impact to wildlife corridors. Depending on the organism and its needs, movement corridors can either be continuous or discontinuous patches of suitable habitat. Preserving expanses of open space that are connected may enable species utilizing these areas as foraging or breeding habitat to persist.

Subsequent development projects will be required to comply with the City's General Plan, proposed Specific Plan, and adopted Federal, State, and local regulations for the protection of movement corridors. The Specific Plan includes Policy IPR 3.6, which states, "Where sensitive biological habitats have been identified or are discovered on or immediately adjacent to a project site, the project shall include appropriate mitigation measures determined by a qualified biologist."

Implementation of the proposed project would have a ***less than significant cumulative impact*** and ***less than cumulatively considerable*** incremental contribution to cumulative impacts on biological resources.

CULTURAL AND TRIBAL RESOURCES

The cumulative context for a cumulative analysis can be defined by region, by political subdivision or by the geography, where sufficient inventory data is available to define it. The cumulative setting for cultural resources includes all of the Fresno County, which includes the entire City of Fresno General Plan Planning Area.

Impact 4.5: Specific Plan implementation would not contribute to the cumulative loss of cultural and tribal resources. (Less than Significant and Less than Cumulatively Considerable)

Cumulative development anticipated in Fresno and the greater Fresno County area, including growth projected by adopted general plans, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5, Cultural and Tribal Resources, a total of 82 cultural resources have been previously recorded within the Plan Area. Of these cultural resources, four are historic archaeological sites and 78 are historic built environment resources. In addition, due to the size of the proposed Specific Plan Area, buildout of the proposed plan could contribute to cumulative impacts related to the regional loss of cultural resources if previously unidentified cultural resources are discovered during construction and proper techniques are not employed.

Future projects in Fresno would be required to comply with General Plan Objectives HCR-1, HCR-2, and HCR-3, as well as Policies HCR-1c, HCR-2a, HCR-2b, HCR-2f, and HCR-3c, which require the City to identify, designate and preserve sites and structures of historical, archaeological, and cultural significance. General Plan Policies HCR-2c and 2g would require future development to evaluate the project site and its Area of Potential Effects (APE), for the potential historic and/or cultural resources by a professional who meets the Secretary of the Interior's Qualifications. Furthermore, mitigation measures incorporated into this EIR would require project applicants for future projects with intact buildings more than 45 years to provide a historic resource technical study and evaluate cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features) discovered during construction activities. Any significant discoveries during construction would be required to be preserved in place or mitigated through relocation or documentation; thus, the project is not anticipated to considerably contribute to a significant reduction in cultural resources.

The proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Fresno County), would not be expected to cause any significant cumulative impacts to cultural resources. The proposed project would not have cumulatively considerable impacts associated with cultural resources. Implementation of the proposed project would have a ***less than significant cumulative impact*** and ***less than cumulatively considerable*** incremental contribution to cumulative impacts on cultural resources.

GEOLOGY, SOILS AND SEISMICITY

The cumulative setting area for geology, soils and seismicity includes the City of Fresno General Plan Planning Area.

Impact 4.6: Specific Plan implementation may contribute to cumulative impacts on geologic and soils characteristics. (Less than Significant and Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed Specific Plan may result in risks associated with geology and soils. For example, there is an ongoing possibility that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. Additionally, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Other geologic risks such as liquefaction, landsliding, lateral spreading, and soil expansion are also geologic risks that are present.

As discussed in Section 3.6, Geology and Soils, implementation of the proposed Specific Plan would not result in any significant impacts related to this environmental topic. While some cumulative impacts will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the risk to people in the region. Furthermore, mitigation measures incorporated into this EIR would require project applicants for future projects to obtain a site-specific Geotechnical Evaluation to implement site-specific recommendations and submit an approved Storm Water Pollution Prevention Plan designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. Consequently, the proposed Specific Plan would generally not be affected by, nor would it affect, other development approved by the City of Fresno. As a result, the proposed General Plan's incremental contribution to cumulative geologic and soil impacts would be ***less than cumulatively considerable***.

GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY

As the California Supreme Court has emphasized, all CEQA analyses of the environmental effects of greenhouse gas (GHG) emissions are inherently cumulative in character. "[B]ecause of the global scale of climate change, any one project's contribution is unlikely to be significant by itself. […] 'With respect to climate change, an individual project's emissions will most likely not have any appreciable impact on the global problem by themselves, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of greenhouse gases is 'cumulatively considerable' in light of the global problem, and thus significant.'" (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219, quoting (Crockett, *Addressing the Significance of Greenhouse Gas Emissions Under CEQA: California's Search for Regulatory Certainty in an Uncertain World* (July 2011) 4 Golden Gate U. Envtl. L.J. 203, 207–208.) Thus, the analysis below considers the entire planet as a backdrop while focusing on whether the proposed project's incremental contribution to worldwide GHG emissions is cumulatively considerable.

Impact 4.7: Cumulative impact on climate change from increased project-related greenhouse gas emissions. (Less than Significant and Less than Cumulatively Considerable)

In California, there has been extensive legislation passed with the goal of reducing GHG emissions. The legislative goals are as follows: 1) 1990 levels by 2020 and 2) 40% below 1990 levels by 2030. An additional goal -- 80% below the 1990 levels by the year 2050 – was set by Governor Schwarzenegger through Executive Order S-03-05. An even more ambitious goal of achieving carbon neutrality "as soon as possible, and no later than 2045," was set by Governor Brown through Executive Order B-55-18. To achieve these legislative and executive goals, the California Air Resources Board (CARB) has developed regional GHG emission reduction targets for the automobile and light truck sectors (the largest single source of GHG emissions) for 2020 and 2040. The regional GHG emission reduction targets for each region in California were established by the CARB.

As described in Impact 3.4-2 in Section 3.4, implementation of the Specific Plan is consistent with the current version of the City GHG Reduction Plan, which is considered a "Qualified Plan," according to CEQA Guidelines §15183.5, thereby allowing for streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. Therefore, the proposed project would not generate GHG emissions, directly and indirectly, that would have a significant impact on the environment. Moreover, the Specific Plan incorporates goals and policies that emphasize compact and walkable communities, which were incorporated into the design of the proposed project and would help minimize GHG emissions generated by the proposed project. Further, the proposed project would be required to implement mitigation measures that are intended to reduce GHG emissions to the maximum extent feasible. The State of California continues to implement measures that are intended to reduce emissions on a State-wide scale (i.e. vehicle fuel efficiency standards in fleets, low carbon fuels, etc.) that are consistent with AB 32 and SB 32. These types of statewide measures will benefit the proposed project (and city as a whole) in the long-term as they come into effect; however, the City does not have the jurisdiction to create far-reaching (i.e. statewide) measures to reduce GHG emissions. On a project-by-project case, the City of Fresno evaluates a project and the potential to impose project-specific mitigation, which has been done through this GHG analysis. For these reasons, implementation of the Specific Plan would have a ***less than cumulatively considerable*** impact to GHGs.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is all of Fresno County, which includes the entire Fresno General Plan Planning Area.

Impact 4.8: Specific Plan implementation may contribute to cumulative impacts related to hazards and hazardous materials. (Less than Significant and Less than Cumulatively Considerable)

The Specific Plan, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the applicable

General Plan. Cumulative development would include continued operation of, or development of, new facilities as allowed under each land use designation.

Hazardous Materials Use, Generation, Transport, and Disposal

New development could increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. Potential impacts related to hazards and/or hazardous materials associated with new and future development would primarily be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or be particularly hazardous. Facilities that store, use or handle hazardous materials above reportable amounts are required to prepare and file a Hazardous Materials Business Plan (Business Plan) for the safe storage and use of chemicals. In the event of an emergency, firefighters, health officials, planners, public safety officers, health care providers and others rely on the Business Plan. Implementation of the Business Plan should prevent or reduce damage to the health and safety of people and the environment if a hazardous material is released.

Accidental Release of Hazardous Materials

Incidents (such as accidental release of hazardous materials), if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers). Hazard-related impacts tend to be site-specific and Project-specific. The Plan Area is not associated with any existing hazardous materials spills; however, there are numerous areas throughout Fresno County where hazardous conditions are present. In addition, Mitigation Measures 3.8-1 through 3.8-10 address potential risk of hazards due to existing hazards located on the project site.

School Sites

As provided under Impact 3.8-1, with implementation of Mitigation Measure 3.8-1 through 3.8-10, potential risks associated with the routine transport, use, or disposal of hazardous materials resulting from implementation of the Specific Plan would be reduced to a less than significant level. For example, Mitigation Measure 3.8-1 requires businesses generating hazardous waste to comply with a HMBP and to register with the CUPA, as appropriate. Mitigation Measure 3.8-2 provides requirements for any ground disturbance activities within 50 feet of a well. Additional requirements are provided in Mitigation Measures 3.8-3 through 3.8-10, such as Phase I and Phase II site assessments, and other remediation activities including surveys and assessments, cleanup plans, programs, and activities, as applicable. Moreover, compliance with the applicable General Plan objectives and policies would ensure that the Specific Plan implementation would have a limited potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste with one-quarter of an existing school.

Emergency Response

As provided under Impact 3.8-5, future construction activities within the Plan Area could affect access along nearby roadways during construction. However, access would remain open and accessible at all times. Future applicants would be required to provide alternate route (i.e. detour) plans with a tentative schedule of planned closures prior to the beginning of construction to ensure that activities would not impede emergency access. These plans would be subject to review and approval by the City of Fresno Public Works Department, the Fresno Fire Department, and the Fresno Police Department. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder emergency vehicle access or evacuation in the event of an emergency. Separately, the proposed project would develop new roadways within the Plan Area. However, the new roadways would be required to comply with the City's police and fire standards for emergency access. Therefore, roadways within the Plan Area would not impair the implementation of or physically interfere with any adopted emergency response plan or emergency evacuation plan. Moreover, where applicable, the proposed project would also be required to comply with the Fresno County's Multi-Hazard Mitigation Plan.

Wildfire/Wildland Fires

As provided under Impact 3.8-6, the proposed project is not located in or near any SRAs or lands classified as VHFHSZs. Areas within the northern, central, and southern portions of the Plan Area are identified as having a moderate potential for wildland fires. According to the Fresno General Plan, the City is largely urbanized or working agricultural land without steep topographies; thus, wildland fire threats are minimal. Although Fresno is proximate to high and very high fire hazard designated areas, the City is largely categorized as little or no threat or moderate fire hazard, which is largely attributed to paved areas. Implementation of the Specific Plan would result in increased urbanization of the area; including increased paved area. Future development would be required to comply with the current fire code (i.e. included in the Fresno Fire Code Section as established by the City of Fresno Fire Department), as well as all applicable City Municipal Code requirements.

Conclusion

Implementation of the Specific Plan would not result in significant increased risks of hazards in the cumulative setting, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with future development activities. With implementation of these mitigation measures, implementation of the Specific Plan would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a ***less than cumulatively considerable contribution***.

HYDROLOGY AND WATER QUALITY

The cumulative context for the analysis of cumulative stormwater runoff impacts is best addressed on a regional/watershed basis (geography), as such an area captures flows occurring both upstream and downstream of the project site. Because water resources are highly interconnected, the

cumulative setting is based on Fresno County, which is located in the Tulare Lake Hydrological Region.

Impact 4.9: Cumulative impacts related to hydrology and water quality. (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed Specific Plan has the potential to result in construction-related water quality impacts, impacts to groundwater recharge, and cause flooding, erosion, or siltation from the alteration of drainage patterns.

Stormwater Runoff

Implementation of the Specific Plan would increase the amount of impervious surfaces in the Plan Area, which, without intervention, could increase peak stormwater runoff rates and volumes on and downstream of the Plan Area. The entire Plan Area is within the Fresno Metropolitan Flood Control District's urban flood control system consisting of 158 drainage areas, each 1 to 2 square miles in area. Operation of projects developed under the proposed Specific Plan could generate the same categories of pollutants as construction activities. Additionally, due to future development and infrastructure projects, the overall volume of runoff in Fresno could be increased compared to existing conditions. If the drainage system is not adequately designed, Specific Plan buildout could result in localized higher peak flow rates. Localized increases in flow would be significant if increases exceeded system capacity or contributed to bank erosion.

In order to ensure that future development projects in the County do not increase downstream flood elevations due to increased peak stormwater runoff, the Fresno Metropolitan Flood Control District (FMFCD) has primary responsibility for managing the local stormwater flows for the City, as well as a large area beyond the City's boundaries. The FMFCD requires future development projects to be designed in conformance to the FMFCD's Urban Storm Drainage Master Plan to ensure storm drainage facilities are adequately designed and that the storm drain system has adequate storage capacity for additional stormwater runoff generated by the Specific Plan. Improvements to storm drainage facilities are accomplished either as a part of privately funded on-site developments or as a part of the master plan, funded by drainage fees. The FMFCD maintains an on-going update to the system hydraulic model for flood control and prepares a capital improvement plan update every five years. Surface runoff from the area will be managed via detention/retention basins and flow reducing Best Management Practices (BMPs) to prevent local flooding within the various development sites within the overall Plan Area. These features will also reduce peak flows from the Plan Area to receiving storm drains and FMFCD facilities. Additionally, future development of the proposed Specific Plan would minimize or eliminate increases in runoff from these new impervious surfaces by runoff entering ditches and storm drains designed in conformance to FMFCD standards.

Design and construction of flood control improvements to the satisfaction of the FMFCD would ensure there is adequate storage capacity for the additional stormwater runoff generated from the buildout of the Specific Plan. Future development within the Plan Area, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans

within Fresno County), would not be expected to cause any significant cumulative impacts associated with stormwater runoff.

Water Quality

As discussed in Impacts 3.1 and 3.9-2, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities could also result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operations of future development projects in the Plan Area could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Specific Plan would result in new impervious areas associated with roadways, driveways, parking lots, buildings, and landscape areas. Normal activities in these developed areas include the use of various automotive petroleum products (i.e. oil, grease, and fuel), common household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

Future development of the Specific Plan Area would require development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include BMPs to regulate stormwater quality for the Specific Plan Area. In accordance with the National Pollution Discharge Elimination System (NPDES) Stormwater Program, compliance with existing regulatory requirements require preparation of a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the Regional Water Quality Control Board (RWQCB), Central Valley Region, has deemed effective in controlling erosion, sedimentation, and runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude the use of equally or more effective new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and the City of Fresno and are an existing regulatory requirement.

While there are no assurances that other projects in the County would incorporate the same degree or methods of treatment as the proposed Specific Plan, each project in the City that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. Therefore, while a greater quantity of urban runoff may result from future development projects in the Plan Area because of an increase in impervious surfaces, the associated surface water quality impacts associated with the increased runoff in the Plan Area would be expected to be less-than-significant because adherence to existing NPDES discharge permit requirements and other regulatory mechanisms which regulate stormwater runoff.

Compliance with City and FMFCD water quality protection regulations, approval from the RWQCB, and implementation of project-specific SWPPPs would ensure that the Specific Plan minimizes impacts to surface water quality. The proposed Specific Plan, when considered alongside all past,

present, and probable future projects (inclusive of buildout of the various General Plans within Fresno County), would not be expected to cause any significant cumulative impacts given that mitigation measures would control storm water quality. The proposed Specific Plan would not have cumulatively considerable impacts associated with water quality.

Groundwater Supplies/Recharge

The West Area Neighborhoods Specific Plan would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge in those areas. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff. Future development, including water quality BMPs, detention basins, and retention basins, would be designed to minimize or eliminate increases in runoff from these new impervious surfaces entering storm drains and other FMFCD facilities.

Future development of the Plan Area under the proposed land use plan will modify the movement of water across the land surface and the infiltration of rain water into the groundwater system. The FMFCDs Storm Water Quality Management Plan, City General Plan policies, City Municipal Code requirements, and proposed Specific Plan policies include BMPs aimed at preserving water quality and groundwater recharge areas. The BMPs required as part of future development of the Plan Area are designed to infiltrate as much storm water runoff as practicable into the ground. A portion of the retained runoff will infiltrate into the ground, helping to replenish the aquifers. The required BMPs are designed to trap contaminants and to beneficially make use of nutrients in the vegetated swales and planted areas. In addition, application rates of fertilizers on urbanized areas is less than that typically used in intensive agriculture. The aggregate effect of the proposed Specific Plan will, therefore, be to decrease the loading of nutrients (in particular, nitrates) into the groundwater.

The proposed Specific Plan, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Fresno County), would not be expected to cause any significant cumulative impacts given that mitigation measures require maintaining water quality standards and preserving the infiltration of rainwater within the aquifer. The proposed Specific Plan would not have cumulatively considerable impacts associated with groundwater supply/recharge.

Flooding

Future development projects in the area could result in additional discharges of stormwater during storm events. When combined, these future development projects could, in theory, lead to an incremental increase in peak stormwater runoff, and potential incremental increases in downstream flood elevations. However, in order to ensure that future development projects in the County do not increase downstream flood elevations, the FMFCD has primary responsibility for managing the local stormwater flows for the City, as well as a large area beyond the City's boundaries. Improvements to storm drainage facilities are accomplished either as a part of privately funded on-

site developments or as a part of the master plan, funded by drainage fees. FMFCD maintains an on-going update to the system hydraulic model for flood control and prepares a capital improvement plan update every five years.

The Plan Area includes an extensive system of on-site stormwater collection, treatment and retention facilities to accommodate the increased stormwater flows that originate in the Plan Area. Surface runoff from the area will be managed via detention/retention basins and flow reducing Best Management Practices (BMPs) to prevent local flooding within the Plan Area. These features will also reduce peak flows from the Plan Area to receiving storm drains.

As discussed in Impact 3.9-6, the Plan Area is approximately 105 miles from the coast and is not adjacent to any lakes; thus, the Plan Area is not at risk for tsunami or seiche events. Additionally, as shown on Figure 3.9-3, the entire Plan Area is designated unshaded Zone X - minimal flood hazard, and would not be expected to have a flood hazard up to the level of the 0.2-percent annual chance flood. Lands designated as unshaded Zone X are outside of the Special Flood Hazard Areas. Changes to land surfaces in these areas do not trigger map revisions and no flood insurance requirements are imposed on structures in these areas.

No other parts of the Specific Plan Area are designated as flood prone, and there are no impacts to regulatory floodways or Special Flood Hazard Areas (Zone A or AE) as defined by FEMA. Provided future storm drain system and detention/retention facilities that would be installed as part of future development are adequately sized and properly installed and maintained, flooding will not be induced by the proposed Specific Plan. Therefore, the Specific Plan is not at risk of the 1-percent annual chance flood.

The proposed Specific Plan, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Fresno County), would not be expected to cause any significant cumulative impacts given that existing City and FMFCD regulations require designs that ensure structures are outside the base flood elevation and that storm water flows are maintained to prevent downstream flooding. The proposed Specific Plan would not have cumulatively considerable impacts associated with flooding.

Conclusion

Construction of the individual development projects allowed under the land use designations of the proposed General Plan has the potential to result in construction-related water quality impacts, impacts to groundwater recharge, and cause flooding, erosion, or siltation from the alteration of drainage patterns.

While some cumulative impacts will occur in the region as individual projects are constructed, the existing General Plan policies and actions, as well as State and Federal regulations, will substantially reduce the impacts. Additionally, future projects under the Specific Plan would be required to design storm drain facilities to the satisfaction of the FMFCD to ensure each project provides adequate storage capacity for the additional stormwater runoff generated. Considering the protection granted by local, State, and Federal agencies and their permit and monitoring requirements, as discussed in

Section 3.9 (Hydrology and Water Quality), and with implementation of the policies and actions included within the General Plan, the overall cumulative impact would not be significant. As a result, the General Plan's incremental contribution to cumulative hydrology impacts would be ***less than cumulatively considerable***.

LAND USE

The cumulative setting for land use is the Fresno General Plan Planning Area, as defined in the City of Fresno General Plan.

Impact 4.10: Specific Plan implementation may contribute to cumulative impacts on communities and local land uses. (Less than Significant and Less than Cumulatively Considerable)

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site and project-specific. The land uses allowed under the proposed Specific Plan provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas as well as new growth within the Plan Area, but would not create physical division within existing communities. New development and redevelopment projects would be designed to complement the character of existing neighborhoods and provide connectivity between existing development and new development within the cumulative analysis area. The proposed Specific Plan does not include any new roadways, infrastructure, or other features that would divide existing communities. Instead, the Specific Plan would plan for extension of existing roadways and infrastructure, as well as new future roadways and infrastructure, in order to serve future development of the Plan Area. These new roadways would link existing unincorporated areas of the County with the City of Fresno.

Overall, the proposed Specific Plan is consistent with the objectives and policies of the Fresno General Plan. Other projects in the cumulative context would undergo a General Plan consistency review, similar to the proposed Specific Plan, on a project-by-project basis to demonstrate their consistency with the applicable land use document. Therefore, the proposed Specific Plan's incremental contribution to cumulative land use and population impacts would be ***less than cumulatively considerable***.

NOISE

The cumulative context for noise impacts associated with proposed Specific Plan consists of the existing and future noise sources that could affect the project or surrounding uses.

Impact 4.11: Specific Plan implementation may contribute to the cumulative exposure of existing and future noise-sensitive land uses or to increased noise resulting from cumulative development. (Less than Significant and Less than Cumulatively Considerable)

Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The total construction noise

impact of the proposed Specific Plan would not be a substantial increase to the existing future noise environment.

As discussed in Impact 3.11-1 in Section 3.11, Noise, some of the existing noise sensitive receptors located along the Specific Plan Area roadways are currently exposed to exterior traffic noise levels exceeding the City of Fresno 65 decibel (dB) day/night average level (L_{DN}) exterior noise level standard for residential uses, as shown in Table 3.11-10. Based upon General Plan Policy NS-1j, a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL above the ambient noise limits established in the General Plan Update (or in this case the modeled increase in traffic noise levels due to the project). The contribution to traffic noise increases resulting from future development of the proposed Specific Plan is predicted to be between 0 dBA and 13.4 dBA L_{DN}. The following roadway segments would exceed the substantial increase criteria described in Policy NS-1j and Table 3.11-10:

- Traffic noise levels along **W. Shaw Avenue** are expected to range between 68.1 and 73.3 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases ranging between 6.9 and 8.3 dBA CNEL.
- Traffic noise levels along **W. Ashlan Avenue between N. Grantland Avenue and N. Blythe Avenue** are expected to range between 67.5 and 70.4 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases ranging between 5.6 and 13.4 dBA CNEL.
- Traffic noise levels along **W. Shields Avenue between N. Polk Avenue and N. Cornelia Avenue** are expected to reach up to 66 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in an increase in ambient noise level of 7.6 dBA CNEL.
- Traffic noise levels along **W. Clinton Avenue between N. Polk Avenue and N. Blythe Avenue** and **between N. Valentine Avenue and N. Marks Avenue** are expected to range between 66.9 and 69.7 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases in ambient noise levels ranging between 5.5 and 8.0 dBA CNEL
- Traffic noise levels along **N. Grantland Avenue between W. Gettysburg Avenue and W. Dakota Avenue** and **between W. Shields Avenue and W. Clinton Avenue** are expected to range between 67.7 and 71.0 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases in ambient noise levels between 10.5 and 11.5 dBA CNEL.
- Traffic noise levels along **N. Bryan Avenue between W. Gettysburg Avenue and W. Ashlan Avenue** are expected to reach up to 65.3 dBA CNEL, resulting in an increase of 7.7 dBA CNEL in ambient noise levels.
- Traffic noise levels along **N. Hayes Avenue between W. Shaw Avenue and W. Swift Avenue** and **between W. Dakota Avenue and W. Shields Avenue** are expected to range between 65.9 and 66.8 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases in ambient noise levels ranging between 9.3 and 11.8 dBA CNEL.
- Traffic noise levels along **N. Polk Avenue between W. Shaw Avenue and W. Shields Avenue** are expected to range between 65.3 and 68.7 dBA CNEL at a distance of 100 feet from the

centerline of the road, resulting in increases in ambient noise levels between 5.5 and 8.1 dBA CNEL.

- Traffic noise levels along **N. Cornelia Avenue between W. Gettysburg Avenue and W. Ashlan Avenue** are expected to reach up to 66.1 dBA CNEL, resulting in an increase of 5.9 dBA CNEL in ambient noise levels.

Of the 115 roadway segments analyzed, 30 segments would experience substantial noise increases greater than 3 dBA attributable to buildout of the proposed Specific Plan, with noise levels that exceed 65 dB CNEL.

For these reasons, future development projects within the Plan Area would be required to implement mitigation measures that are specifically intended to ensure compliance with the City of Fresno noise standards and minimize the impact associated with the substantial increase in ambient noise levels. Mitigation Measure 3.11-1 would require the implementation of performance standards based on project-specific acoustical analysis for new residential and noise sensitive uses exposed to significant exterior community noise levels from transportation, which may include noise walls and/or berms, or setbacks.

With implementation of the mitigation measures included in Section 3.11, the proposed Specific Plan's incremental contribution towards cumulative noise impacts would be ***less than cumulatively considerable*** *and* ***less than significant*****.**

POPULATION AND HOUSING

The cumulative setting for population and housing includes Fresno County. This area was chosen because it represents the area that is reasonably expected to be affected by population and housing changes generated by the proposed project.

Impact 4.12: Specific Plan implementation may contribute to cumulative impacts on population growth and displace substantial numbers of people or existing housing. (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.12, the proposed Specific Plan accommodates future growth in the Plan Area, including new businesses and new residential uses. Infrastructure and services would need to be extended to accommodate future growth. At full buildout, the proposed Specific Plan would accommodate approximately to 54,953 dwelling units (including 47,072 dwelling units in the residential category, 7,814 dwelling units in the mixed use category, and 67 dwelling units in the commercial category) and approximately 60,621,006.31 square feet of non-residential uses. This new growth would increase the city's population by approximately 163,211 residents. According to the General Plan, it is estimated that there would be 0.45 jobs per new resident; therefore, buildout of the proposed Specific Plan may increase the employment opportunities in Fresno by approximately 73,445 jobs.

Based on the growth projected to occur in the Plan Area, the proposed Specific Plan would not induce a substantial amount of growth that has not been adequately planned for or require the construction of replacement housing elsewhere. Although the number of new residents generated

under the proposed Plan could exceed the number analyzed under the City's General Plan Master EIR (MEIR) under the Dual Designation Scenario, cumulative growth would be consistent with regional planning targets.

Future development of the Plan Area consistent with the proposed land use map could result in displacement of existing housing. Housing displacement associated with development of the Plan Area was accounted for in the City's General Plan MEIR. Much of the future development would be located on areas that are vacant, contain agricultural land, or contain rural residential uses. Redevelopment of currently developed parcels could also occur. However, the amount of housing displacement associated with buildout of the Plan Area would be vastly outweighed by the amount of housing created under the proposed Specific Plan land use map. Thus, when considered along with the proposed Plan, cumulative growth would not displace substantial numbers of people or housing or exceed planned levels of growth.

Additionally, all lands within the General Plan jurisdiction have been planned to accommodate growth within the City have been evaluated in the General Plan MEIR. The proposed project does not change the intent, intensities, or densities of land uses identified within the General Plan; instead, the Specific Plan land use map rearranges and relocates the City land use designations for the Plan Area. Therefore, development of the Specific Plan Area will not induce growth in the Specific Plan Area, adjacent undeveloped parcels, or within the City of Fresno that has not already been accounted for in the General Plan, and evaluated for environmental impacts by the City in the Final General Plan EIR.

The proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Fresno County), would not be expected to cause any significant cumulative impacts. The proposed project would not have cumulatively considerable impacts associated with population and housing. As such, implementation of the proposed project would have a ***less than significant*** and ***less than cumulatively considerable*** contribution to impacts to population and housing.

PUBLIC SERVICES AND RECREATION

The cumulative setting would include all areas covered in the service areas of the City of Fresno Police Department, Fresno Fire Department (FFD), City of Fresno Parks, After School, Recreation, and Community Services (PARCS) Department, the Central Unified School District (CUSD), and the Fresno County Public Library System.

Impact 4.13: Specific Plan implementation may contribute to cumulative impacts on public services. (Cumulatively Considerable and Significant and Unavoidable)

This geographic area was chosen because these service providers would be required to serve the Plan Area as well as the entire service area. Therefore, future development within the Plan Area along with past, present, and probably future projects within the service area, has the potential to result in a cumulative impact associated with implementation of the proposed Specific Plan.

Under cumulative conditions future local and regional growth will result in increased demand for schools, police protection, fire protection, schools, parks/recreation, and library services. The City and its associated service providers must continue to evaluate the levels of service desired and the funding sources available to meet increases in demand.

The General Plan Final Master EIR analyzed cumulative impacts to public services (including police protection, fire and emergency services, schools, parks, and libraries) and found that General Plan implementation would result in less than cumulatively considerable impacts with implementation of Mitigation Measures PS-1 (regarding future fire facilities), PS-2 (regarding future police facilities), PS-3 (regarding future school facilities), and PS-4 (regarding future parks and recreational facilities). The mitigation measures require evaluation of specific environmental effects of these future public service and recreational facilities, and list typical mitigations to reduce potential noise, traffic, and lighting impacts. The specific environmental impact of constructing new facilities could not be determined at the time, but the Final Master EIR found that construction and operation of such facilities could potentially cause significant impacts. These potential impacts, however, were addressed and mitigated to the greatest extent feasible by the General Plan mitigation measures included in Section 5.13 of the Fresno General Plan Final Master EIR.

Conclusion

Under cumulative conditions, future development of the Plan Area in accordance with the proposed Specific Plan land use map may result in the construction of public facilities, which may cause substantial adverse physical environmental impacts. The impact fees developed and reviewed by the City will recover future development's proportionate share of City-related capital asset costs. Fees, as applied only to new development, represent future development's proportionate share of public services and facilities capital costs.

It is also important to note that, in addressing public service demand issues under CEQA, the appropriate focus is on the environmental effects of whatever steps might be necessary to achieve or maintain adequate service. For example, if proposed new development would create an increased demand for law enforcement or fire protection services, an EIR should inquire as to whether new or expanded physical facilities may be required in order to provide such service. The "impacts" addressed under CEQA are the physical effects of providing service, not any possible failure to provide adequate service under applicable standards. (See *City of Hayward v. Board of Trustees of the Cal. State University* (2015) 242 Cal.App.4th 833, 843 ["[t]he need for additional fire protection services is not an environmental impact that CEQA requires a project proponent to mitigate"]; *Goleta Union School Dist. v. Regents of Univ. of Cal.* (1995) 37 Cal.App.4th 1025, 1031–1034 [school overcrowding attributable to new development is not an environmental effect subject to CEQA, though the physical effects of new facility construction to serve new students would be]; and CEQA Guidelines, § 15131, subd. (a) ["[e]conomic or social effects of a project shall not be treated as significant effects on the environment"].)

Moreover, it is critical to understand that special legal principles apply to impacts to school facilities. According to Government Code Section 65996, the development fees authorized by Senate Bill 50

(1998) (described earlier) are deemed to be "full and complete school facilities mitigation" for impact caused by new development. The legislation also recognized the need for the fee to be adjusted periodically to keep pace with inflation. The legislation indicated that in January 2000, and every two years thereafter, the State Allocation Board would increase the maximum fees according to the adjustment for inflation in the statewide index for school construction.

Section 65996 also prohibits public agencies from using CEQA or "any other provision of state or local law" to deny approval of "a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property or any change in governmental organization or reorganization" on the basis of the project's impacts on school facilities.

The construction and operation of future public facilities required to serve cumulative development (including the Plan Area) could potentially cause significant impacts. Cumulative development including additional parks and schools within the city and service area would contribute to significant and unavoidable cumulative impacts that have been identified within this EIR related to: aesthetics and visual resources (Section 3.1), agricultural resources (Section 3.2), air quality (Section 3.3), noise (Section 3.11), and public services and recreation (Section 3.13). Therefore, consistent with the analysis included in this Draft EIR, cumulative impacts related to the construction of public facilities needed to meet future demand are considered ***significant and unavoidable and cumulatively considerable.***

TRANSPORTATION AND CIRCULATION

The cumulative setting for this analysis including the City of Fresno SOI and some nearby areas of unincorporated County.

Impact 4.14: Specific Plan implementation may contribute to cumulative impacts to the regional transportation network. (Less than Significant and Less than Cumulatively Considerable)

The year 2035 is the horizon year for cumulative condition impact analyses. Based on observed volumes in the existing condition, Kittelson & Associates used travel behavior forecasting software to estimate and distribute future vehicle traffic onto the roadway network in order to test how the proposed project would impact the transportation network.

Consistency with General Plan

As described in Section 3.14, Transportation and Circulation, development associated with the proposed Plan would increase the amount of multimodal transportation activity which would require the improvement and expansion of the local transportation network in the Plan Area to serve the associated travel demand. The West Area Neighborhoods Specific Plan includes a number of guiding principles related to transit, bicycle, and pedestrian travel consistent with the General Plan policies, which detail how the circulation system will be improved to meet the need of all users. Since the guiding principles of the Specific Plan support the policies of the General Plan, no conflict with policies, plans, and programs for alternative transportation would occur from future

development and redevelopment under the proposed Specific Plan. Therefore, the proposed Specific Plan's cumulative contribution would be considered ***less than significant***.

Consistency with CEQA Guideline Section 15064.3

As shown in Table 3.14-2 (as contained within Section 3.14: Transportation and Circulation), the projected VMT per capita and VMT per employee in the Plan Area are lower than existing conditions. Under the Specific Plan, VMT per capita is 7.4 lower, or 46% lower, while VMT per employee is 12.4 lower, or 48% lower. The decrease in VMT is the result of the proposed land use mix within the proposed Plan Area. The City of Fresno Draft VMT Guidelines state specific plans would have an impact if the VMT per capita or VMT per employee in the specific plan area for the horizon year increases compared to the existing VMT per capita or VMT per employee in the region (Fresno County). The VMT per capita in the Specific Plan Area during the horizon year is 8.7, while VMT per employee is 13.2. Under existing conditions in Fresno County, the VMT per capita is 16.1, while the VMT per employee is 25.6. Because the VMT per capita and VMT per employee in the Specific Plan Area during the horizon year is less than the VMT per capita and VMT per employee for existing conditions in Fresno County, the proposed Specific Plan's cumulative contribution to VMT would be considered ***less than significant.***

Hazardous Geometric Designs or Incompatible Uses

The proposed Specific Plan would result in a relocation of density in the Plan Area to central corridors compared to what would develop under the City's General Plan where density is more distributed throughout the Plan Area; however, the Specific Plan does not propose to change the types (i.e., residential, commercial, office, etc.) of land uses in the Plan Area. Buildout of the proposed Specific Plan would result in some changes to the City's circulation network, but would not increase hazards or incompatible uses due to design features. All future roadway system improvements associated with development and redevelopment activities under the Specific Plan would be designed in accordance with the established roadway design standards, some of which have also been incorporated into the Circulation Element of the City's General Plan.

With implementation of General Plan Policy MT-2-e, Policy MT-2-I, and application of the conditions of approval at the time of review of land development projects, the Specific Plan would be designed to ensure that no hazardous circulation conditions are created as a result of implementation of the Plan. Therefore, the proposed Specific Plan's cumulative contribution would be considered ***less than significant***.

Conclusion

As described in Section 3.14, Transportation and Circulation, development associated with the proposed Plan would increase the amount of multimodal transportation activity which would require the improvement and expansion of the local transportation network in the Plan Area to serve the associated travel demand; however, as discussed in Impact 3.14-2, the VMT per capita and VMT per employee in the Specific Plan Area are lower than existing conditions due to the proposed land use mix within the Specific Plan Area. The retail and employment opportunities keep the VMT

per capita lower than the County average while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today. The proposed Specific Plan, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Fresno County), would not be expected to cause any significant cumulative impacts given the proposed Specific Plan would result in a lower contribution to overall transportation network than if the Plan Area was developed with the existing General Plan land use designations. As a result, this is considered ***less than cumulatively considerable*** impact.

UTILITIES

The cumulative setting for the various utilities (wastewater, water, stormwater and solid waste) are described below.

Impact 4.15: Specific Plan implementation may contribute to cumulative impacts on utilities. (Less than Cumulatively Considerable)

Under the proposed Specific Plan buildout conditions, the City of Fresno would see an increased demand for wastewater service, water service, solid waste disposal services, and stormwater infrastructure needs.

Wastewater

The study area for cumulative impacts regarding wastewater is the City of Fresno General Plan Planning Area and the City of Clovis because the City of Fresno acts as the Regional Sewering Agency and is responsible for operating the Fresno/Clovis Regional Wastewater Reclamation Facility. The City of Fresno owns and operates two wastewater treatment facilities that serve the Fresno metropolitan area: the Fresno/Clovis Regional Wastewater Reclamation Facility (Regional Facility) and the North Fresno Wastewater Reclamation Facility (NFWRF).

The City's wastewater collection system comprises over 1,600 miles of gravity sewer pipes, 24,100 maintenance holes, and 15 sewer pump stations with 11.5 miles of force mains (force mains are pressurized pipelines associated with the pump stations). Generally, the collection system flows from northeast to southwest across the entire City. In the Plan Area, wastewater generally flows from the north to the south. Clovis has four connections to the City's collection system. Each of these connections have flow meters that measure the flow from the Clovis sewer system into the City's sewer system. The Plan Area is currently served by over 86 miles of sewer pipelines, and Pump Station Number 15.

As discussed in Section 15.1, Wastewater Service, buildout of the Specific Plan does not trigger a need to expand the Regional Facility. Given the capacity of 92 MGD, the average annual flow of approximately 56 MGD, and the 11.5 MGD generated by the buildout of the Specific Plan Area (including existing demand and future demand), there is sufficient plant capacity. Additionally, the Specific Plan wastewater collection system will include future construction of sewer improvements and replacements of existing lines, some of which are now over 75 years old. Therefore, the proposed Specific Plan's cumulative contribution to wastewater service is ***less than significant.***

Water

The study area for cumulative impacts regarding water supply is the City of Fresno General Plan Planning Area and the groundwater basins from which the Plan Area derives water. The existing incorporated area of the City of Fresno encompasses approximately 115 square miles (2020 UWMP). The City's General Plan includes the City's the area outside of the City limits that the City expects to annex and urbanize in the future, also known as the SOI. With a few exceptions, the City's water service area is coterminous with the City limits. As future developments within the SOI, but outside the City limits, are approved, they will be annexed into the City and served by the City water system.

The City's water system consists of about 1,860 miles of distribution and transmission mains, 260 municipal groundwater wells, three surface water treatment facilities (SWTFs) with current rated capacities ranging from 4 to 54 MGD, five water storage facilities with pump stations, including one at each of the SWTFs plus two in the distribution system, and three booster pump facilities. As of the close of the 2020 calendar year, the City has over 139,500 residential, commercial, industrial, and institutional water service connections and produced nearly 122,000 AF of water.

The provision of public services and the construction of onsite and offsite infrastructure improvements will be required to accommodate future development consistent with the Specific Plan land use map. The Specific Plan would likely require extension of offsite water infrastructure to the undeveloped and underdeveloped portions of the Plan Area for water service. All offsite water piping improvements would be in or adjacent to existing roadways, thereby limiting new environmental impacts. Additionally, future development in the Plan Area would be required to pay the applicable water system connection fees and pay the applicable water usage rates. As discussed in Impact 3.15-3, the proposed Specific Plan would not require construction of new water treatment facilities or expansion of existing facilities, resulting in a significant environmental impact. The water infrastructure would be sized to meet the demand of future projects within the Plan Area.

Table 3.15-7 summarizes the projected availability of the City's existing and planned future potable water supplies and the City's projected water demands in normal, single dry and multiple dry years through 2045. The WSA completed for the Specific Plan demonstrates that the City's existing and additional potable water supplies are sufficient to meet the City's existing and projected future potable water demands, including those future water demands associated with the Specific Plan, to the year 2045, under all hydrologic conditions. Additionally, the City's preliminary water demand projections for the proposed Plan Area analyzed under the General Plan were higher than the water demand projections for the Specific Plan; thus, the General Plan assumed greater water demand than what would occur with implementation of the Specific Plan. Therefore, the proposed Specific Plan's cumulative contribution to water service is ***less than significant***.

Stormwater

The study area for cumulative impacts regarding storm water drainage is the Fresno-Clovis Metropolitan Area because the FMFCD includes an area of approximately 400 square miles and covers almost the entire portion of the Fresno-Clovis Metropolitan Area. The specific impacts of

providing new and expanded stormwater drainage facilities cannot be determined at this time, as the Specific Plan does not propose development nor does it designate specific sites for new or expanded public facilities. Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects.

Installation of storm drainage infrastructure would occur during the construction phases of individual future projects within the Plan Area. There is significant storm drainage infrastructure remaining to be constructed to serve the Plan Area. About 32 miles of additional drainage pipelines is anticipated to be constructed to meet buildout needs. As future development and infrastructure projects within the Specific Plan Area are considered by the City, each project will be evaluated for conformance with the Specific Plan, General Plan, Municipal Code, and other applicable regulations. The proposed Specific Plan's cumulative contribution to the stormwater and flood control system would be ***less than significant*** upon compliance with regulatory requirements and proposed policies for full implementation of the proposed Plan.

Solid Waste

Shortage of waste disposal capacity can have significant impacts on adjacent areas. If refuse is exported to adjacent areas with existing spare capacity, significant impacts due to increased travel distances can result in additional transportation related impacts.

As described under Impact 3.15-6, the addition of solid waste associated with future buildout of the Specific Plan Area, would result in greater solid waste needing to be disposed of at the American Avenue Landfill and the Clovis Landfill. However, this increase would not cause an exceedance of the landfill's remaining capacity. In addition, AB 939 mandates the reduction of solid waste disposal in landfills. The City is currently achieving a 71 percent diversion rate based on 2009 data, which is anticipated to increase due to the Fresno City Council adopted resolution committing the City to a Zero Waste goal by 2025. Therefore, the proposed Specific Plan's cumulative contribution to solid waste is ***less than significant*.**

Conclusion

As described above, the proposed Specific Plan, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Fresno County), would not be expected to cause any significant cumulative impacts. The City has adequate landfill capacity to accept the solid waste and wastewater service capacity to treat wastewater flows generated from buildout of the Specific Plan. Additionally, the Water Supply Assessment completed for the proposed Plan Area shows that adequate water supplies exist to serve Specific Plan buildout. As a result, this is considered ***less than cumulatively considerable*** impact.

4.2 GROWTH-INDUCING EFFECTS

INTRODUCTION

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action, directing:

> *Discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand *(Napa Citizens for Honest Government v. Napa County Board of Supervisors)*. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that

allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The Specific Plan would result in the construction of additional housing and employment opportunities within the City of Fresno. As discussed in Section 3.12, Population and Housing, at full buildout, the proposed Specific Plan would accommodate approximately 54,953 dwelling units (including 47,072 dwelling units in the residential category, 7,814 dwelling units in the mixed use category, and 67 dwelling units in the commercial category) and approximately 60,621,006.31 square feet of non-residential uses. This new growth would increase the city's population by approximately 163,211 residents. According to the General Plan, it is estimated that there would be 0.45 jobs per new resident; therefore, buildout of the proposed Specific Plan may increase the employment opportunities in Fresno by approximately 73,445 jobs. The Specific Plan would foster economic and population growth through the construction of additional housing and employment opportunities for a variety of income levels.

The Specific Plan currently includes primarily farmland and rural residential uses in the western area of the Plan Area. As discussed in Chapter 2.0, Project Description, residential, mixed use commercial, commercial, employment, neighborhood park, community park, schools, and open space and public facility uses would be developed in the Specific Plan Area. Buildout of the Specific Plan would require the extension of off-site and on-site roadway, potable water, wastewater, and storm drainage infrastructure to the undeveloped and underdeveloped portions of the Plan Area, which would result in the elimination of growth obstacles to serve future developments. However, as noted in Section 3.15, Utilities, wastewater generated by the proposed Specific Plan could be accommodated by the existing wastewater treatment facilities. Additionally, the City has adequate water supply to meet the water demand from buildout of the Specific Plan and the landfill that would serve the Specific Plan has adequate capacity to manage the solid waste generated as a result of the Specific Plan. Furthermore, mitigation measures set forth in Section 3.9, Hydrology and Water Quality, as well as conformance with the Specific Plan, General Plan, Municipal Code, and other applicable regulations, would ensure that buildout of the Specific Plan would not generate or contribute runoff water that would exceed the capacity of the FMFCD's stormwater drainage system.

Increases in population that would occur as a result of a proposed project may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental impacts. As discussed in Section 3.13, Public Services and Recreation, of this EIR, increased demands for fire and police protection services attributable to the proposed project would not necessitate the construction of new facilities that could cause significant environmental impacts. The future buildout of the Specific Plan is expected to generate approximately 20,319 additional students for the CUSD. Even though the project applicant will pay applicable school fees mandated by SB 50, the proposed land use map includes an additional 10.0 acres of Elementary School land uses from what is shown in the existing Fresno General Plan land use map to support the additional students generated by development of the Specific Plan. Therefore, this future school, if constructed, would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR. In addition, the proposed land use

map includes two land use designations that could be developed with other public facilities: Public Facilities – Public Facilities, and Public Facilities – Church. Future buildout of the Specific Plan may include construction of a 55.8-acre church site and 27.42 acres of other public facility uses in the Plan Area, which has the potential to cause substantial adverse physical environmental impacts. Therefore, impacts related to constructing a school facility and other public facilities to serve the Plan Area are considered significant.

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Fresno during the planning period of the General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed Specific Plan, new roads, utility infrastructure, and public services would be necessary to serve the development and this infrastructure would accommodate planned growth. Based on the growth projected to occur in the City's General Plan Planning Area, the proposed Specific Plan would not induce a substantial amount of growth that has not been adequately planned. Although the number of new residents generated under the proposed Specific Plan would exceed the number analyzed under the General Plan MEIR under the Dual Designation Scenario, cumulative growth would be consistent with regional planning targets. Thus, when considered along with the proposed Plan, cumulative growth would not displace substantial numbers of people or housing or exceed planned levels of growth.

Further, growth within the Specific Plan Area has been anticipated by the City. The land within the West Area Neighborhoods Specific Plan has been planned for urban development within the Fresno General Plan, and the proposed Specific Plan would serve as a bridge between the Fresno General Plan and individual development applications in the Plan Area. The proposed Specific Plan seeks to provide for the orderly and consistent development that promotes and establishes complete neighborhoods within the West Area with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The Specific Plan's land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. This proposed land use mix within the Specific Plan assists in reducing a number of environmental impacts. For example, the VMT per capita and VMT per employee in the Specific Plan Area during the horizon year is less than the VMT per capita and VMT per employee for existing conditions in Fresno County. In addition, the City's preliminary water demand projections for the proposed Plan Area under the General Plan were higher than for the Specific Plan, resulting in less water demand associated with the Specific Plan land use map when compared to build out of the General Plan. Further, the Plan Area includes future development of a portion of the City's SOI; however, the Plan does not include extension of roadways or utility

infrastructure beyond the Plan Area boundary and would not induce growth beyond the limits of the SOI.

In short, while the proposed Specific Plan's increase in population growth would be slightly larger than what was assumed under the General Plan MEIR, the overall growth would not exceed regional growth projections. Thus, while the project would foster population and economic growth, such growth would be similar to what has been previously anticipated for the project region, and a less than-significant impact related to growth inducement would occur.

4.3 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), requires that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the Specific Plan would result in the conversion of approximately 7,077 acres of land currently used primarily for rural residential and open/space agricultural uses into residential, mixed use commercial, commercial, employment, neighborhood park, community park, schools, and open space and public facility uses. Development of the Specific Plan would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its original condition as agricultural land.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued maintenance. Construction of the Specific Plan would require the commitment of a variety of other non-renewable or slowly renewable natural

resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the Specific Plan. The introduction of new residential, commercial, employment/light industrial, and other uses to the site will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the Specific Plan would increase consumption of available supplies, including natural gas, gasoline and diesel. These energy resource demands relate to initial project construction, project operation and site maintenance and the transport of people and goods to and from the Plan Area.

Additionally, the proposed project is in part a response to a market need for housing. California is in the midst of a housing crisis, and the proposed project is consistent with California's legislative findings about the current housing crisis. (See Gov. Code, § 65589.5[a][1][A] ["California has a housing supply and affordability crisis of historic proportions. The consequences of failing to effectively and aggressively confront this crisis are hurting millions of Californians, robbing future generations of the chance to call California home, stifling economic opportunities for workers and businesses, worsening poverty and homelessness, and undermining the State's environmental and climate objectives."].) Future development of the proposed land use map could result in up to 54,953 DU at various densities and locations throughout the Plan Area. Buildout of the Plan Area would significantly increase and diversify the City's available housing supply. Therefore, development of the Specific Plan would result in furtherance of the City's Housing Element, and would assist the City in meeting the current and future housing need.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed project are discussed in Chapters 3.1 through 3.15 and previously in this chapter (cumulative-level). The following environmental topics were found to have one or more impacts that were found to be significant and unavoidable: Aesthetics, Agricultural Resources, Air Quality, Public Services and Recreation, and Utilities. Those topics are summarized below:

- **Impact 3.1-3:** Specific Plan implementation would result in substantial adverse effects or degradation of visual character or quality of the site and its surroundings.
- **Impact 3.2-1:** Specific Plan implementation would convert Important Farmlands to non-agricultural land uses.
- **Impact 3.2-2:** Specific Plan implementation would conflict with existing zoning for agricultural use, or a Williamson Act Contract.
- **Impact 3.3-1:** Specific Plan implementation would conflict with or obstruct implementation of the applicable air quality plan.
- **Impact 3.3-2:** Specific Plan implementation during project construction would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively

considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.

- **Impact 3.3-3:** Specific Plan implementation during project operation would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.
- **Impact 3.13-3:** The proposed Specific Plan may result in, or have the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts.
- **Impact 3.13-4:** The proposed Specific Plan may result in, or have the potential to require the construction of park facilities which may cause substantial adverse physical environmental impacts.
- **Impact 3.13-5:** The proposed Specific Plan may result in, or have the potential to require the construction of other public facilities which may cause substantial adverse physical environmental impacts.
- **Impact 3.15-1:** The proposed Specific Plan would require or result in the relocation or construction of new or expanded wastewater facilities, the construction of which could cause significant environmental effects.
- **Impact 3.15-3:** The proposed Specific Plan would require or result in construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.
- **Impact 3.15-5:** The proposed Specific Plan would require or result in the construction of new or expanded stormwater drainage facilities, the construction of which could cause significant environmental effects.
- **Impact 4.1:** Specific Plan implementation may contribute to the cumulative degradation of the existing visual character of the region.
- **Impact 4.2:** Specific Plan implementation may contribute to the cumulative impact on agricultural land and uses.
- **Impact 4.3:** Specific Plan implementation would contribute to cumulative impacts on the region's air quality
- **Impact 4.13:** Specific Plan implementation may contribute to cumulative impacts on public services.

5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must "set forth only those alternatives necessary to permit a reasoned choice." (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a "range of reasonable alternatives" and, thus limit the number and type of alternatives that need to be evaluated in an EIR. An EIR need not include any action alternatives inconsistent with the lead agency's fundamental underlying purpose in proposing a project. (In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1166.)

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, "feasible" is defined as:

> *… capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.* (CEQA Guidelines 15364)

The inclusion of an alternative in an EIR is not evidence that it is feasible as a matter of law, but rather reflects the judgment of lead agency staff that the alternative is potentially feasible. The final determination of feasibility will be made by the lead agency decision-making body through the adoption of CEQA Findings at the time of action on the Project. (Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal.App.4th 477, 489 see also CEQA Guidelines, §§ 15091(a)) (3) (findings requirement, where alternatives can be rejected as infeasible); 15126.6 ([an EIR] must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation").) The following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (Section 15126.6 (f) (1)).

Equally important to attaining the project objectives is the reduction of some or all significant impacts, particularly those that could not be mitigated to a less-than-significant level. The following significant and unavoidable impacts of the proposed project are discussed in Chapters 3.1 through 3.15 and in Chapter 4.0 (cumulative-level). The following environmental topics were found to have one or more impacts that were found to be significant and unavoidable: Aesthetics,

Agricultural Resources, Air Quality, Public Services and Recreation, and Utilities. Those topics are summarized below:

- **Impact 3.1-3:** Specific Plan implementation would result in substantial adverse effects or degradation of visual character or quality of the site and its surroundings.
- **Impact 3.2-1:** Specific Plan implementation would convert Important Farmlands to non-agricultural land uses.
- **Impact 3.2-2:** Specific Plan implementation would conflict with existing zoning for agricultural use, or a Williamson Act Contract.
- **Impact 3.3-1:** Specific Plan implementation would conflict with or obstruct implementation of the applicable air quality plan.
- **Impact 3.3-2:** Specific Plan implementation during project construction would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.
- **Impact 3.3-3:** Specific Plan implementation during project operation would expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.
- **Impact 3.13-3:** The proposed Specific Plan may result in, or have the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts.
- **Impact 3.13-4:** The proposed Specific Plan may result in, or have the potential to require the construction of park facilities which may cause substantial adverse physical environmental impacts.
- **Impact 3.13-5:** The proposed Specific Plan may result in, or have the potential to require the construction of other public facilities which may cause substantial adverse physical environmental impacts.
- **Impact 3.15-1:** The proposed Specific Plan would require or result in the relocation or construction of new or expanded wastewater facilities, the construction of which could cause significant environmental effects.
- **Impact 3.15-3:** The proposed Specific Plan would require or result in construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.
- **Impact 3.15-5:** The proposed Specific Plan would require or result in the construction of new or expanded stormwater drainage facilities, the construction of which could cause significant environmental effects.
- **Impact 4.1:** Specific Plan implementation may contribute to the cumulative degradation of the existing visual character of the region.
- **Impact 4.2:** Specific Plan implementation may contribute to the cumulative impact on agricultural land and uses.
- **Impact 4.3:** Specific Plan implementation would contribute to cumulative impacts on the region's air quality

- **Impact 4.13:** Specific Plan implementation may contribute to cumulative impacts on public services.

PROJECT OBJECTIVES

The objectives of the proposed project include future development of land for a wide variety of land uses including: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Medium High Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, Recreation Commercial, General Commercial, Regional Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Pocket Park, Neighborhood Park, Community Park, Open Space, Ponding Basin, Public Facility, Church, Special School, Elementary School, Elementary, Middle & High School, High School, and Fire Station uses, as well as the required transportation and utility improvements.

Quantifiable Objective

The quantifiable objective of the proposed project includes the future development of up to 54,953 dwelling units (DU) (including 67 DU in the commercial category, 47,072 DU in the residential category and 7,814 DU in the mixed use category) and 60,621,006 square feet (SF) of non-residential uses.

Specific Plan Guiding Principles

The West Area Neighborhoods Specific Plan's ("Specific Plan") guiding principles are designed to form the direction of the Specific Plan, and how the Plan can best benefit the future of the Plan Area. The guiding principles incorporate input received from community members and formal recommendations of the Steering Committee. The guiding principles of the Specific Plan are summarized as follows:

TRANSPORTATION

- Accommodate and improve roadway access, connectivity and mobility among all modes of transportation, and prioritize roadway widening where bottlenecking exists.
- Accommodate planned transit services in the Plan Area by locating routes near or adjacent to the community centers, schools, parks, and retail centers.
- Provide a complete, safe, and well-maintained sidewalk network from residential neighborhoods to commercial centers, schools, parks, and community centers.
- Provide a complete, safe, and well-maintained roadway network that allows for efficient and smooth access from the Plan Area to other sections of the City and region.

PARKS AND TRAILS

- Create parks that are within existing and planned neighborhoods that are easily accessed by community members using pedestrian and bicycle pathways, transit services, or motor vehicles, consistent with the City of Fresno's Parks Master Plan.

- Provide for the location of a flagship Regional Park in the Plan Area that has components of the Plan Area's agricultural history through the planting of drought-resistant vegetation or trees, and the creation of public art that exhibits the Plan Area's contribution to the agricultural industry.

AGRICULTURE

- Incorporate elements of agriculture in future parks by planting a mixture of native drought tolerant vegetation, shrubs, and trees that can serve to provide shade and enhance the streetscape.
- Encourage and provide land use opportunities for agri-tourism ventures to occur in the Plan Area.
- Encourage the development of harvest – producing community gardens.

RETAIL

- Attract desired and needed local retail establishments to serve the needs of the Plan Area community. Such establishments include grocery stores, bakeries, restaurants other than fast food places, and boutiques.
- Discourage the expansion of undesirable retail establishments such as liquor stores, tobacco and vapor stores, short-term loan and pawn shops, and adult stores.
- Encourage the development of retail establishments along commercial corridors.
- Encourage the orderly and consistent development of civic, parkland, retail and commercial, mixed-use, and multi-family uses along West Shaw Avenue, West Ashlan Avenue, Veterans Boulevard, West Shields Avenue, West Clinton Avenue, and Blythe Avenue.

HOUSING

- Encourage a variety of housing types and styles.
- Encourage the development of housing to accommodate an aging population including, multi-generational houses and other elder housing options.
- Reaffirm the City's commitment and obligation to affirmatively furthering access to fair and affordable housing opportunities by strongly encouraging equitable and fair housing opportunities to be located in strategic proximity to employment, recreational facilities, schools, neighborhood commercial areas, and transportation routes.

EDUCATION

- Attract much needed educational opportunities for the residents of the Plan Area, especially for post-secondary education, and access to programs for life-long learners.

PUBLIC SAFETY

- Provide for safe routes to schools for children, with the City and County working together with residents, to provide sidewalks in neighborhoods that have sporadic access.

- Work to promote Neighborhood Watch in all neighborhoods, and further assess the need for the location of emergency response facilities west of State Route 99.

These Specific Plan guiding principles functionally represent project objectives as required by CEQA Guidelines section 15124, subdivision (b).

5.2 ALTERNATIVES CONSIDERED BUT DISMISSED

One alternative, the Additional Annexation Alternative, was considered as an alternative to the proposed Specific Plan. Under the Additional Annexation Alternative, the land uses within the Plan Area would be changed as described in Chapter 2.0, Project Description, but the area utilized for the development (i.e., the project footprint) would be increased to include the approximately 160-acre area adjacent to the southwestern corner of the Plan Area. The 160-acre area is bound by Shields Avenue on the north, Grantland Avenue on the east, Clinton Avenue on the south, and Garfield Avenue on the west. This area was recommended to be included in the Sphere of Influence expansion by the Steering Committee. Under this alternative, the approximately 160-acre area would be designated Elementary School (12 acres), Low Density (48 acres), Medium Low Density (90 acres) and Community (10 acres) by the proposed City land use map.[1] This additional annexation area would allow for additional development within the Plan Area. The additional annexation area could accommodate an additional 708 residential units (including 168 Low Density units and 540 Medium Low Density units) and an additional 435,600 SF of commercial uses. When compared to the Specific Plan, this Alternative would have equal impact on Aesthetic and Visual Resources and Land Use, but would have greater impact or an increased potential for greater impact under all other environmental categories.

Figure 5.0-1 illustrates the Additional Annexation Alternative.

Expansion of the SOI is not permitted per General Plan Policy LU-1-g. The Additional Annexation Alternative would be inconsistent with this General Plan Policy. As such, the Additional Annexation Alternative would not be a feasible alternative to the Specific Plan.

5.3 ALTERNATIVES CONSIDERED IN THIS EIR

Four alternatives to the proposed project were developed based on input from City staff, the public during the NOP review period, and technical analyses performed to identify the environmental effects of the proposed project. The alternatives analyzed in this EIR include the following four alternatives in addition to the proposed Specific Plan that is described in Chapter 2.0, Project Description.

- No Project (Existing General Plan) Alternative;
- Regional Park Alternative;
- Lower Density Alternative.

[1] Note: The land use designations for this additional annexation area total 150 acres. The additional approximately 10 acres includes existing and/or planned roadway right-of-way.

NO PROJECT (EXISTING GENERAL PLAN) ALTERNATIVE

The CEQA Guidelines (Section 15126.6[e]) require consideration of a no project alternative that represents the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved. For purposes of this analysis, the No Project (Existing General Plan) Alternative assumes that future development of the Plan Area would occur as allowed under the existing General Plan. It is noted that the No Project (Existing General Plan) Alternative would fail to meet the project objectives identified for the Specific Plan.

Figure 5.0-2 illustrates the No Project (Existing General Plan) Alternative.

REGIONAL PARK ALTERNATIVE

Under the Regional Park Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map. However, this alternative would provide a 74.2-acre Regional Park within the Plan Area. This flagship Regional Park would include components of the Plan Area's agricultural history through the planting of drought-resistant vegetation and trees, and would include public art that exhibits the Plan Area's contribution to the agricultural industry. The Regional Park would be provided generally south of W. Barstow Avenue, north of W. Shaw Avenue, and west of N. Grantland Avenue. The park area would be designated by the City for dual land uses. The underlying designation would be the same as the land use proposed by the Specific Plan (i.e., Neighborhood Mixed Use and Park [Community/Neighborhood]), and the overlying designation would be Park.

Figure 5.0-3 illustrates the Regional Park Alternative.

LOWER DENSITY ALTERNATIVE

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. Additionally, this alternative would focus the medium and higher density residential uses and commercial uses at available sites on major street corridors. A mixed use town center would be provided along Shaw Avenue.

Figure 5.0-4 illustrates the Lower Density Alternative.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations to help the City formulate a reasonable range of alternatives to the proposed project for inclusion in this Draft EIR. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific

alternatives were recommended by commenting agencies or the general public during the NOP public review process.

CEQA Guidelines section 15126.6(f)(2) describes conditions under which consideration of alternative project location is appropriate. The key question to be considered is whether or not any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location and whether the proposed project, placed at an alternative location, is environmentally superior to the proposed project. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in an EIR.

The City of Fresno considered alternative locations early in the Draft EIR preparation process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the project would be avoided or substantially lessened?
- Is there a site available within the City's Sphere of Influence with the appropriate size and characteristics such that it would meet the basic project objectives?

The City's consideration of alternative locations for the project included a review of previous land use planning and environmental documents in Fresno, including the General Plan. The City found that there are no potential alternative locations that exist within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic project objectives.

5.4 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

NO PROJECT (EXISTING GENERAL PLAN) ALTERNATIVE

This alternative assumes that future development of the Plan Area would occur as allowed under the existing General Plan. It is noted that the No Project (Existing General Plan) Alternative would fail to meet the project objectives identified for the Specific Plan.

Aesthetics and Visual Resources

Under the No Project (Existing General Plan) Alternative, the Specific Plan Area would be designated with the same land use designations and circulation facilities as described in the Fresno General Plan. The No Project (Existing General Plan) Alternative would result in the eventual conversion of the undeveloped land from agricultural uses, which would contribute to changes in the regional landscape and visual character of the area. Under this alternative, the existing uses would remain. Similar to the proposed Specific Plan, future development within the Plan Area under the No Project (Existing General Plan) Alternative would be subject to the requirements of the General Plan and the Fresno Municipal Code, which includes design standards

in order to ensure quality and cohesive design of the Specific Plan Area. Compliance with the City's development review process and consistency with the General Plan and the Fresno Zoning Ordinance would ensure that impacts are reduced to the greatest extent possible. This alternative would equally impact the visual and aesthetic character of the site area compared to the proposed Specific Plan. Overall, this alternative would have equal impacts to aesthetics when compared to the proposed Specific Plan. The significant and unavoidable impact related to degradation of visual character or quality of the site and its surrounding would still occur under this alternative.

Agricultural Resources

The City's existing General Plan land use map would allow fewer housing units and less non-residential SF than the proposed Specific Plan. Because the same site and site area as the proposed Specific Plan would be developed under this alternative, impacts related to Williamson Act contracts, land use conflicts, and conversion of farmland to urban uses would be identical to the proposed Specific Plan. Therefore, this alternative would have equal impacts to agricultural resources as the proposed Specific Plan. The significant and unavoidable impact related to agricultural resources would still occur under this alternative.

Air Quality

As described in Section 3.3, Air Quality, implementation of the proposed Specific Plan would generate emissions during both the construction phase and the operational phase. Construction related impacts would be similar under this alternative when compared to the proposed Specific Plan, as the area of ground disturbance would be comparable, and the duration of construction would be comparable. However, under this alternative, mobile source emissions would slightly increase. Mobile source (largely from vehicles) emissions are directly related to the number of vehicle trips generated by a project. Buildout under this alternative would facilitate up to 67,205 new residential units. Based on the City's General Plan Housing Element estimate of approximately 2.97 persons per dwelling unit, this alternative could result in up to approximately 199,598 new residents, while buildout under the proposed Specific Plan would allow for 54,953 new residential units, resulting in approximately 163,211 new residents. Therefore, under this alternative, more residential development would be allowed, resulting in a greater increase in the number of residents, which would generate greater daily vehicle trips when compared to the proposed Specific Plan, resulting in increased levels of pollutants from mobile sources. Therefore, this alternative would have increased impacts related to air quality when compared to the proposed Specific Plan. The significant and unavoidable impact related to air quality would still occur under this alternative.

Biological Resources

Potential impacts to biological resources are primarily related to the area proposed for disturbance and less on the type of urban uses that would occur on the Plan Area. Under the No Project (Existing General Plan) Alternative, the Specific Plan Area would be designated with the same land use designations and circulation facilities as described in the Fresno General Plan. The No Project (Existing General Plan) Alternative would result in the eventual conversion of the undeveloped land from agricultural uses to urban uses, which would eliminate any movement

habitat through the Specific Plan Area and any upland habitat adjacent to the movement corridors. Because the same site and site area as the proposed Specific Plan would be developed under this alternative, impacts related to biological resources would remain unchanged when compared to the proposed Specific Plan.

Cultural and Tribal Resources

According to the *Cultural and Paleontological Resource Assessment,* a total of 82 cultural resources have been previously recorded within the Plan Area. Of these cultural resources, four are historic archaeological sites and 78 are historic built environment resources. Additionally, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of the mitigation measures incorporated into this EIR would reduce impacts associated with unknown cultural resources where they to be found.

Under the No Project (Existing General Plan) Alternative, the Specific Plan Area would be designated with the same land use designations and circulation facilities as described in the Fresno General Plan. The No Project (Existing General Plan) Alternative would result in the eventual conversion of the undeveloped land from agricultural uses to urban uses. Because the same sites and site area as the proposed Specific Plan would be eventually disturbed by future development under this alternative, impacts related to cultural and tribal resources would remain unchanged when compared to the proposed Specific Plan.

Geology, Soils and Seismicity

The land use map for this alternative would allow more housing units and more population growth than the proposed Specific Plan. The future buildings and structures allowed under this alternative would be exposed to the same level of risk from geologic hazards as the proposed Specific Plan. However, as discussed further below, the number of residents and employees resulting from this alternative may increase compared to the proposed Specific Plan. Because more people may be located in the Specific Plan Area under the No Project (Existing General Plan) Alternative, more people would be exposed to the risks from geologic hazards as compared to the proposed Specific Plan. Therefore, this impact would be slightly increased under this alternative when compared to the proposed Specific Plan.

Greenhouse Gases, Climate Change and Energy

Implementation of the proposed Specific Plan would generate GHG emissions during construction and operation. Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of a project. As described in Section 3.7, Greenhouse Gas Emissions, Climate Change and Energy, the proposed General Plan would result in less than significant impacts to Greenhouse Gases, Climate Change and Energy. The proposed Specific Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Additionally, the proposed Specific Plan would be consistent with the current version of the City's GHG Reduction Plan, which is considered a "Qualified Plan," according to CEQA Guidelines §15183.5,

thereby allowing for streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

Under the No Project (Existing General Plan) Alternative, the Plan Area would be developed with the same land use designations and circulation facilities as described in the Fresno General Plan. As described previously, buildout under this alternative would facilitate up to 67,205 new residential units. Based on the City's General Plan Housing Element estimate of approximately 2.97 persons per dwelling unit, this alternative could result in up to approximately 199,598 new residents, while buildout under the proposed Specific Plan would allow for 54,953 new residential units, resulting in approximately 163,211 new residents.

As explained in Section 3.14 (Transportation and Circulation), implementation of the proposed Specific Plan would result in VMT per capita and VMT per employee during the horizon year that is less than the VMT per capita and VMT per employee of existing conditions in Fresno County. The decreased VMT under the proposed Specific Plan is the result of the proposed land use mix within the Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today.

Under this alternative, the amount of non-residential SF would decrease compared to the proposed Specific Plan, while the amount of residential dwelling units would increase. Residential densities would be reduced and the land use map under the existing General Plan would not provide the same opportunity for employees to live close to jobs; therefore, because there would be more residents with fewer employment-centered uses under this alternative, VMT would increase compared to the project. As such, the overall land use mix under this alternative would generally be seen to increase per capita GHG emission levels. Therefore, impacts would be increased under this alternative when compared to the proposed Specific Plan.

Hazards and Hazardous Materials

Large portions of the Plan Area are improved with existing residential, public facilities, commercial, mixed use, undeveloped rural land, and agricultural uses. These uses are spread throughout the entire Plan Area. Agricultural uses are primarily located in the western portion of the Plan Area. The developed uses are aggregated in the central and eastern portions of the Plan Area.

Due to the long-term use of land for agricultural purposes, properties within the Plan Area may have residual soil (and potentially groundwater) contamination that may require remediation. Also, potentially hazardous building materials (e.g., asbestos containing materials, lead-based paint, etc.) could be encountered during demolition of existing structures to accommodate new development. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources.

Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice.

Residual concentrations of pesticides may be present in soil as a result of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides in farm soils. Of highest concern relative to agrichemicals are chemicals such as chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE). Other chemicals may also be present due to other built-up uses. As described in the Environmental Setting section of Section 3.8, Hazards and Hazardous Materials, there is a historical record of soil contamination at the Proposed Constance-Sierra Elementary School site, the Westlake Proposed 430 Acre Development, and the West Shields Elementary School site, each of which are at differing levels of cleanup status. Therefore, there is the potential for other sites to have experienced contamination or have a history of hazardous materials being used as part of previous or current operations.

The No Project (Existing General Plan) Alternative is similar to the proposed Specific Plan in that both the Specific Plan and this alternative would result in future development of the entire Specific Plan Area with residential, commercial, mixed-use, and public uses. Because the land area to be developed would not change in comparison to the proposed Specific Plan, the potential for exposure to hazardous materials, or a release of hazardous materials would be similar with this Alternative. Similar to the proposed Specific Plan, new development would introduce new sensitive receptors into an area that contains land that has historically utilized chemicals for agricultural production. Any negative health effects associated with the residuals of these chemicals would be alleviated through compliance with state and federal regulations that require remediation when above certain thresholds. There would be a long-term potential for hazards associated with use and generation of household and commercial hazardous wastes, although compliance with state and federal regulations would be required. The No Project (Existing General Plan) Alternative would result in equal potential for such impacts.

Hydrology and Water Quality

Implementation of the Specific Plan has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the Specific Plan could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Additionally, the proposed Specific Plan would result in new impervious surfaces that could reduce rainwater infiltration and groundwater recharge. Mitigation measures incorporated into the project would reduce potential water quality impacts to a less than significant level. The Specific Plan would not place persons or structures in a flood hazard zone.

Under the No Project (Existing General Plan) Alternative, future development allowed under the City's existing General Plan would result in a similar amount of land covered with impervious surfaces compared to the proposed Specific Plan. Similar to the proposed Specific Plan,

stormwater would flow into the City's stormwater system via a network of drains, pipes, and detention basins. Future development projects allowed under the No Project (Existing General Plan) Alternative would be required to develop permanent storm water control measures and incorporate these measures into the alternative in order to mitigate the impacts of pollutants in storm water runoff from the alternative. Because the alternative would be required to implement improvements in order to manage and treat stormwater flows from the site, impacts related to water quality would be similar.

As described in Section 3.9, Hydrology and Water Quality, when the proposed Specific Plan is eventually developed, the on-site impervious area would increase, leading to faster runoff rates. The No Project (Existing General Plan) Alternative would provide a similar amount of impervious surface on-site as compared to the proposed Specific Plan, which would also result in similar impacts related to rainfall infiltration and runoff during storm events as compared to the proposed Specific Plan.

As described in Section 3.9, Hydrology and Water Quality, Specific Plan implementation has the potential to result in the discharge of pollutants into detention basins and storm drains, and would change the existing drainage pattern on the site, although these impacts are less than significant as a result of compliance with local, state, and federal regulations, as well as compliance with Specific Plan policies. Under the No Project (Existing General Plan) Alternative, these impacts would be similar and development of this Alternative would be required to comply with the regulatory requirements and General Plan policies to reduce potential impacts, similar to the Specific Plan. Therefore, impacts related to hydrology and water quality would be similar under the No Project (Existing General Plan) Alternative when compared to the proposed Specific Plan.

Land Use

Unlike the proposed Specific Plan, the No Project (Existing General Plan) Alternative would not require a change of the Specific Plan Area's General Plan Land Use designations. This alternative would be consistent with the General Plan, including the goals, policies, and standards, and with the Zoning Code. The analysis in Section 3.10, Land Use, concluded that the proposed Specific Plan would not result in any significant land use impacts. The No Project (Existing General Plan) Alternative would allow more housing units and more population growth than the proposed Specific Plan. It is noted that this this alternative would not be consistent with General Plan Policy UF-13-a, which requires future planning, such as Specific Plans, neighborhood plans or Concept Plans, for Development Areas and BRT Corridors by the General Plan. The proposed Specific Plan Area is located in the West Area; therefore, the proposed Specific Plan will serve as an implementation tool to support the General Plans goals and objectives as well as a vital instrument for much needed comprehensive planning, to improve area-wide connectivity, housing opportunities, recreation, services and infrastructure improvements. For these reasons, this alternative would have slightly greater impacts related to land use as compared to the proposed Specific Plan.

Noise

As discussed in Section 3.11, Noise, the primary sources of noise associated with implementation of the proposed Specific Plan are from increased vehicle trips on study area roadways in the project vicinity from on-site uses, and increased noise from future operation within the Specific Plan Area. Some existing noise-sensitive receptors located near the Plan Area are currently exposed to exterior traffic noise levels exceeding the 65 dB L_{dn} exterior noise level standard for residential uses. In some locations, the noise levels are predicted to increase to levels that would trigger a new exceedance of the 65 dB L_{dn} exterior noise level standard, or exceed the FICON allowable increase criteria.

Under this alternative, noise associated with vehicle trips is expected to slightly increase due to the increase in population, while other on-site noise sources would likely be comparable to those generated by the proposed Specific Plan. When compared to the proposed Specific Plan, this alternative would result in an increase in the number of housing units by approximately 12,252 units, resulting in approximately 36,388 more residents. Therefore, this alternative would generate more daily vehicle trips and peak hour trips, which would generate increased noise levels on area roadways when compared to the proposed project. Although this alternative would be subject to the mitigation measures identified for the project, due to the increase in anticipated vehicle trips and associated noise, noise impacts would be increased under this alternative when compared to the proposed Specific Plan.

Population and Housing

The City anticipates growth within the community over time, and has responded to the anticipated growth by establishing Development Areas in the General Plan, including the West Development Area, Southwest Development Area, and Southeast Development Area. The proposed Specific Plan seeks to provide for the orderly and consistent development that promotes and establishes complete neighborhoods within the West Area with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The proposed Specific Plan is a planning document that implements the City's intent to focus new development, and the growth that goes along with the new development, into the West Area. The proposed Specific Plan would not displace substantial numbers of existing housing and/or substantial numbers of people, but would instead provide new housing consistent with the City's General Plan. The Specific Plan does not divide the community, but rather, it is an extension of the existing community.

The City has undergone extensive planning efforts since 2017 to refine the General Plan's land use vision for the West Area. The No Project (Existing General Plan) Alternative would result in an increase in the number of housing units by approximately 12,252 units, resulting in approximately 36,388 more residents. Currently, the City, and the State as a whole, are having a housing crisis due to the lack of housing stock coupled with a significant increase in homelessness. The State of California has even gone as far as to pass legislation with incentives for municipalities and developers to build more housing. In response to an increase in housing stock under this

alternative, it would be anticipated that City would not need to look to other undeveloped areas of the region to supply housing stock to meet the regional demand and the State's directive. This assumption is based entirely on the fact that California, and the City of Fresno, is having a housing shortage and an appropriate response to a shortage is to provide additional housing supply. The increase in residential uses under this alternative and overall land use mix would also meet the minimum number of residential units and layout required for New Urbanism principals that are established in the General Plan for the Plan Area. Overall, because the population growth under this alternative would increase compared to the proposed Specific Plan, this alternative would have a greater impact when compared to the proposed project.

Public Services and Recreation

New development would place increased demands on public services such as police, fire, schools, parks, libraries, and other governmental services. As discussed in Section 3.13, Public Services and Recreation, the proposed Specific Plan would not result in, or have the potential to require the construction of addition fire or police department facilities which may cause substantial adverse physical environmental impacts. However, the proposed Specific Plan incorporates sites for new schools and parks.

Mitigation measures have been incorporated into the project that require payment of impact fees to the City and other public agencies to ensure that the Specific Plan project does not have adverse financial impacts on these agencies. The Specific Plan includes land for schools and parks to ensure the increased demand for these services is met within the Plan Area.

The No Project (Existing General Plan) Alternative would result in an increase in the number of housing units by approximately 12,252 units, resulting in approximately 36,388 more residents. Therefore, under this alternative, there would be an increased demand for schools, parks, and other public facilities when compared to the proposed Specific Plan. Future development of schools and parks within the proposed Specific Plan was determined to contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3), and utilities (Impacts 3.15-1 through 3.15-3). These unavoidable impacts associated with construction of schools and parks under the No Project (Existing General Plan) Alternative would still occur. Therefore, when compared to the proposed Specific Plan, this alternative would have an increased impact to public services and recreation.

Transportation and Circulation

As explained in Section 3.14 (Transportation and Circulation), implementation of the Specific Plan would result in VMT per capita and VMT per employee during the horizon year that is less than the VMT per capita and VMT per employee for existing conditions in Fresno County. Under the Specific Plan, VMT per capita is 7.4 lower, or 46% lower, while VMT per employee is 12.4 lower, or 48% lower. The decrease in VMT is the result of the proposed land use mix within the Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today. Additionally,

the guiding principles of the Specific Plan support the policies of the General Plan; therefore, no conflict with policies, plans, and programs for alternative transportation would occur from future development and redevelopment under the proposed Specific Plan.

Under the No Project (Existing General Plan) Alternative, the Specific Plan Area would be designated with the same land use designations and circulation facilities as described in the Fresno General Plan. As noted previously, the amount of non-residential SF would decrease compared to the proposed Specific Plan, while the amount of residential dwelling units would increase. Residential densities would be reduced and the land use map under the existing General Plan would not provide the same opportunity for employees to live close to jobs; therefore, because there would be more residents with fewer employment-centered uses under this alternative, VMT would increase compared to the project. For these reasons, this alternative would have an increased impact to transportation and circulation when compared to the proposed Specific Plan.

Utilities

Future development within the Specific Plan would result in an increased demand for wastewater, potable water, storm drain, and solid waste services. Under the No Project (Existing General Plan) Alternative, the Specific Plan Area would be designated with the same land use designations and circulation facilities as described in the Fresno General Plan. However, this Alternative anticipates an increase in the number of housing units by approximately 12,252 units, resulting in approximately 36,388 more residents when compared to the proposed Specific Plan. Therefore, it is anticipated that the overall demand for water, wastewater, solid waste, and storm drainage would be increased under this alternative. As discussed in Section 3.15 (Utilities), the City's preliminary water demand projections for the Plan Area under the General Plan were higher than for the Specific Plan.

In conclusion, the No Project (Existing General Plan) Alternative would result in increased impacts to water demand. This alternative would also increase the amount of solid waste and wastewater generated at the site compared to the proposed Specific Plan. Overall, impacts under this alternative are expected to be slightly increased.

Conclusion

Table 5.0-1 summarizes the comparative effects of this alternative. As shown, the No Project (Existing General Plan) Alternative would result in equal impacts in six areas and more or slightly more impacts in nine areas.

REGIONAL PARK ALTERNATIVE

Under the Regional Park Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map. However, this alternative would provide a 74.2-acre Regional Park within the Plan Area. This flagship Regional Park would include components of the Plan Area's agricultural history through the planting of drought-resistant vegetation and trees, and would include public art that exhibits the Plan Area's contribution to

the agricultural industry. The Regional Park would be provided generally south of W. Barstow Avenue, north of W. Shaw Avenue, and west of N. Grantland Avenue. The park area would be designated by the City for dual land uses. The underlying designation would be the same as the land use proposed by the Specific Plan (i.e., Neighborhood Mixed Use and Park [Community/Neighborhood]), and the overlying designation would be Park.

Aesthetics and Visual Resources

Under the Regional Park Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map. However, this alternative would provide a Regional Park within the Plan Area, which would be about 74.2 acres in size. When compared to the proposed Specific Plan, assuming a regional park is constructed, this alternative would result in a decrease in the amount of Neighborhood Mixed Use development. Nevertheless, developing the entire Specific Plan Area would likely result in buildings with equal stories as the proposed Specific Plan. Additionally, similar to the proposed Specific Plan, future development under the Regional Park Alternative would be subject to the Development Standards, Design Guidelines, and policies of the Specific Plan, as well as the City's General Plan policies and actions. This alternative would equally impact the visual and aesthetic appeal of the site compared to the proposed Specific Plan. Overall, this alternative would have equal impacts to aesthetics when compared to the proposed Specific Plan. The significant and unavoidable impact related to degradation of visual character or quality of the site and its surrounding would still occur under this alternative.

Agricultural Resources

The land use map for this alternative would be the exact same as the proposed Specific Plan, except 74.2 acres would have an overlay designation for the 74.2-acre Regional Park. Under this Alternative, because the same site and site area as the proposed Specific Plan would be developed under this alternative, impacts related to Williamson Act contracts, land use conflicts, and conversion of farmland to urban uses would be similar to the proposed Specific Plan. Therefore, this alternative would have equal impacts to agricultural resources as the proposed Specific Plan. The significant and unavoidable impact related to agricultural resources would still occur under this alternative.

Air Quality

As described in Section 3.3, Air Quality, implementation of the proposed Specific Plan would generate emissions during both the construction phase and the operational phase. Construction related impacts would be similar under this alternative when compared to the proposed Specific Plan, as the area of ground disturbance would be comparable, and the duration of construction would be comparable. However, under this alternative, mobile source emissions are anticipated to slightly decrease. Mobile source (i.e., vehicle) emissions are directly related to the number of vehicle trips generated by a project. When compared to the proposed Specific Plan on the West Area, assuming a regional park is constructed, this alternative would result in a decrease in the amount of Neighborhood Mixed Use development. As such, the Regional Park Alternative is anticipated to result in a slight decrease in the number of housing units and non-residential SF,

which would result in a slightly reduced population growth when compared to the proposed Specific Plan buildout due to the inclusion of a 74-acre regional park. Therefore, under this alternative, it is anticipated that slightly less people would be located in the Specific Plan Area generating less daily vehicle trips when compared to the proposed Specific Plan, which would produce lower levels of pollutants from mobile sources. Therefore, this alternative would have slightly reduced impacts related to air quality when compared to the proposed Specific Plan. The significant and unavoidable impact related to air quality would still occur under this alternative.

Biological Resources

Potential impacts to biological resources are primarily related to the area proposed for disturbance and less on the type of urban uses that would occur on the Plan Area. Under the Regional Park Alternative, the Specific Plan's development footprint would be the exact same as the proposed Specific Plan; therefore, an equivalent amount of habitat would be removed as the proposed Specific Plan, and a similar level of ground disturbing activities would occur as compared with the proposed Specific Plan. Therefore, when compared to the proposed Specific Plan, potential impacts to biological resources would be equal under the Regional Park Alternative.

Cultural and Tribal Resources

According to the *Cultural and Paleontological Resource Assessment,* a total of 82 cultural resources have been previously recorded within the Plan Area. Of these cultural resources, four are historic archaeological sites and 78 are historic built environment resources. Additionally, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of the mitigation measures incorporated into this EIR would reduce impacts associated with unknown cultural resources wee they to be found.

The Regional Park Alternative would result in a similar level of ground disturbing activities and would have a similar potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the Specific Plan is not anticipated to result in significant impacts to cultural resources with mitigation, the Regional Park Alternative would result in equal potential for impacts to cultural resources.

Geology, Soils and Seismicity

The land use map for this alternative would be the exact same as the proposed Specific Plan with the exception that 74.2 acres would have an overlay designation for the 74-acre Regional Park. When compared to the proposed Specific Plan on the West Area, assuming a regional park is constructed, this alternative would result in a decrease in the amount of Neighborhood Mixed Use development. This would result in a slight decrease in the number of housing units and non-residential SF, which would result in a slightly reduced population growth when compared to the proposed Specific Plan. The future buildings and structures allowed under this alternative would be exposed to the same level of risk from geologic hazards as the proposed Specific Plan. However, as discussed above, it is anticipated that the number of residents and employees resulting from this alternative may slightly decrease compared to the proposed Specific Plan.

Because fewer people may be located in the Specific Plan Area under the Regional Park Alternative, fewer people would be exposed to the risks from geologic hazards as compared to the proposed Specific Plan. Therefore, this impact would be slightly decreased under this alternative when compared to the proposed Specific Plan.

Greenhouse Gases, Climate Change and Energy

Implementation of the proposed Specific Plan would generate GHG emissions during construction and operation. Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of a project. As described in Section 3.7, Greenhouse Gases, Climate Change and Energy, the proposed General Plan would result in less than significant impacts to Greenhouse Gases, Climate Change, and Energy. The proposed Specific Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Additionally, the proposed Specific Plan would be consistent with the current version of the City's GHG Reduction Plan, which is considered a "Qualified Plan," according to CEQA Guidelines §15183.5, thereby allowing for streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

Under the Regional Park Alternative, the land use map would be the same as the proposed Specific Plan, except 74.2 acres would have an overlay designation for a 74.2-acre Regional Park. When compared to the proposed Specific Plan on the West Area, assuming a regional park is constructed, this alternative would result in a decrease in the amount of Neighborhood Mixed Use development. This would result in a slight decrease in the number of housing units and non-residential SF, resulting in a slight decrease in population growth. This would reduce Plan Area operational GHG emissions by an approximately equivalent amount when compared to the proposed project. Therefore, it is anticipated that under this alternative, impacts related to operational-GHG emissions would be slightly reduced when compared to the proposed Specific Plan. With respect to mobile-GHG emissions, because the overall land use mix is generally the same as the proposed Specific Plan, it is assumed that it would create generally the same opportunities for non-motorized transportation options (such as walking or cycling) assisting with reducing mobile-related GHG emissions. Overall, because fewer people would likely result in the Specific Plan Area under this alternative, the mobile greenhouse gas emissions would slightly decrease when compared to the proposed Specific Plan. As such, the greenhouse gas emissions impact would be slightly reduced when compared to the proposed Specific Plan.

Hazards and Hazardous Materials

Large portions of the Plan Area are improved with existing residential, public facilities, commercial, mixed use, undeveloped rural land, and agricultural uses. These uses are spread throughout the entire Plan Area. Agricultural uses are primarily located in the western portion of the Plan Area. The developed uses are aggregated in the central and eastern portions of the Plan Area.

Due to the long-term use of land for agricultural purposes, properties within the Plan Area may have residual soil (and potentially groundwater) contamination that may require remediation.

Also, potentially hazardous building materials (e.g., asbestos containing materials, lead-based paint, etc.) could be encountered during demolition of historic, existing structures to accommodate new development. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources.

Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice. Residual concentrations of pesticides may be present in soil as a result of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides in farm soils. Of highest concern relative to agrichemicals are chemicals such as chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as MCPP, Dinoseb, chlordane, DDT, and DDE. Other chemicals may also be present due to other built-up uses. As described in the Environmental Setting section of Section 3.8, Hazards and Hazardous Materials, there is a historical record of soil contamination at the Proposed Constance-Sierra Elementary School site, the Westlake Proposed 430 Acre Development, and the West Shields Elementary School site, each of which are at differing levels of cleanup status. Therefore, there is the potential for other sites to have experienced contamination or have a history of hazardous materials being used as part of previous or current operations.

Under the Regional Park Alternative, the land use map would be the same as the proposed Specific Plan with the exception that 74.2 acres would have a Park overlay land use designation for the regional park. When compared to the proposed Specific Plan, assuming a regional park is constructed, this alternative would result in a decrease in the amount of Neighborhood Mixed Use development. This would result in a slight decrease in the number of housing units and non-residential SF, which would result in a slightly reduced population growth when compared to the proposed Specific Plan. Similar to the proposed Specific Plan, new development would introduce new sensitive receptors into an area that contains land that has historically utilized chemicals for agricultural production. Any negative health effects associated with the residuals of these chemicals would be alleviated through compliance with state and federal regulations that require remediation when above certain thresholds. There would be a long-term potential for hazards associated with use and generation of household and commercial hazardous wastes, although compliance with state and federal regulations would be required. Given that this alternative would likely result in a slight reduction of residential and non-residential development and that all of the sites maintain their underlying land use designations, it is expected that the Regional Park Alternative would generally have an equal impact to this topic relative to the proposed Specific Plan.

Hydrology and Water Quality

Implementation of the Specific Plan has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils

and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the Specific Plan could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Additionally, the proposed Specific Plan would result in new impervious surfaces that could reduce rainwater infiltration and groundwater recharge. Mitigation measures incorporated into the project would reduce potential water quality impacts to a less than significant level. The Specific Plan would not place persons or structures in a flood hazard zone.

Under the Regional Park Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map. However, this alternative would provide a Regional Park within the Plan Area, which would be 74.2 acres in size. Approximately the same area as the proposed Specific Plan would be developed with the aforementioned uses in the future. When compared to the proposed Specific Plan on the West Area, assuming a regional park is constructed, this alternative would result in a decrease in the amount of Neighborhood Mixed Use development. The amount of land covered with impervious surfaces would be slightly reduced under this alternative due to the inclusion of a regional park in lieu of urban development.

Similar to the proposed Specific Plan, stormwater from the future buildings would flow into the City's stormwater system via a network of drains, pipes, and detention basins. Future development projects allowed under the Regional Park Alternative would be required to develop permanent storm water control measures and incorporate these measures into the alternative in order to mitigate the impacts of pollutants in storm water runoff from the alternative. Because the alternative would be required to implement improvements in order to manage and treat stormwater flows from the site, impacts related to water quality would be similar.

As described in Section 3.9, Hydrology and Water Quality, the proposed Specific Plan implementation has the potential to result in the discharge of pollutants into detention basins and storm drains, and would change the existing drainage pattern on the site, although these impacts are less than significant as a result of compliance with local, state, and federal regulations. Under this alternative, these impacts would be similar as the proposed Specific Plan. Overall, potential impacts related to hydrology and water quality would be similar under the Regional Park Alternative when compared to the proposed Specific Plan.

Land Use

Similar to the proposed Specific Plan, the Regional Park Alternative would require a change of the Specific Plan Area's General Plan Land Use designations. This alternative would be required to be consistent with the General Plan, including the goals, policies, and standards and with the Zoning Code. The analysis in Section 3.10, Land Use, concluded that the proposed Specific Plan would not result in any significant land use impacts. This alternative would provide generally the same housing and employment opportunities for the city. However, this alternative would include a 74-acre Park overlay designation to allow for the development of a regional park, which would slightly reduce the overall housing and employment opportunities. Similar to the proposed Specific Plan, upon approval of the General Plan amendment, this alternative would be consistent

with the City's General Plan and other land use regulations, and therefore, would have similar land use impacts as the proposed Specific Plan.

Noise

As discussed in Section 3.11, Noise, the primary sources of noise associated with implementation of the proposed Specific Plan are from increased vehicle trips on study area roadways in the project vicinity from on-site uses, and increased noise from future operation within the Specific Plan Area. Some existing noise-sensitive receptors located near the Plan Area are currently exposed to exterior traffic noise levels exceeding the 65 dB L_{dn} exterior noise level standard for residential uses. In some locations, the noise levels are predicted to increase to levels that would trigger a new exceedance of the 65 dB L_{dn} exterior noise level standard, or exceed the FICON allowable increase criteria.

Under the Regional Park Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map. However, this alternative would provide a Regional Park within the Plan Area, which would be a minimum of 74.2 acres in size. The remainder of the Plan Area would be developed with the same land uses as the proposed Specific Plan. When compared to the proposed Specific Plan, this alternative would result in a slight decrease in the number of housing units and non-residential SF. The slight decrease in residential and non-residential development would result in a slight decrease in noise levels associated with traffic, stationary sources, and construction under this alternative; however, the decrease is anticipated to be negligible since the land designated for the future regional park would generate trips and generate on-site noise associated with the regional park use. Overall, despite this slight reduction in urban development under this alternative, it is expected that some noise levels associated with traffic under this Alternative would still generate a potentially significant impact similar to the proposed Specific Plan. The same mitigation measures required for the proposed Specific Plan would be required for this alternative. As such, this alternative is expected to have an equal impact relative to the proposed Specific Plan.

Population and Housing

The City anticipates growth within the community over time, and has responded to the anticipated growth by establishing Development Areas in the General Plan, including the West Development Area, Southwest Development Area, and Southeast Development Area. The proposed Specific Plan seeks to provide for the orderly and consistent development that promotes and establishes complete neighborhoods within the West Area with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The proposed Specific Plan is a planning document that implements the City's intent to focus new development, and the growth that goes along with the new development, into the West Area. The proposed Specific Plan would not displace substantial numbers of existing housing and/or substantial numbers of people, but would instead provide new housing consistent with the City's General Plan. The Specific Plan does not divide the community, but rather, it is an extension of the existing community.

The City has undergone extensive planning efforts since 2017 to refine the General Plan's land use vision for the West Area. Under the Regional Park Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan's land use map. However, this alternative would provide a Regional Park within the Plan Area, which would be 74.2 acres in size. This would result in a slight decrease in the overall number of housing units and non-residential SF, which would cause a slight decrease in the number of new residents and jobs generated under this alternative. Currently, the City, and the State as a whole, are having a housing crisis due to the lack of housing stock coupled with a significant increase in homelessness. The State of California has even gone as far as to pass legislation with incentives for municipalities and developers to build more housing. While buildout under this alternative might result in a slight decrease of housing stock, it is anticipated that this decrease would be negligible and the overall buildout of the Specific Plan under this alternative would be generally comparable to the proposed Specific Plan. Therefore, it is anticipated that impacts to population and housing would be generally similar under this alternative when compared to the proposed Specific Plan.

Public Services and Recreation

New development would place increased demands on public services such as police, fire, schools, parks, libraries, and other governmental services. As discussed in Section 3.13, Public Services and Recreation, the proposed Specific Plan would not result in, or have the potential to require the construction of additional fire or police department facilities which may cause substantial adverse physical environmental impacts. However, the proposed Specific Plan incorporates sites for new schools and parks.

Mitigation measures have been incorporated into the project that require payment of impact fees to the City and other public agencies to ensure that the Specific Plan project does not have adverse financial impacts on these agencies. The Specific Plan includes land for schools and parks to ensure the increased demand for these services is met within the Plan Area.

Under the Regional Park Alternative, the land use map would be the same as the proposed Specific Plan with the exception that 74.2 acres would have a Park overlay land use designation for the proposed regional park. This 74.2-acre overlay designation would result in a slight decrease in the number of housing units and non-residential SF in the Specific Plan area, which would result in a slightly reduced population when compared to the proposed Specific Plan. Therefore, under this alternative, it is expected that there would be a slight decrease in demand for fire, police, schools, parks, and other public facilities when compared to the proposed Specific Plan. The park demand would also be less under this alternative because the amount of parkland provided would increase compared to the proposed Specific Plan.

It should be noted that the future development of a parks and open space within the proposed Specific Plan was determined to contribute to significant and unavoidable impacts related to aesthetics (Impact 3.1-3), agricultural resources (Impact 3.2-1 and Impact 3.2-2), air quality (Impacts 3.3-1 through 3.3-3) , and utilities (Impacts 3.15-1 through 3.15-3). The proposed land use map for this alternative includes 74.2 acres for the development of a regional park. While the development of an additional park facility would contribute to this significant and unavoidable

impact, it is anticipated that this alternative would result in generally similar impacts relative to park and open space facilities when compared to the proposed Specific Plan. However, the slight decrease in demand for fire, police, schools, and other public facilities due to the slight decrease in population and jobs under this alternative would have a slightly reduced impact to public services under this alternative.

Transportation and Circulation

As explained in Section 3.14 (Transportation and Circulation), implementation of the Specific Plan would result in VMT per capita and VMT per employee during the horizon year that is less than the VMT per capita and VMT per employee for existing conditions in Fresno County. Under the Specific Plan, VMT per capita is 7.4 lower, or 46% lower, while VMT per employee is 12.4 lower, or 48% lower. The decrease in VMT is the result of the proposed land use mix within the Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today. Additionally, the guiding principles of the Specific Plan support the policies of the General Plan; therefore, no conflict with policies, plans, and programs for alternative transportation would occur from future development and redevelopment under the proposed Specific Plan.

Under the Regional Park Alternative, the land use map would be the same as the proposed Specific Plan with the exception that 74.2 acres would have a Park overlay land use designation for the proposed regional park. When compared to the proposed Specific Plan, assuming a regional park is constructed, this alternative would result in a decrease in the amount of Neighborhood Mixed Use development. This would result in a slight decrease in the number of housing units and non-residential SF in the Specific Plan area, which would result in a slightly reduced population and number of jobs when compared to the proposed Specific Plan. The slightly reduced population and jobs under this alternative may slightly decrease the average daily vehicle trips. However, since the overall land use mix is generally the same as the proposed Specific Plan, it is anticipated that impacts to transportation and circulation would generally be the same under this alternative when compared to the proposed Specific Plan.

Utilities

Future development within the Specific Plan would result in an increased demand for wastewater, potable water, storm drain, and solid waste services. Under the Regional Park Alternative, the land use map would be the exact same as the proposed Specific Plan with the exception that 74.2 acres would have a Park overlay land use designation for the proposed regional park. The regional park would include the planting of drought-resistant vegetation and trees to assist in reducing overall water demand associated with landscaping. This 74.2-acre overlay designation would result in a slight decrease in the number of housing units and non-residential SF in the Specific Plan Area, which would result in a slight reduction of population and jobs when compared to the proposed Specific Plan. Additionally, the proposed regional park would generate less wastewater, potable water, and solid waste demand than the underlying land uses. For these reasons, it is anticipated that the overall demand for wastewater, potable water, solid waste, and storm

drainage under this alternative would be slightly less than the proposed Specific Plan. Therefore, this alternative would have slightly reduced impacts to utilities when compared to the proposed Specific Plan.

Conclusion

Table 5.0-1 summarizes the comparative effects of this alternative. As shown, the Regional Park Alternative would result in reduced or slightly reduced impacts in five areas and equal impacts in 10 areas.

LOWER DENSITY ALTERNATIVE

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. Additionally, this alternative would focus the medium and higher density residential uses and commercial uses at available sites on major street corridors. A mixed use town center would be provided along Shaw Avenue.

Aesthetics and Visual Resources

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. This would result in reduced light and glare impacts due to less development introduced into the Plan Area. Additionally, buildout of the Specific Plan under this alternative would result in less degradation of the visual character and quality of the site due to the preservation of land along the southern and western boundaries of the Plan Area. Similar to the proposed Specific Plan, future development under this alternative would be subject to the Development Standards, Design Guidelines, and policies of the Specific Plan, as well as the City's General Plan policies and actions. Overall, despite this reduction in urban development under this alternative, it is expected that overall buildout of the Plan Area would still generate a significant and unavoidable impact related to visual quality and light and glare due to the conversion of farmland and open space into urban development; however, this alternative would result in less impacts to the visual and aesthetic appeal of the site when compared to the proposed Specific Plan due to the preservation of rural residential and agricultural land along the southern and western boundaries of the Plan Area.

Agricultural Resources

The land use map for this alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. Because fewer agricultural areas would be developed under this alternative, impacts related to Williamson Act contracts, land use conflicts, and conversion of farmland to urban uses would be reduced when compared to the proposed Specific Plan. Therefore, this alternative would have less impacts to agricultural resources as the proposed Specific Plan. The

significant and unavoidable impact related to agricultural resources would still occur under this alternative, though to a lesser extent than the proposed Specific Plan.

Air Quality

As described in Section 3.3, Air Quality, implementation of the proposed Specific Plan would generate emissions during both the construction phase and the operational phase. The land use map for the Lower Density Alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area, resulting in a reduced development footprint. Construction related impacts would be reduced under this alternative when compared to the proposed Specific Plan, as the area of ground disturbance would be reduced, which would reduce the duration of construction. Additionally, under this alternative, mobile source emissions are anticipated to also decrease. Mobile source emissions are directly related to the number of vehicle trips generated by a project. The Lower Density Alternative would result in the development of lower densities throughout the Plan Area decreasing the number of housing units and non-residential SF, which would result in a reduced population growth when compared to the proposed Specific Plan. Therefore, under this alternative, it is anticipated that less people would be located on the Specific Plan Area generating less daily vehicle trips when compared to the proposed Specific Plan, which would produce lower levels of pollutants from mobile sources. Therefore, this alternative would have reduced impacts related to air quality when compared to the proposed Specific Plan. The significant and unavoidable impact related to air quality would still occur under this alternative, though to a lesser extent than the proposed Specific Plan.

Biological Resources

Potential impacts to biological resources are primarily related to the area proposed for disturbance and less on the type of urban uses that would occur on the Plan Area. The Lower Density Alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. Therefore, under this alternative, the Specific Plan's development footprint would be less than the proposed Specific Plan, resulting in less habitat removal and reduced ground disturbing activities when compared to the proposed Specific Plan. Therefore, there would be less potential for impacts to biological resources under this alternative as compared with the proposed Specific Plan.

The reduced development footprint would result in less ground disturbing activities and habitat removal, resulting in the preservation of more movement habitat and upland habitat adjacent to the movement corridors along the southern and western boundaries of the Specific Plan Area. When compared to the proposed Specific Plan, the overall impacts to biological resources would be reduced under this alternative due to the preservation of the existing site conditions along the southern and western boundaries of the Specific Plan Area, resulting in less habitat loss and ground disturbing activities.

Cultural and Tribal Resources

According to the *Cultural and Paleontological Resource Assessment,* a total of 82 cultural resources have been previously recorded within the Plan Area. Of these cultural resources, four are historic archaeological sites and 78 are historic built environment resources. Additionally, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or historical resource or human remains. Implementation of the mitigation measures incorporated into this EIR would reduce impacts associated with unknown cultural resources where they to be found.

The Lower Density Alternative would result in a reduced level of ground disturbing activities and would have less potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the Specific Plan is not anticipated to result in significant impacts to cultural resources with mitigation, the Lower Density Alternative would result in less potential for impacts to cultural resources.

Geology, Soils and Seismicity

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. This would result in a decreased number of housing units and non-residential SF introduced into the Plan Area, which would result in a reduced population and total jobs when compared to the proposed Specific Plan. The future buildings and structures allowed under this alternative would be exposed to the same level of risk from geologic hazards as the proposed Specific Plan. However, as discussed above, it is anticipated that the number of residents and employees resulting from this alternative would be less when compared to the proposed Specific Plan. Because fewer people may be located in the Specific Plan Area under the Lower Density Alternative, fewer people would be exposed to the risks from geologic hazards as compared to the proposed Specific Plan. Therefore, this impact would be slightly decreased under this alternative when compared to the proposed Specific Plan.

Greenhouse Gases, Climate Change and Energy

Implementation of the proposed Specific Plan would generate GHG emissions during construction and operation. Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of a project. As described in Section 3.7, Greenhouse Gases, Climate Change and Energy, the proposed Specific Plan would result in less than significant impacts to Greenhouse Gases, Climate Change, and Energy. The proposed Specific Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Additionally, the proposed Specific Plan would be consistent with the current version of the City's GHG Reduction Plan, which is considered a "Qualified Plan," according to CEQA Guidelines §15183.5, thereby allowing for streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area, resulting in a lower development footprint. This would reduce Plan Area operational GHG emissions by an approximately equivalent amount when compared to the proposed project. Therefore, impacts to greenhouse gases under this alternative are expected to be slightly reduced when compared to the proposed Specific Plan.

Hazards and Hazardous Materials

Large portions of the Plan Area are improved with existing residential, public facilities, commercial, mixed use, undeveloped rural land, and agricultural uses. These uses are spread throughout the entire Plan Area. Agricultural uses are primarily located in the western portion of the Plan Area. The developed uses are aggregated in the central and eastern portions of the Plan Area.

Due to the long-term use of land for agricultural purposes, properties within the Plan Area may have residual soil (and potentially groundwater) contamination that may require remediation. Also, potentially hazardous building materials (e.g., asbestos containing materials, lead-based paint, etc.) could be encountered during demolition of existing structures to accommodate new development. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources.

Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice. Residual concentrations of pesticides may be present in soil as a result of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides in farm soils. Of highest concern relative to agrichemicals are chemicals such as chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as MCPP, Dinoseb, chlordane, DDT, and DDE. Other chemicals may also be present due to other built-up uses. As described in the Environmental Setting section of Section 3.8, Hazards and Hazardous Materials, there is a historical record of soil contamination at the Proposed Constance-Sierra Elementary School site, the Westlake Proposed 430 Acre Development, and the West Shields Elementary School site, each of which are at differing levels of cleanup status. Therefore, there is the potential for other sites to have experienced contamination or have a history of hazardous materials being used as part of previous or current operations.

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. This would result in a decreased number of housing units and non-residential SF introduced into the Plan Area,

which would result in a reduced population and total jobs when compared to the proposed Specific Plan. Similar to the proposed Specific Plan, new development would introduce new sensitive receptors into an area that contains land that has historically utilized chemicals for agricultural production. Any negative health effects associated with the residuals of these chemicals would be alleviated through compliance with state and federal regulations that require remediation when above certain thresholds. There would be a long-term potential for hazards associated with use and generation of household and commercial hazardous wastes, although compliance with state and federal regulations would be required. Given that this alternative would result in lower densities throughout the Plan Area and a lower development footprint resulting a reduction of total residential and non-residential development, it is expected that the Lower Density Alternative would have a reduced impact relative to this topic.

Hydrology and Water Quality

Implementation of the Specific Plan has the potential to result in the violation of water quality standards and waste discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the Specific Plan could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. Additionally, the proposed Specific Plan would result in new impervious surfaces that could reduce rainwater infiltration and groundwater recharge. Mitigation measures incorporated into the project would reduce potential water quality impacts to a less than significant level. The Specific Plan would not place persons or structures in a flood hazard zone.

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area, resulting in an overall lower development footprint. This would result in less impervious surfaces introduced into the Plan Area, which would allow for increased rainwater infiltration and groundwater recharge, especially at the western and southern boundaries of the Plan Area that would be preserved under this alternative.

Similar to the proposed Specific Plan, stormwater from the future buildings would flow into the City's stormwater system via a network of drains, pipes, and detention basins. Future development projects allowed under the Lower Density Alternative would be required to develop permanent storm water control measures and incorporate these measures into the alternative in order to mitigate the impacts of pollutants in storm water runoff from the alternative. Because the alternative would be required to implement improvements in order to manage and treat stormwater flows from the site, impacts related to water quality would be similar.

As described in Section 3.9, Hydrology and Water Quality, the proposed Specific Plan implementation has the potential to result in the discharge of pollutants into detention basins

and storm drains, and would change the existing drainage pattern on the site, although these impacts are less than significant as a result of compliance with local, state, and federal regulations. Under this alternative, these impacts would be similar as the proposed Specific Plan. Overall, potential impacts related to hydrology and water quality would be reduced under the Lower Density Alternative when compared to the proposed Specific Plan due to the lower densities developed throughout the Plan Area.

Land Use

Similar to the proposed Specific Plan, the Lower Density Alternative would require a change of the Specific Plan Area's General Plan Land Use designations. This alternative would be required to be consistent with the General Plan, including the goals, policies, and standards and with the Zoning Code. The analysis in Section 3.10, Land Use, concluded that the proposed Specific Plan would not result in any significant land use impacts. This alternative would provide for decreased housing and employment opportunities for the city. Similar to the proposed Specific Plan, upon approval of the General Plan amendment, this alternative would be consistent with the City's General Plan and other land use regulations, and therefore, would have similar land use impacts as the proposed Specific Plan.

Noise

As discussed in Section 3.11, Noise, the primary sources of noise associated with implementation of the proposed Specific Plan are from increased vehicle trips on study area roadways in the project vicinity from on-site uses, and increased noise from future operation within the Specific Plan Area. Some existing noise-sensitive receptors located near the Plan Area are currently exposed to exterior traffic noise levels exceeding the 65 dB L_{dn} exterior noise level standard for residential uses. In some locations, the noise levels are predicted to increase to levels that would trigger a new exceedance of the 65 dB L_{dn} exterior noise level standard, or exceed the FICON allowable increase criteria.

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. This would result in a decreased number of housing units and non-residential SF introduced into the Plan Area, which would result in a reduced population and total jobs when compared to the proposed Specific Plan. The decrease in residential and non-residential development would result in a decrease in noise levels associated with traffic, stationary sources, and construction under this alternative. As such, this alternative is expected to have a reduced impact relative to the proposed Specific Plan.

Population and Housing

The City anticipates growth within the community over time, and has responded to the anticipated growth by establishing Development Areas in the General Plan, including the West Development Area, Southwest Development Area, and Southeast Development Area. The

proposed Specific Plan seeks to provide for the orderly and consistent development that promotes and establishes complete neighborhoods within the West Area with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The proposed Specific Plan is a planning document that implements the City's intent to focus new development, and the growth that goes along with the new development, into the West Area. The proposed Specific Plan would not displace substantial numbers of existing housing and/or substantial numbers of people, but would instead provide new housing consistent with the City's General Plan. The Specific Plan does not divide the community, but rather, it is an extension of the existing community.

The City has undergone extensive planning efforts since 2017 to refine the General Plan's land use vision for the West Area. Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. This would result in a decrease in the overall number of housing units and non-residential SF, which would cause a decrease in the number of new residents and jobs generated under this alternative.

The Plan Area was planned for population and housing growth under the City's General Plan. This alternative would not provide for the same population, housing and employment growth as anticipated by the General Plan or proposed by the Specific Plan. Neither the proposed Specific Plan nor the Lower Density Alternative would exceed the growth projections anticipated by the General Plan. Substantial unplanned growth under both this alternative and the proposed Specific Plan would not occur. Both the proposed Specific Plan and the Lower Density Alternative would not displace substantial amounts of housing. Overall, this alternative would have a similar impact when compared to the proposed project. It is noted that this alternative would not provide the amount of housing, or diversity of housing options, to the extent that the proposed Specific Plan would.

Public Services and Recreation

New development would place increased demands on public services such as police, fire, schools, parks, libraries, and other governmental services. As discussed in Section 3.13, Public Services and Recreation, the proposed Specific Plan would not result in, or have the potential to require the construction of addition fire or police department facilities which may cause substantial adverse physical environmental impacts. However, the proposed Specific Plan incorporates sites for new schools and parks.

Mitigation measures have been incorporated into the project that require payment of impact fees to the City and other public agencies to ensure that the Specific Plan project does not have adverse financial impacts on these agencies. The Specific Plan includes land for schools and parks to ensure the increased demand for these services is met within the Plan Area.

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. This would result in a decrease in the overall number of housing units and non-residential SF, which would cause a decrease in the number of new residents and jobs generated under this alternative. Therefore, the demand for police, fire and other public services would be reduced. This alternative would still result in development of public facilities (i.e. schools and parks) and would be required to pay the appropriate public safety impact fees. Overall, this alternative would have a reduced impact to public services when compared to the proposed project. The significant and unavoidable impact related to public services and recreation would still occur under this alternative.

Transportation and Circulation

As explained in Section 3.14, Transportation and Circulation, implementation of the Specific Plan would result in VMT per capita and VMT per employee during the horizon year that is less than the VMT per capita and VMT per employee for existing conditions in Fresno County. Under the Specific Plan, VMT per capita is 7.4 lower, or 46% lower, while VMT per employee is 12.4 lower, or 48% lower. The decrease in VMT is the result of the proposed land use mix within the Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today. Additionally, the guiding principles of the Specific Plan support the policies of the General Plan; therefore, no conflict with policies, plans, and programs for alternative transportation would occur from future development and redevelopment under the proposed Specific Plan.

The Lower Density Alternative would result in lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. This would result in a decrease in the overall number of housing units and non-residential SF, which would cause a decrease in the number of new residents and jobs generated under this alternative. The reduced population and jobs under this alternative are expected to decrease the average daily vehicle trips. Therefore, transportation and circulation impacts are expected to be slightly less under this alternative.

Utilities

Future development within the Specific Plan would result in an increased demand for wastewater, potable water, storm drain, and solid waste services. Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed Specific Plan, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area, resulting in a smaller development footprint. This would also result in a decrease in the overall number of housing units and non-residential SF, which would cause a decrease in the number of new residents and jobs generated under this alternative. It is anticipated that the overall demand for wastewater, potable water, solid waste, and storm

drainage would be less than the proposed Specific Plan due to the smaller development footprint, lower developed density throughout the Plan Area, and the reduced population under this alternative. Therefore, this alternative would have slightly reduced impacts to utilities when compared to the proposed Specific Plan.

Conclusion

Table 5.0-1 summarizes the comparative effects of this alternative. As shown, the Lower Density Alternative would result in reduced or slightly reduced impacts in 13 areas and equal impacts in two areas.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (Existing General Plan) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed project.

Table 5.0-1 presents a comparison of the alternative project impacts with those of the Specific Plan. As shown in the table, the Lower Density Alternative is the environmentally superior alternative because it results in the least adverse environmental impacts when compared to the proposed project. The Lower Density Alternative would decrease or slightly decrease impacts to 13 of the 15 environmental issues. This is mostly due to the preservation of the existing farmland and rural residential areas along the southern and western boundaries of the Plan Area, and the decrease in development associated with the reduced densities. It is noted that none of the project alternatives would fully eliminate any of the significant and unavoidable impacts that would occur under the proposed Specific Plan; however, the significant and unavoidable impacts that would result under the proposed Specific Plan would occur to a lesser extent under the Lower Density Alternative. The Regional Park Alternative is the next best alternative as it would decrease or slightly decrease impacts to five of the 15 environmental issues. It should be noted that none of alternatives meet all of the project objectives, as described in Section 5.5 below.

TABLE 5.0-1: COMPARISON OF ALTERNATIVE IMPACTS TO THE PROPOSED SPECIFIC PLAN

ENVIRONMENTAL ISSUE	*NO PROJECT (EXISTING GENERAL PLAN) ALTERNATIVE*	*REGIONAL PARK ALTERNATIVE*	*LOWER DENSITY ALTERNATIVE*
Aesthetics and Visual Resources	Equal	Equal	Less
Agricultural Resources	Equal	Equal	Less
Air Quality	More	Slightly Less	Less
Biological Resources	Equal	Equal	Less
Cultural and Tribal Resources	Equal	Equal	Less
Geology, Soils and Seismicity	Slightly More	Slightly Less	Slightly Less
Greenhouse Gas, Climate Change, and Energy	More	Slightly Less	Slightly Less
Hazards and Hazardous Materials	Equal	Equal	Less
Hydrology and Water Quality	Equal	Equal	Less
Land Use	Slightly More	Equal	Equal
Noise	More	Equal	Less
Population and Housing	More	Equal	Equal
Public Services and Recreation	More	Slightly Less	Less
Transportation and Circulation	More	Equal	Slightly Less
Utilities	Slightly More	Slightly Less	Slightly Less

5.5 COMPARATIVE EVALUATION OF THE PROJECT AND ALTERNATIVES TO SATISFY PROJECT OBJECTIVES

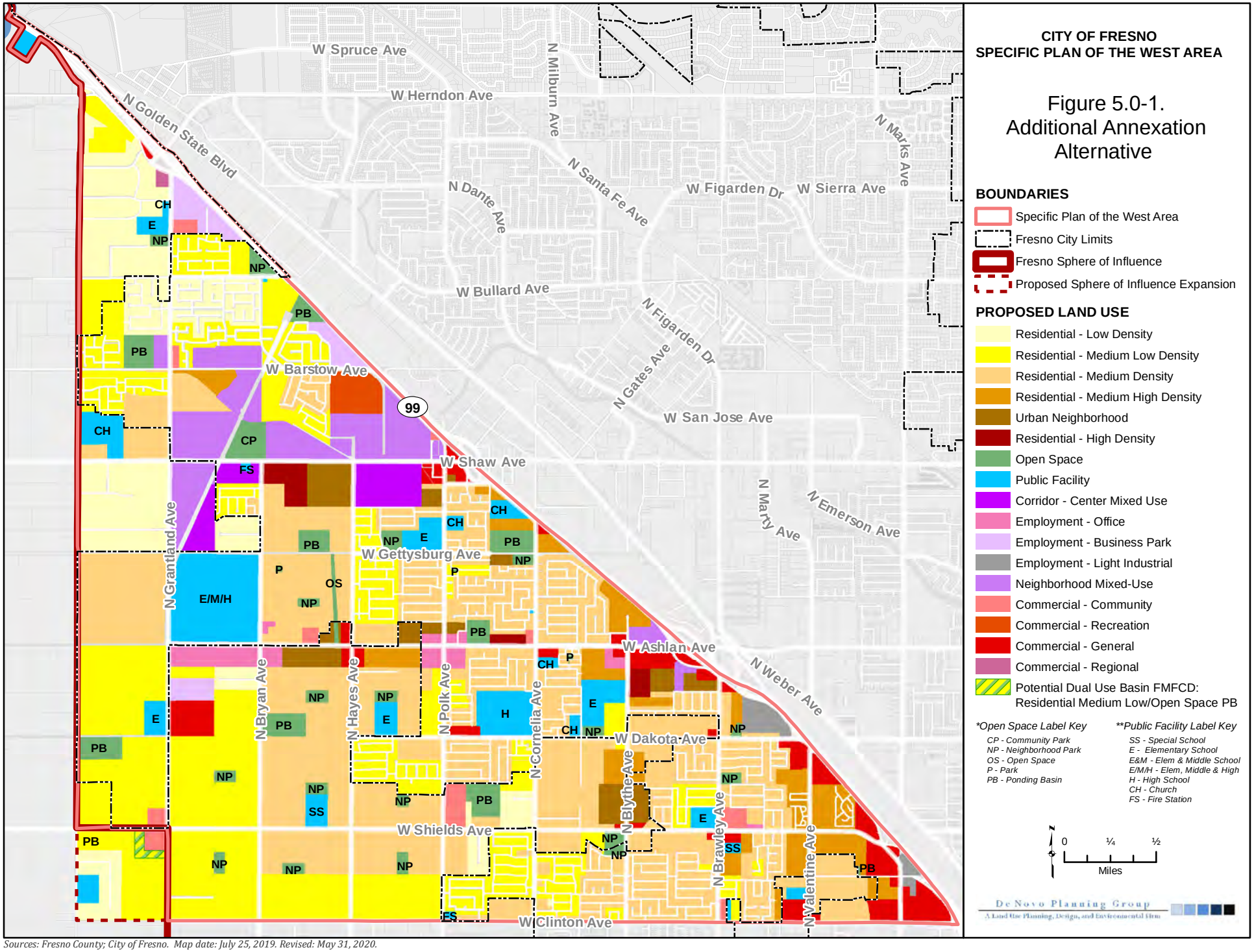
This section examines how each of the alternatives selected for more detailed analysis meets the project objectives.

The No Project (Existing General Plan) Alternative would not fully satisfy the project objectives because this alternative would not fully implement the community's refined vision for the future growth, development, and conservation of open space and resources within the Specific Plan in a manner consistent with the quality of life desired by residents and businesses. An 11-member Steering Committee, established in March 2018 by the Fresno City Council, held regular public meetings to provide recommendations to the draft land use map and guiding principles based on input received from community members. The proposed Specific Plan seeks to provide for the orderly and consistent development that promotes and establishes complete neighborhoods within the West Area with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The No Project (Existing General Plan) Alternative would not be consistent with the revisions to the core goals provided in the General Plan for the West Area, which calls for the development of the West Shaw Avenue Town Center and Catalytic Corridors in the West Area. While the No Project Alternative would generally meet the project objectives and specific plan guiding principles, it would not be as effective as the proposed Specific Plan.

The Regional Park Alternative would meet the primary project objectives and would satisfy the policy guidance outlined in the City's General Plan for West Area; however, it would not meet the quantifiable objective future development of up to 54,953 DU (including 67 DU in the commercial category, 47,072 DU in the residential category and 7,814 DU in the mixed use category) and 60,621,006 SF of non-residential uses in the Plan Area. Therefore, the Regional Park Alternative would satisfy the project objectives, but to a lesser extent than the proposed Specific Plan.

Under the Lower Density Alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map, but at lower densities. This alternative would include lower densities throughout the Plan Area and would preserve rural residential and agricultural land along the southern and western boundaries of the Plan Area. Additionally, this alternative would focus the medium and higher density residential uses and commercial uses at available sites on major street corridors. A mixed use town center would be provided along Shaw Avenue. The land use mix under the Lower Density Alternative would not encourage a variety of housing styles and types and would not encourage the development of housing to accommodate an aging population including, multi-generational houses and other elder housing options. Instead, this alternative would encourage the development of lower density single-family homes and ranch style homes. As such, this alternative would cause an overall reduction in housing stock in the Plan Area. Therefore, this alternative would satisfy the project objectives related to housing to a lesser extent than the proposed Specific Plan. Additionally, although this alternative would encourage development of retail along commercial corridors, the amount of retail and job-generating uses would decrease compared to the proposed Specific Plan. As such, the proposed Specific Plan is more effective than the Lower Density Alternative in implementing the retail-related project objectives.

The Lower Density Alternative would accommodate and improve roadways and transit in the area, and would provide a complete roadway network. This alternative would achieve all of the transportation related objectives. This alternative would also result in creation of parks and trails in the Plan Area, and would incorporate elements of agriculture and agri-tourism ventures. Overall, the proposed Specific Plan is more effective than the Lower Density Alternative in implementing the project objectives.



Sources: Fresno County; City of Fresno. Map date: July 25, 2019. Revised: May 31, 2020.

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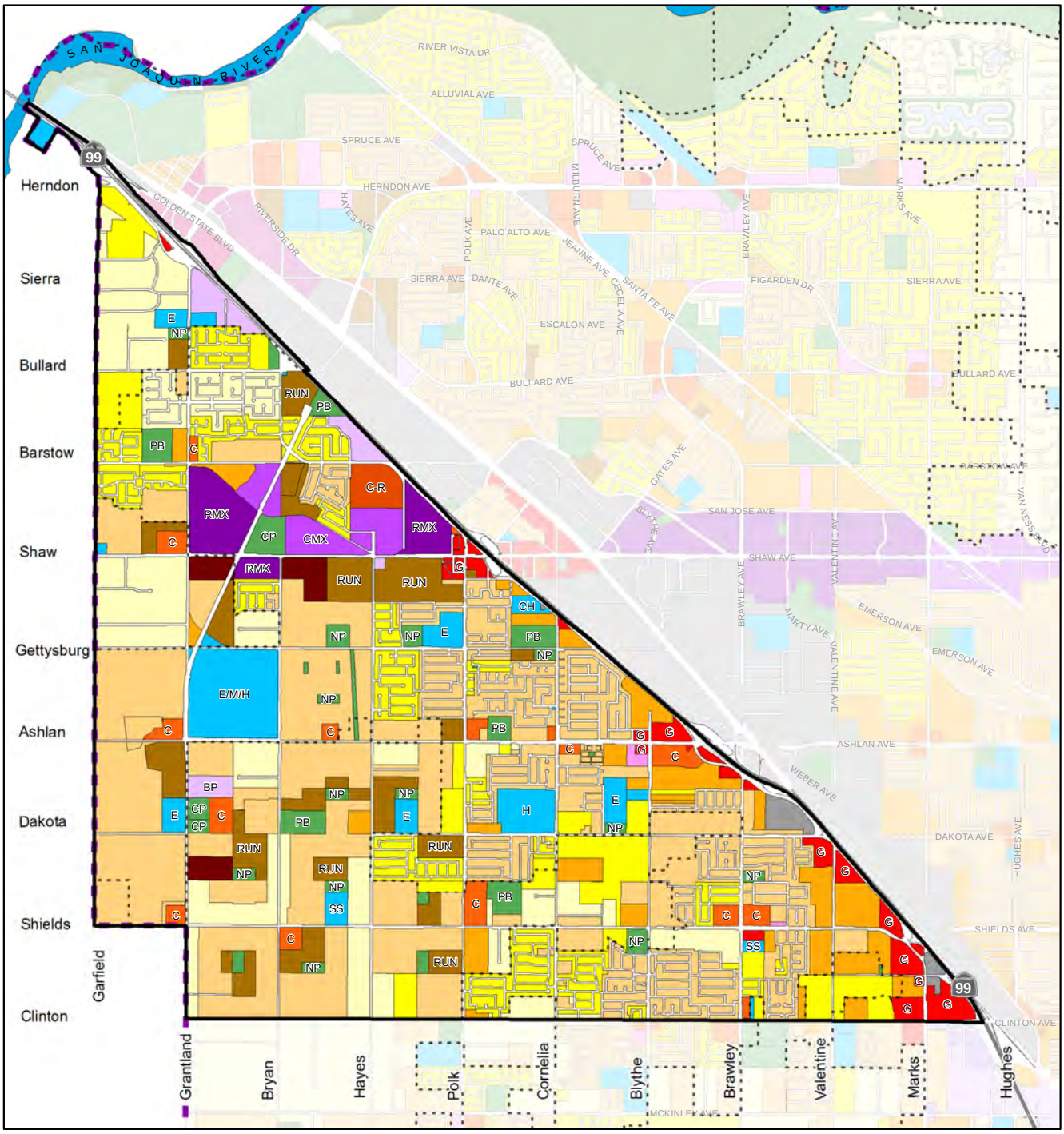

BOUNDARIES
- City Limits
- West Area Specific Plan Boundary
- Sphere Of Influence

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

PUBLIC FACILITIES
- Public/Quasi-public Facility
- SS Special School
- E Elementary School
- E/M/H Elementary, Middle & High School
- H High School
- CH Church
- FS Fire Station

EMPLOYMENT
- Office
- BP Business Park
- Light Industrial

MIXED USE
- CMX Corridor/Center Mixed Use
- RMX Regional Mixed Use

OPEN SPACE
- CP Community Park
- PB Open Space - Ponding Basin
- NP Neighborhood Park
- Open Space
- P Park

COMMERCIAL
- Community
- Recreation
- General

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 5.0-2. No Project (Existing General Plan) Alternative

N

0 0.25 0.5 Miles

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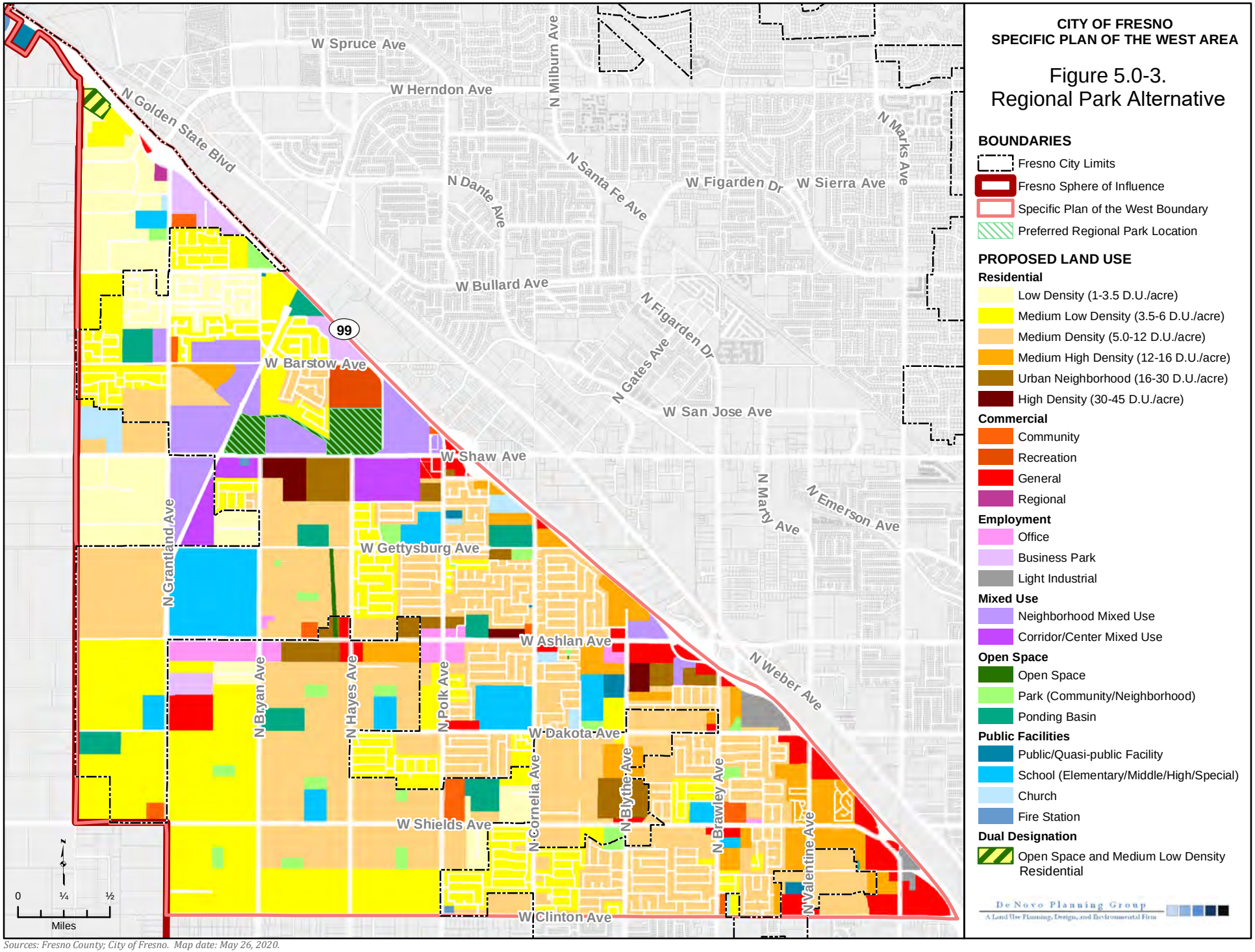

Sources: Fresno County; City of Fresno. Map date: May 26, 2020.

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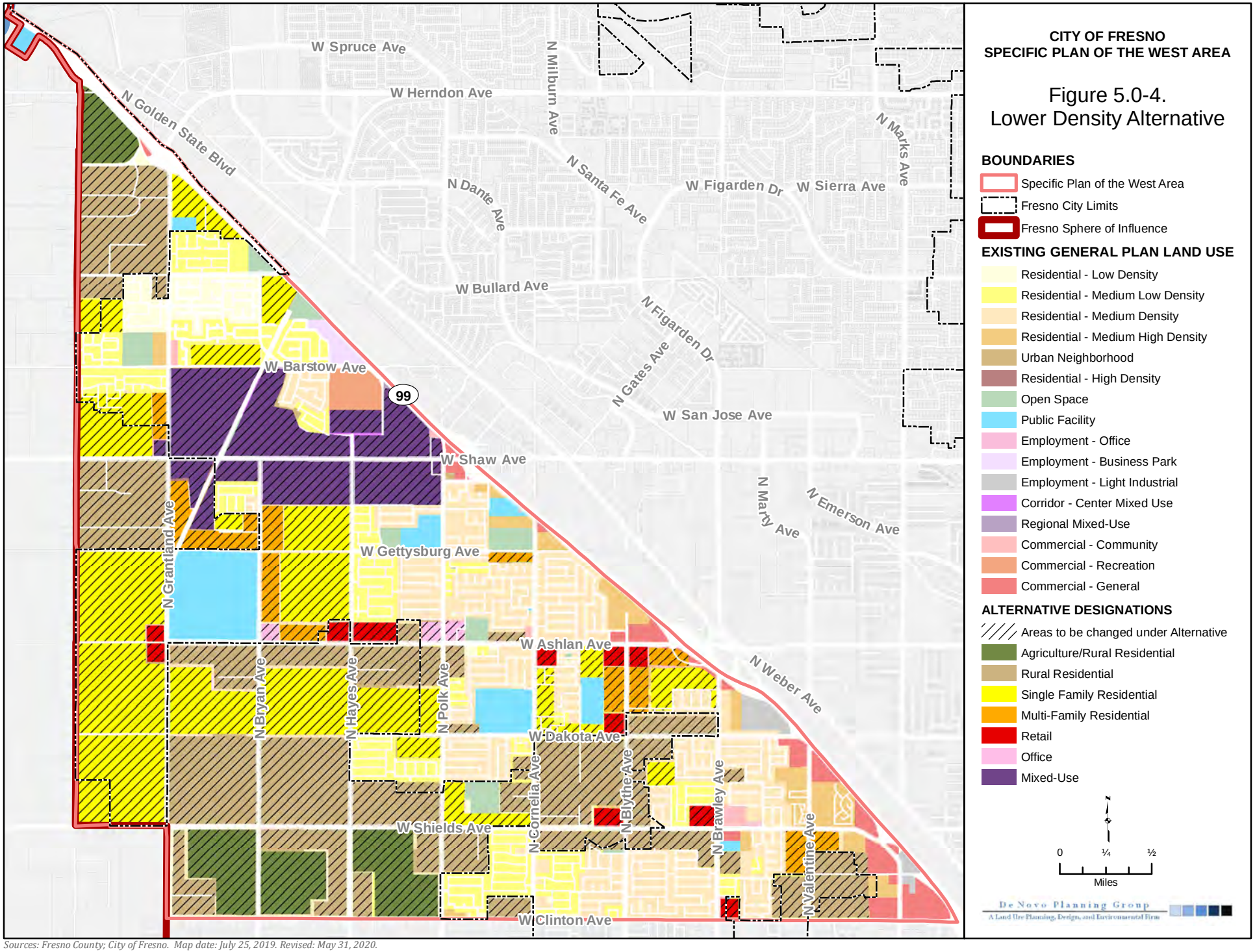

Sources: Fresno County; City of Fresno. Map date: July 25, 2019. Revised: May 31, 2020.

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APPENDIX A

Notice of Preparation and NOP Comments

NOTICE OF PREPARATION

FOR THE

SPECIFIC PLAN OF THE WEST AREA

JULY 2019

Prepared for:

City of FRESNO
Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
(559) 621-2485

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

NOTICE OF PREPARATION

FOR THE

SPECIFIC PLAN OF THE WEST AREA

JULY 2019

Prepared for:

Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
(559) 621-8003

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
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NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

DATE: July 2, 2019

TO: State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Organizations and Interested Persons

SUBJECT: Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Specific Plan of the West Area

LEAD AGENCY: City of Fresno, Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
(559) 621-2485

PROJECT PLANNER: Rodney Horton
rodney.horton@fresno.gov
(559) 621-8181

PURPOSE OF NOTICE

This is to notify public agencies and the general public that the City of Fresno, as the Lead Agency, will prepare an Environmental Impact Report (EIR) for the Specific Plan of the West Area. The City of Fresno is interested in the input and/or comments of public agencies and the public as to the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the proposed project, and public input. Responsible/trustee agencies will need to use the EIR prepared by the City of Fresno when considering applicable permits, or other approvals for the proposed project.

COMMENT PERIOD

Consistent with the time limits mandated by State law, your input, comments or responses must be received in writing and sent at the earliest possible date, but not later than 5:00 PM, August 2, 2019.

Please send your comments/input (including the name for a contact person in your agency) to: Attn: Rodney Horton at the City of Fresno, 2600 Fresno Street, Room 3065, Fresno, CA 93721; or by e-mail to rodney.horton@fresno.gov.

SCOPING MEETING

On July 24, 2019, the City of Fresno will conduct a public scoping meeting to solicit input and comments from public agencies and the general public on the proposed project and scope of the EIR. This meeting will be held at the Glacier Point Middle School, Cafeteria, located at 4055 N. Bryan Avenue, Fresno, CA 93722, from 6:00 PM to 7:30 PM.

This meeting will be an open house format and interested parties may drop in to review the proposed project exhibits and submit written comments at any time between 6:00 PM and 7:30 PM. Representatives from the City of Fresno and the EIR consultant will be available to address questions regarding the EIR process and scope. Members of the public may provide written comments throughout the meeting.

If you have any questions regarding the scoping meeting, contact Rodney Horton, Project Planner, at (559) 621-8181 or rodney.horton@fresno.gov.

PROJECT LOCATION

The Specific Plan of the West Area (also-known-as "Specific Plan" or "West Area") encompasses approximately 7,077 acres (or a little more than 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. The footprint of the Specific Plan is referred to as the "Plan Area." Of the eleven square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth.

The Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to State Route 99. See Figure 1 for the regional location map and Figure 2 for the Plan Area vicinity map.

PROJECT SETTING

EXISTING SITE CONDITIONS

The Plan Area is relatively flat with natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level. A significant amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels. The West Area has approximately 3,070.95 acres of land that is classified as Urban and Built-Up, according to the State Department of Conservation. Prime farmland is principally located outside of the Plan Area. The West Area has 285.65 acres of Farmland of Statewide Importance which is located primarily in the western edge of the Plan Area. Approximately 509.39 acres of Unique Farmland is located within the Plan Area, most of which is within the southwest portion of the Plan Area. Farmland of Local Importance is located throughout the entire Plan Area, and totals approximately 1,562.82 acres. Vacant or Disturbed Land and Rural Residential Land account for approximately 1,650.17 acres within the growth area. See Figure 3 for an aerial view of the Plan Area.

SURROUNDING LAND USES

Surrounding land uses include State Route 99, the unincorporated communities of Herndon, Highway City, and Muscatel, and incorporated areas of the City of Fresno to the north (including mostly industrial uses), incorporated areas of the City of Fresno to the east (also including mostly industrial uses), unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels) and unincorporated Fresno County to the west (including farmland and rural residential uses).

EXISTING LAND USES AND ZONING

A portion of the Plan Area is located within the City of Fresno city limits, and a portion is within unincorporated Fresno County (but within the City's SOI). The City of Fresno General Plan designates the Plan Area as: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, General Commercial, Recreation Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Community Park, Open Space – Ponding Basin, Neighborhood Park, Open Space, Public/Quasi-Public Facility, Special School, Elementary School, Elementary, Middle & High School, and High School. See Figure 4 for the existing City General Plan land use designations.

The City of Fresno Zoning Map provides zoning for those portions of the Plan Area located within the city limits, but not for areas within the unincorporated County. Zoning designations are generally consistent with the existing General Plan land uses. The City zoning designations for the Plan Area include: Residential Estate (RE), Residential Single-Family, Extremely Low Density (RS-1), Residential Single-Family, Very Low Density (RS-2), Residential Single-Family, Low Density (RS-3), Residential Single-Family, Medium Low Density (RS-4), Residential Single-Family, Medium Density (RS-5), Residential Multi-Family, Medium High Density (RM-1), Residential Multi-Family, Urban Neighborhood (RM-2), Residential Multi-Family, High Density (RM-3), Mobile Home Park (RM-MH), Commercial Community (CC), Commercial General (CG), Commercial Regional (CR), Commercial Recreation (CRC), Light Industrial (IL), Corridor/Center Mixed Use (CMX), Neighborhood Mixed Use (NMX), Regional Mixed Use (RMX), Business Park (BP), Office (O), Open Space (OS), and Park and Recreation (PR). See Figure 5 for the existing zoning designations.

The Fresno County Zoning Map designates the portions of the Plan Area outside the city limits as: Rural Commercial Center (RCC), Central Trading (C4), General Commercial (C6), Light Industrial (M1), Exclusive Agricultural (AE20), Limited Agricultural (AL20), Rural Residential (RR), Single Family Residential Agricultural (RA), Single Family Residential (12,500) (R1B), and Trailer Park Residential (TP). Upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would not apply to the parcel.

PROJECT GOALS AND OBJECTIVES

Consistent with the California Environmental Quality Act (CEQA), Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed project shall be discussed. The objectives of the proposed project include future development of land for a wide variety of land uses including: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Medium High Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, Recreation Commercial, General Commercial, Regional Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Pocket Park, Neighborhood Park, Community Park, Open Space, Ponding Basin, Public Facility, Church, Special School, Elementary School, Elementary, Middle & High School, High School, and Fire Station uses, as well as the required transportation and utility improvements.

Other objectives and purposes of the Specific Plan are summarized as follows:

- Accommodate and improve roadway access, connectivity and mobility among all modes of transportation, and prioritize roadway widening where bottlenecking exists.
- Accommodate planned transit services in the West Area by locating routes near or adjacent to the community centers, schools, parks, and retail centers.
- Provide a complete, safe, and well-maintained sidewalk network from residential neighborhoods to commercial centers, schools, parks, and community centers.
- Provide a complete, safe, and well-maintained roadway network that allows for efficient and smooth access from the West Area to other sections of the City and region.
- Create parks that are within existing and planned neighborhoods that are easily accessed by community members using pedestrian and bicycle pathways, transit services, or motor vehicles, consistent with the City of Fresno's Parks Master Plan.
- Provide for the location of a flagship Regional Park in the Plan Area that has components of the Plan Area's agricultural history through the planting of drought-resistant vegetation or trees, and the creation of public art that exhibits the Plan Area's contribution to the agricultural industry.
- Incorporate elements of agriculture in future parks by planting a mixture of native drought tolerant vegetation, shrubs, and trees that can serve to provide shade and enhance the streetscape.
- Encourage and provide land use opportunities for agri-tourism ventures to occur in the West Area.
- Encourage the development of harvest – producing community gardens.
- Attract desired and needed local retail establishments to serve the needs of the West Area community. Such establishments include grocery stores, bakeries, restaurants other than fast food places, and boutiques.
- Discourage the expansion of undesirable retail establishments such as liquor stores, tobacco and vapor stores, short-term loan and pawn shops, and adult stores.
- Encourage the development of retail establishments along commercial corridors.

- Encourage the orderly and consistent development of civic, parkland, retail and commercial, mixed-use, and multi-family uses along West Shaw Avenue, West Ashlan Avenue, Veterans Boulevard, West Shields Avenue, West Clinton Avenue, and Blythe Avenue.
- Encourage a variety of housing types and styles.
- Encourage the development of housing to accommodate an aging population including, multi-generational houses and other elder housing options.
- Reaffirm the City's commitment and obligation to affirmatively furthering access to fair and affordable housing opportunities by strongly encouraging equitable and fair housing opportunities to be located in strategic proximity to employment, recreational facilities, schools, neighborhood commercial areas, and transportation routes.
- Attract much needed educational opportunities for the residents of the West Area, especially for post-secondary education, and access to programs for life-long learners.
- Provide for safe routes to schools for children, with the City and County working together with residents, to provide sidewalks in neighborhood that have sporadic access.
- Work to promote Neighborhood Watch in all neighborhoods, and further assess the need for the location of emergency response facilities west of State Route 99.

PROJECT CHARACTERISTICS AND DESCRIPTION

BACKGROUND

The proposed Specific Plan process officially started in September 2017 with the drafting of the existing conditions report. That document provides a detailed overview of the existing land uses within the Plan Area. Outreach to the West Area community started in early 2018 with individual meetings between City staff and community stakeholders, including residents, local agencies, institutional partners, elected officials, land owners, and developers. Public outreach included community stakeholder interviews, Steering Committee orientation sessions and meetings, community meetings and workshops, and an on-line survey.

The 11-member Steering Committee, established in March 2018 by the Fresno City Council, held regular public meetings to provide recommendations to the draft land use map and guiding principles based on input received from community members. Additionally, approximately 25 community stakeholders were interviewed from January 2018 to April 2018. Next, a kick-off survey regarding the Plan Area was released in April 2018. The survey covered topics such as quality of life, needed improvements, needed housing and commercial development, agri-tourism, and the overall future vision for the Plan Area. Two community conversations (i.e., workshops) were also held in order to receive feedback: Community Conversation No. 1 was held in May 2018, and Community Conversation No. 2 was held in June 2018. The Steering Committee then held meetings in June, July, August, November, and January 2018 in order to review and select the conceptual land use options. The draft land use map and guiding principles were released to the public on November 28, 2018. The draft land use map was then amended by the Steering Committee in January 2019. Lastly, an agri-tourism workshop was held in the spring of 2019.

INTRODUCTION

The proposed Specific Plan will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre Plan Area. The Specific Plan will serve as a bridge between the Fresno General Plan and individual development applications in the Plan Area.

The Specific Plan of the West Area seeks to provide for the orderly and consistent development that promotes and establishes the West Area as a complete neighborhood with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The Plan Area does not currently have needed commercial amenities, forcing residents to travel east of State Route 99 for retail services. The Plan Area also lacks a complete roadway network and parkland.

LAND USE MAP AND MAXIMUM BUILDOUT POTENTIAL

The proposed Specific Plan refines the General Plan's land use vision for the West Area. The draft land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The Specific Plan of the West Area land use plan utilizes the City's existing General Plan land use designations to maintain or re-designate some parcels in the West Area. Some of the designation changes include: Low Density Residential (1 to 3.5 dwelling units per acre [DU/AC]), Medium Low Density Residential (3.5 to 6 DU/AC), Medium Density Residential (5 to 12 DU/AC), Medium High Density Residential (12 to 16 DU/AC), Urban Neighborhood Residential (16 to 30 DU/AC), High Density Residential (30 to 45 DU/AC), Community Commercial (1.0 maximum floor-area-ratio [FAR]), Recreation Commercial (0.5 maximum FAR), General Commercial (2.0 maximum FAR), Regional Commercial (1.0 maximum FAR), Office (2.0 maximum FAR), Business Park (1.0 maximum FAR), Light Industrial (1.0 maximum FAR), Corridor/Center Mixed Use (16 to30 UD/AC and 1.5 maximum FAR), Regional Mixed Use (30 to 45 UD/AC and 2.0 maximum FAR), Pocket Park, Neighborhood Park, Community Park, Open Space, Ponding Basin, Public Facility, Church, Special School, Elementary School, Elementary, Middle & High School, High School, and Fire Station. See Table 1 for a summary of the existing and proposed land uses within the city limits, growth area, and Plan Area. See Figure 6 for the proposed General Plan land use designations.

As previously indicated, the City of Fresno Zoning Map designates the Plan Area as: RE, RS-1, RS-2, RS-3, RS-4, RS-5, RM-1, RM-2, RM-3, RM-MH, CC, CG, CR, CRC, IL, CMX, NMX, RMX, BP, O, OS, and PR. The Fresno County Zoning Map designates the portions of the Plan Area outside the city limits as: RCC, C4, C6, M1, AE20, AL20, RR, RA, R1B, and TP. In conjunction with the approval of the Specific Plan, the parcels in the City which would have a changed land use designation as a result of the Specific Plan would be rezoned to the corresponding City zoning designation.

TABLE 1: PARCEL ACREAGES BY LAND USE CLASSIFICATION FOR GENERAL PLAN AND PROPOSED SPECIFIC PLAN

GENERAL PLAN LAND USE DESIGNATIONS	*CITY LIMITS*			*GROWTH AREA*			*PLAN AREA TOTAL*		
	GENERAL PLAN ACRES	*SPECIFIC PLAN ACRES*	*DIFFERENCE IN CITY*	*GENERAL PLAN ACRES*	*SPECIFIC PLAN ACRES*	*DIFFERENCE IN GROWTH AREA*	*GENERAL PLAN ACRES*	*SPECIFIC PLAN ACRES*	*OVERALL CHANGE*
Low	146.20	95.82		671.59	420.76		817.79	516.57	
Medium Low	582.37	821.03		243.59	635.94		825.97	1,456.98	
Medium	1,460.88	1,240.70		896.13	824.67		2,357.00	2,065.37	
Medium High	261.09	224.31	- 163.47	88.33	51.24	- 143.64	349.42	275.55	- 307.11
Urban Neighborhood	214.65	96.53		213.96	75.11		428.61	171.64	
High	28.00	51.33		37.76	0.00		65.76	51.33	
Subtotal - Residential	*2,693.19*	*2,529.72*		*2,151.36*	*2,007.72*		*4,844.55*	*4,537.44*	
Community	81.87	27.40		56.79	25.34		138.66	52.74	
Recreation	41.34	41.34		0.00	0.00		41.34	41.34	
General	141.59	155.38	- 40.68	1.63	65.40	+ 36.56	143.21	220.78	- 4.11
Regional	0.00	0.00		0.00	4.24		0.00	4.24	
Subtotal - Commercial	*264.80*	*224.12*		*58.42*	*94.98*		*323.21*	*319.10*	
Office	7.51	42.94		0.00	45.87		7.51	88.81	
Business Park	22.71	20.57	+ 32.91	54.40	35.45	+ 26.92	77.11	56.02	+ 59.84
Light Industrial	33.13	32.75		0.00	0.00		33.13	32.75	
Subtotal - Employment	*63.35*	*96.26*		*54.40*	*81.32*		*117.75*	*177.59*	
Neighborhood	0.00	211.12		0.00	44.83		0.00	255.95	
Corridor/Center	106.19	71.78	+ 114.60	0.00	24.23	+ 69.06	106.19	96.00	+ 183.66
Regional	144.72	82.61		0.00	0.00		144.72	82.61	
Subtotal - Mixed Use	*250.90*	*365.50*		*0.00*	*69.06*		*250.90*	*434.56*	
Pocket Park	2.45	1.55		0.00	0.00		2.45	1.55	
Neighborhood Park	36.67	39.22		47.04	47.04		83.71	86.26	
Community Park	24.20	24.20		13.98	0.00		38.18	24.20	
Regional Park	0.00	0.00	+ 24.58	0.00	0.00	+ 14.49	0.00	0.00	+ 10.09
Open Space	5.03	5.03		1.76	1.76		6.79	6.79	
Ponding Basin	67.06	89.99		40.12	39.60		107.18	129.59	
Subtotal - Open Space	*135.41*	*159.99*		*102.90*	*88.41*		*238.31*	*248.40*	
Public Facility	4.98	12.64		16.81	14.78		21.78	27.42	
Church	9.93	21.20		1.66	34.60		11.59	55.80	
Special School	4.50	4.50		13.88	13.88		18.38	18.38	
Elem. School	56.18	66.17	+ 32.05	25.65	25.65	+ 25.59	81.82	91.82	+ 57.65
Elem./Middle/High School	145.37	145.37		0.00	0.00		145.37	145.37	
High School	46.95	46.95		0.00	0.00		46.95	46.95	
Fire Station	0.20	3.32		5.32	0.00		5.52	3.32	
Subtotal - Public Facilities	*268.10*	*300.15*		*63.32*	*88.91*		*331.41*	*389.06*	
Grand Total	***3,675.75***	***3,675.75***	**--**	***2,430.39***	***2,430.39***	**--**	***6,106.14***	***6,106.14***	**--**

The parcels that are currently within the County will not be rezoned. Instead, upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would not apply to the parcel.

Table 2 summarizes the acreages of each land use, the maximum number of units, and the maximum non-residential square footage that would be allowed under the proposed Specific Plan.

TABLE 2: MAXIMUM DEVELOPMENT POTENTIAL WITHIN SPECIFIC PLAN OF THE WEST AREA

General Plan Land Use Designations (and Density/Intensity)	*Specific Plan Acres*	*Maximum Development Potential*	
		Dwelling Units	*Non-Residential SF*
Low (1-3.5 DU/AC)	516.57	1,807	--
Medium Low (3.5-6 DU/AC)	1,456.98	8,741	--
Medium (5-12 DU/AC)	2,065.37	24,784	--
Medium High (12-16 DU/AC)	275.55	4,408	--
Urban Neighborhood (16-30 DU/AC)	171.64	5,149	--
High (30-45 DU/AC)	51.33	2,309	--
Subtotal - Residential	*4,537.44*	*47,199*	--
Community (1.0 Max. FAR)	52.74	--	2,297,354.40
Recreation (0.5 Max. FAR)	41.34	--	900,385.20
General (2.0 Max. FAR)	220.78	--	19,234,353.60
Regional (1.0 Max. FAR)	4.24	--	184,694.40
Subtotal - Commercial	*319.10*	--	*22,616,787.60*
Office (2.0 Max. FAR)	88.81	--	--
Business Park (1.0 Max. FAR)	56.02	--	--
Light Industrial (1.0 Max. FAR)	32.75	--	--
Subtotal - Employment	*177.59*	--	--
Neighborhood (12-16 DU/AC; 1.5 Max. FAR)	255.95	4,095	16,723,773.00
Corridor/Center (16-30 UD/AC; 1.5 Max. FAR)	96.00	2,880	6,272,640.00
Regional (30-45 UD/AC; 2.0 Max. FAR)	82.61	3,717	7,196,983.20
Subtotal - Mixed Use	*434.56*	*10,692*	*30,193,396.20*
Pocket Park	1.55	--	--
Neighborhood Park	86.26	--	--
Community Park	24.20	--	--
Regional Park	0.00	--	--
Open Space	6.79	--	--
Ponding Basin	129.59	--	--
Subtotal - Open Space	*248.40*	--	--
Public Facility	27.42	--	--
Church	55.80	--	--
Special School	18.38	--	--
Elem. School	91.82	--	--
Elem./Middle/High School	145.37	--	--
High School	46.95	--	--
Fire Station	3.32	--	--
Subtotal - Public Facilities	*389.06*	--	--
Grand Total	***6,106.14***	***57,891 DU***	***52,810,183.80 SF***

As shown in the table, the Specific Plan would allow for the future development of up to 57,891 DU (including 47,199 DU in the residential category and 10,692 DU in the mixed use category) and 52,810,183.80 SF of non-residential uses. The proposed land use plan also designates public facility uses that are currently existing within the Plan Area, including schools and churches. In the northern portion of the Plan Area, Fire Station No. 18 is located off of West Bullard Avenue at 5938 North La Ventana Avenue. Fire Station 18 will be relocated to a permanent location on

the south side of the 6000 block of West Shaw Avenue to maximize the department's "4 Minutes to Excellence" response time goal. Additionally, the proposed land use plan would allow for approximately 248 acres of park, open space, and ponding basin uses. The Specific Plan also includes circulation and utility improvements, some of which are planned in the City's current program for capital improvements.

The Specific Plan is designed to provide flexibility, so there is an extensive number of hypothetical variations/combinations for residential and non-residential development. However, the data within the above table represents the maximum density allowed without an amendment approved by the City. In effect, this is very likely an overestimate of what will actually be developed, but for purposes of environmental analysis in the EIR it represents the worst-case scenario.

It is noted that the proposed Specific Plan would amend the land uses for approximately half of the land within the Plan Area. The remaining parcels would maintain their existing land use and zoning designations. The parcels that are proposed for change by the proposed land use map are shown in Figure 7.

REVISIONS TO CORE GOALS

In addition to the proposed land use plan, the following are revisions to the core goals provided in the General Plan for the West Area:

1. West Shaw Avenue Town Center: The West Shaw Avenue Town Center (the Town Center) will extend from State Route 99 to the east side of Grantland Avenue and is envisioned to be comprised of mixed-use development supported by enhanced transit service. Land on the south side of West Shaw Avenue will provide additional neighborhood and commercial mixed-use opportunities.
2. Catalytic Corridors: The proposed Specific Plan designates higher density land uses along corridors for the purpose of providing easy access to major arterials and streets, retail centers, and community amenities. Catalytic corridors will include transit services. The corridors are designed to include neighborhood and pocket parks, commercial and retail uses, educational facilities, multi-family dwelling units, and professional offices. The corridors are located on the following streets:
    a) West Shaw Avenue, from State Route 99 to the east side of Grantland Avenue;
    b) West Ashlan Avenue, from State Route 99 to the commercial nodes located on the west side of Grantland Avenue;
    c) North Blythe Avenue, from West Shields to West Ashlan Avenue;
    d) West Clinton Avenue from State Route 99 to North Brawley Avenue; and
    e) Veterans Boulevard, from West Gettysburg Avenue to West Barstow Avenue.

PROJECT ALTERNATIVES

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that

requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must "set forth only those alternatives necessary to permit a reasoned choice." (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a "range of reasonable alternatives" and, thus limit the number and type of alternatives that need to be evaluated in an EIR. An EIR need not include any action alternatives inconsistent with the lead agency's fundamental underlying purpose in proposing a project. (In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1166.)

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, "feasible" is defined as:

> … *capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.* (CEQA Guidelines 15364)

The inclusion of an alternative in an EIR is not evidence that it is feasible as a matter of law, but rather reflects the judgment of lead agency staff that the alternative is potentially feasible. The final determination of feasibility will be made by the lead agency decision-making body through the adoption of CEQA Findings at the time of action on the Project. (Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal.App.4th 477, 489 see also CEQA Guidelines, §§ 15091(a)) (3) (findings requirement, where alternatives can be rejected as infeasible); 15126.6 ([an EIR] must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation").) The following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (Section 15126.6 (f) (1)).

ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Equally important to attaining the project objectives is the reduction of some or all significant impacts, particularly those that could not be mitigated to a less-than-significant level. The exact alternatives that will be evaluated in the Draft EIR will be determined through the Notice of Preparation (NOP) and Scoping Process. Through preliminary discussions, there are three alternatives to the proposed Specific Plan that are being contemplated for evaluation in the Draft EIR. The alternatives being considered include the following:

- **No Project (Existing General Plan) Alternative**: Under this alternative, the Plan Area would remain in its current General Plan land use and zoning designations. Future development allowed under the existing General Plan land use map would be permitted in the Plan Area.
- **Regional Park Alternative:** Under this alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map. However, this alternative would provide a Regional Park within the Plan Area, which would be a minimum of 40 acres in size.
- **Lower Density Alternative:** Under this alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map, but at lower densities.

It is noted that the final alternatives selected for analysis in the Draft EIR will be based on the public scoping process, including input received through public comment.

PLAN ADOPTION AND REGULATION

The Specific Plan may include certain development regulations and standards that are intended to be specific to the Specific Plan Area. Where there is a matter or issue not specifically covered by the Specific Plan development regulations and design standards, the Fresno Zoning Code would apply. Where there is a conflict between the Specific Plan and the Zoning Code, the Specific Plan would prevail.

The Specific Plan is intended to be adopted by the City Council and to serve as a tool for the City of Fresno to implement. The Specific Plan is to be used by designers, developers, builders, and planners, to guide development of the Plan Area. The land use, development standards, and design guidelines are provided to ensure that all proposed developments remain consistent with the vision established by the Specific Plan as the Project is built over time. The Specific Plan development concepts, design guidelines, and standards are in accordance with the City's General Plan, Municipal Ordinances, and City Specifications. The Specific Plan shall be used to review, process, and approve development proposals for the Project site including but not limited to site specific development applications and site improvement plans.

TYPE OF EIR

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the proposed project as a whole.

It is noted that the Specific Plan provides a very broad level of planning detail. To the extent that sufficient detail is available in the Specific Plan, a more detailed level of analysis is provided in this EIR. Examples of a more detailed level of analysis would include topics that are related to the physical acreage affected (i.e. the project footprint), maximum number of units (or FAR), land uses/zoning, or other design parameters. In many cases, there will be site specific uses that

will have design details developed at a later date. These details are unknown at this time and cannot reasonably be analyzed at a project-level at this time.

This EIR examines the planning, construction and operation of the project. The program-level approach, with limited project-level analysis, is appropriate for the proposed project because it allows comprehensive consideration of the reasonably anticipated scope of the development plan; however, as discussed above, not all design aspects of the future development phases are known at this stage in the planning process. Subsequent individual development that requires further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

CEQA Guidelines Section 15168 states that a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1. Geographically,
2. As logical parts in the chain of contemplated actions,
3. In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

According to CEQA Guidelines section 15168, subdivision (c)(5), "[a] program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible." Later environmental documents (EIRs, mitigated negative declarations, or negative declarations) can incorporate by reference materials from the program EIR regarding regional influences, secondary impacts, cumulative impacts, broad alternatives, and other factors (CEQA Guidelines Section 15168[d][2]). These later documents need only focus on new impacts that have not been considered before (CEQA Guidelines Section 15168[d][3]).

Section 15168(c), entitled "Use with Later Activities," provides, in pertinent part, as follows:

Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared:

1. If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
2. If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activities as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
3. An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

4. Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

Here, the City anticipates preparing an initial study whenever landowners within the Plan Area submit applications for site-specific approvals (i.e. tentative maps, conditional use permits, or other discretionary entitlements). The initial study would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. are there new environmental effects that were not covered by the program EIR). The City's expectation, at least at present, is that the initial study will conclude that most components of the Specific Plan can be developed with no new analysis of environmental effects given that there has been analysis in this program EIR. In some cases, however, a site-specific application (i.e. commercial use) may have specific issues associated with the project, or business, that this program EIR could not anticipate given the information that was available at this time. In those situations, the detailed site-specific information from that application could have site-specific effects not wholly anticipated in this EIR and would require some additional environmental review. (See also CEQA Guidelines section 15063, subd. (b)(1)(C).)

Future site-specific approvals may also be narrowed pursuant to the rules for tiering set forth in CEQA Guidelines Section 15152. "'[T]iering is a process by which agencies can adopt programs, plans, policies, or ordinances with EIRs focusing on 'the big picture,' and can then use streamlined CEQA review for individual projects that are consistent with such…[first tier decisions] and are…consistent with local agencies' governing general plans and zoning.'" (*Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29, 36.) Section 15152 provides that, where a first-tier EIR has "adequately addressed" the subject of cumulative impacts, such impacts need not be revisited in second- and third-tier documents. Furthermore, second- and third-tier documents may limit the examination of impacts to those that "were not examined as significant effects" in the prior EIR or "[a]re susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means." In general, significant environmental effects have been "adequately addressed" if the lead agency determines that:

1. they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental impact report; or
2. they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.

Here, as noted above, the City anticipates preparing Initial Study whenever landowners within the Plan Area submit applications for site-specific approvals (i.e. tentative maps, conditional use

permits, or other discretionary entitlements). The checklist would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. have all significant environmental impacts identified been "adequately addressed" in the program EIR). Thus, if a new analysis is required for these site-specific actions, it would focus on impacts that cannot be "avoided or mitigated" by mitigation measures that either (i) were adopted in connection with the Specific Plan or (ii) were formulated based on information in this EIR.

In addition, because the EIR addresses the effects of rezoning the land within the proposed Plan Area, future environmental review can also be streamlined pursuant to Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183. These provisions, which are similar but not identical to the tiering provisions, generally limit the scope of necessary environmental review for site-specific approvals following the preparation of an EIR for a "zoning action." For such site-specific approvals, CEQA generally applies only to impacts that are "peculiar to the parcel or to the project" and have not been previously disclosed, except where "substantial new information" shows that previously identified impacts would be more significant than previously assumed. Notably, impacts are considered not to be "peculiar to the parcel or to the project" if they can be substantially mitigated pursuant to previously adopted, uniformly applied development policies or standards. As noted above, the City anticipates that, in assessing the extent to which the Specific Plan EIR has previously addressed significant impacts that might occur with individual projects, the City may conclude that in some instances (e.g., with respect to agricultural resources, cultural resources, geology, soils, and paleontological resources), no further analysis beyond that found in the program EIR will be necessary.

Finally, for purely residential projects consistent with the Specific Plan, the City intends to preserve its ability to treat such projects as exempt from CEQA pursuant to Government Code section 65457. Subdivision (a) of that statute provides that "[a]ny residential development project, including any subdivision, or any zoning change that is undertaken to implement and is consistent with a specific plan for which an [EIR] has been certified after January 1, 1980, is exempt from the requirements of [CEQA]." The statutes go on to say, moreover, that "if after adoption of the specific plan, an event as specified in Section 21166 of the Public Resources Code occurs, the exemption provided by this subdivision does not apply unless and until a supplemental [EIR] for the specific plan is prepared and certified in accordance with the provisions of [CEQA]. After a supplemental [EIR] is certified, the exemption … applies to projects undertaken pursuant to the specific plan." (See also CEQA Guidelines section 15182.)

When purely residential projects are proposed, the City will consider whether they qualify for this exemption or whether the Specific Plan EIR must be updated through a supplement to this EIR or a subsequent EIR as required by Public Resources Code section 21166 and CEQA Guidelines sections 15162 and 15163.

PROJECT ENTITLEMENTS

The City of Fresno will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Certification of the EIR and adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- Approval of the Specific Plan of the West Area;
- Approval of the General Plan amendment modifying land uses.
- Approval of the Zoning Ordinance amendment modifying zoning.

The EIR analyzes the impacts of the Specific Plan and the anticipated subsequent filing of maps and other development applications in the future. Therefore, the EIR analyzes the maximum impacts of the Specific Plan, including these applications yet unfiled, so that future filings will not require separate environmental analysis, as long as development proposed does not substantially deviate from the approved Specific Plan.

ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR will involve the following general procedural steps:

NOTICE OF PREPARATION

The City must circulate a NOP of an EIR for the proposed project to responsible and trustee agencies, the State Clearinghouse, and the public. A public scoping meeting must be held during the public review period to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP will be considered during preparation of the Draft EIR. The NOP and responses to the NOP by interested parties will be presented in an appendix to the EIR.

DRAFT EIR

The Draft EIR will contain a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The Draft EIR will identify issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP will be considered in preparing the analysis in the EIR. Upon completion of the Draft EIR, the City will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the 45-day public review period.

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to significant environmental issues raised either in written comments received during the public review period or in oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

CEQA Guidelines Section 15090 requires lead agencies to certify the final EIR prior to approving a project. The lead agency decision making body shall certify that (i) the Final EIR has been completed in compliance with CEQA; (ii) that the Final EIR was presented to the decision-making body, which reviewed and considered the information contained in the Final EIR prior to approving the project; and (iii) that the Final EIR reflects the lead agency's independent judgment and analysis.

For the proposed project, the City Council City shall be the City's ultimate decision-making body. The Council will therefore review and consider the Final EIR and make a determination regarding whether the document is "adequate and complete." In general, a Final EIR meets this standard if:

1. The EIR shows a good faith effort at full disclosure of environmental information; and
2. The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

The level of detail contained throughout the EIR is intended to be consistent with Section 15151 of the CEQA Guidelines and recent court decisions, which provide the standard of adequacy on which the document is based. The Guidelines state as follows:

> *"An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of the environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."*

Following review and consideration of the Final EIR, the City may take action to approve, modify, or reject the project. As part of project approval, the City also is also required to adopt a Mitigation Monitoring and Reporting Program, as described below, prepared in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097. This Mitigation Monitoring and Reporting Program must include all of the mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment, and would be designed to ensure that these measures are actually carried out during project implementation.

USES OF THE EIR AND REQUIRED AGENCY APPROVALS

The City of Fresno will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Other agencies may be required to issue permits or approve certain aspects of the proposed project.

Actions that would be required from the City include, but are not limited to, the following:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Approval of City of Fresno General Plan Amendments;
- Approval of City of Fresno rezoning;
- Approval of Specific Plan;
- Approval of Development Agreement;
- Approval of future tentative and final maps;
- Approval of future improvement plans;
- Approval of future grading plans;
- Approval of future building permits;
- Approval of future site plan and design review;
- City review and approval of future project utility plans.

The other governmental agencies that may require approvals in connection with the project include, but are not limited to, the following:

- California Department of Fish and Wildlife;
- California Department of Transportation;
- Central Valley Regional Water Quality Control Board - Storm Water Pollution Prevention Plan approval prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District - Approval of construction-related air quality permits;
- San Joaquin Valley Air Pollution Control District - Authority to Construct, Permit to Operate for stationary sources of air pollution;
- State Water Resources Control Board.

AREAS OF POTENTIAL IMPACTS

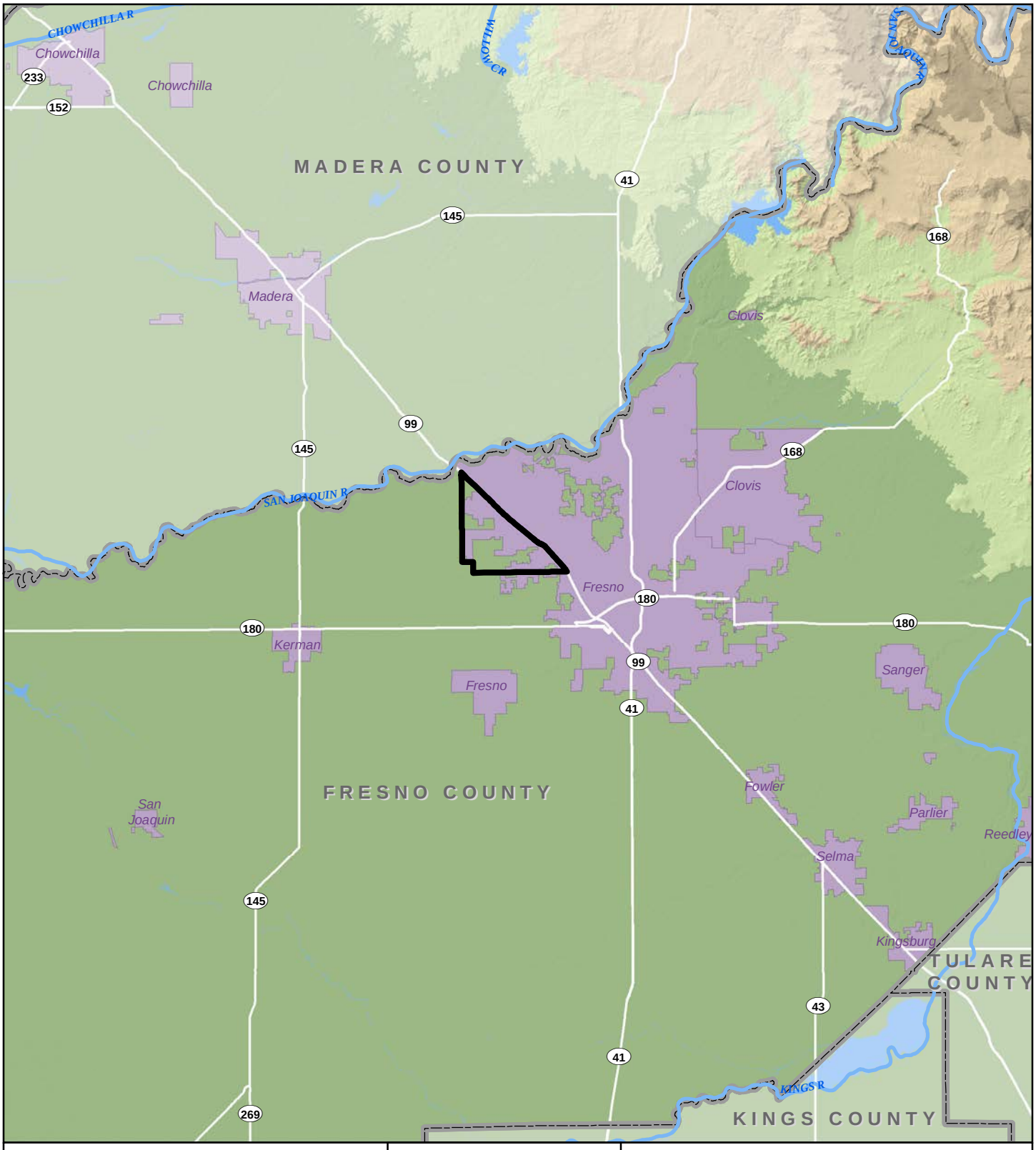
An Initial Study has not been prepared for this project. All environmental topics identified in Appendix G of the State CEQA Guidelines will be analyzed in the EIR, including: Aesthetics, Agricultural and Forest Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gases and Climate Change, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, Wildfire, Cumulative Impacts, and Growth Inducing Impacts.

Date: June 28, 2019

Signature: 

Name/Title: Rodney L. Horton, MPA, Project Planner

Phone/Email: 559-621-8181/Rodney.Horton@fresno.gov



Legend

- Specific Plan of the West Area
- City Area
- County Boundary

N

0 2½ 5

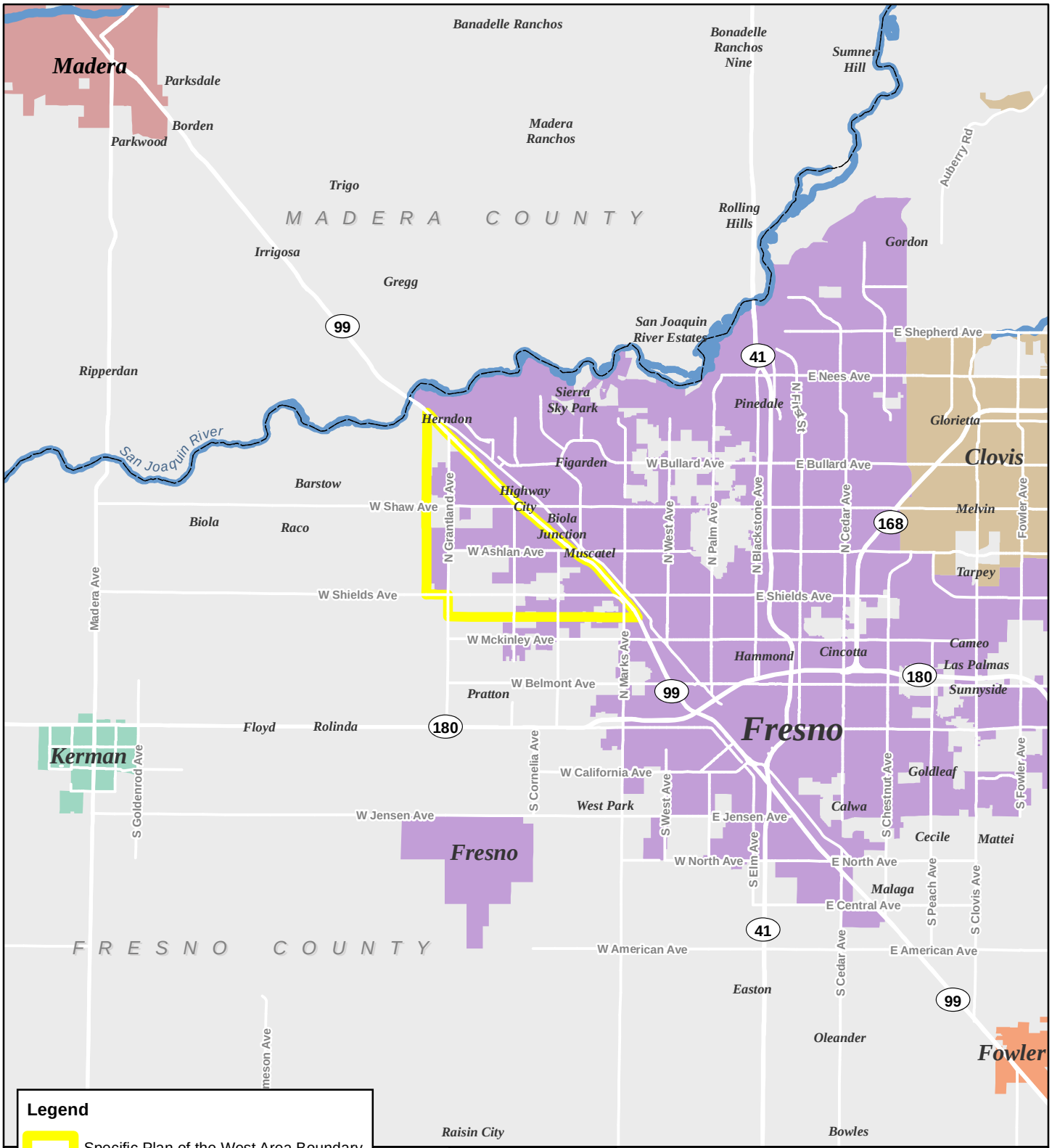
Miles

Sources: CalAtlas; Madera County; Fresno County. Map date: May 8, 2019.

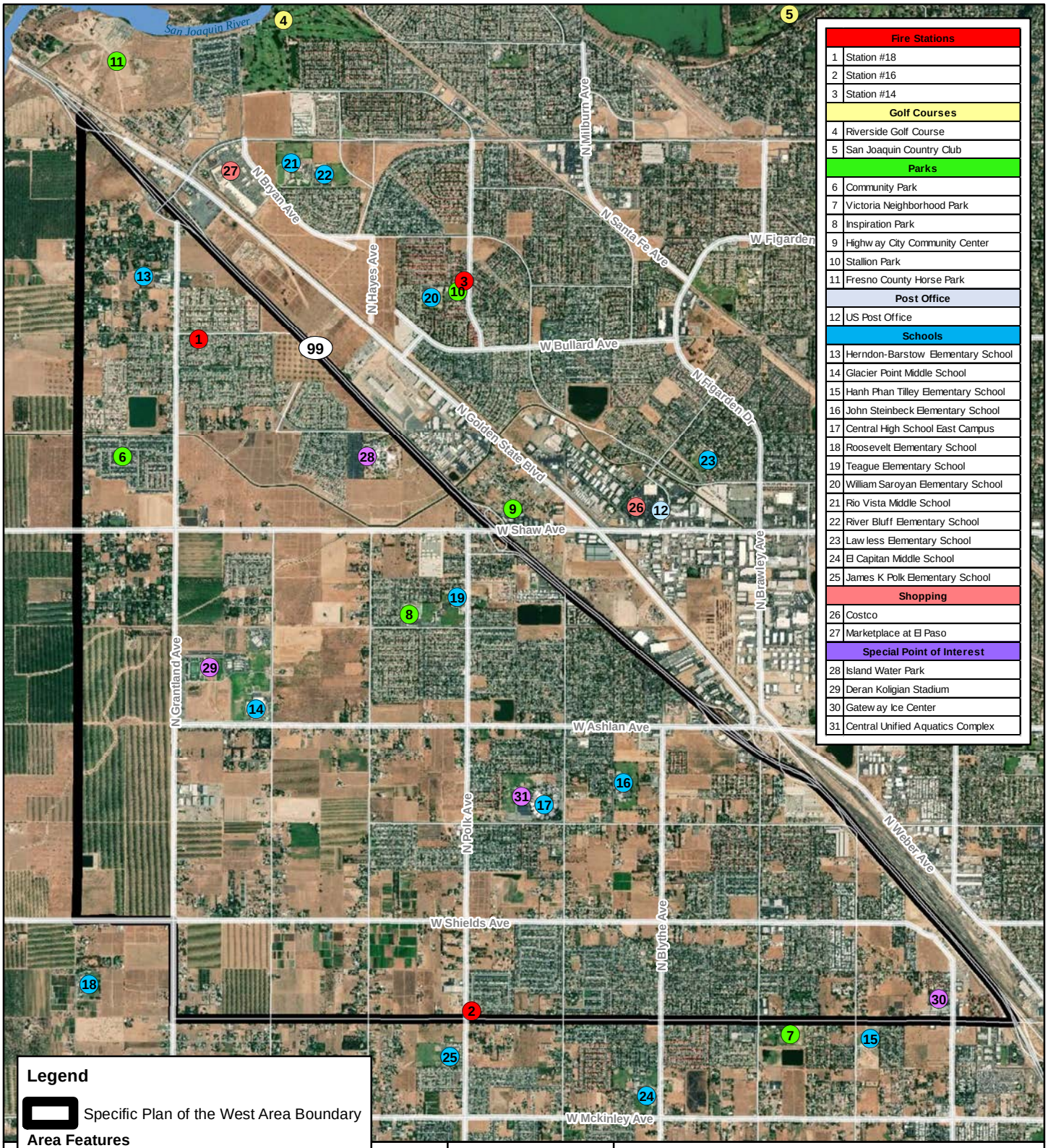
CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 1. Regional Location Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm



Sources: Fresno County; Madera County, Cal Atlas. Map date: May 7, 2019.



Fire Stations	
1	Station #18
2	Station #16
3	Station #14
Golf Courses	
4	Riverside Golf Course
5	San Joaquin Country Club
Parks	
6	Community Park
7	Victoria Neighborhood Park
8	Inspiration Park
9	Highway City Community Center
10	Stallion Park
11	Fresno County Horse Park
Post Office	
12	US Post Office
Schools	
13	Herndon-Barstow Elementary School
14	Glacier Point Middle School
15	Hanh Phan Tilley Elementary School
16	John Steinbeck Elementary School
17	Central High School East Campus
18	Roosevelt Elementary School
19	Teague Elementary School
20	William Saroyan Elementary School
21	Rio Vista Middle School
22	River Bluff Elementary School
23	Lawless Elementary School
24	El Capitan Middle School
25	James K Polk Elementary School
Shopping	
26	Costco
27	Marketplace at El Paso
Special Point of Interest	
28	Island Water Park
29	Deran Koligian Stadium
30	Gateway Ice Center
31	Central Unified Aquatics Complex

Legend

Specific Plan of the West Area Boundary

Area Features

- Fire Station
- Golf Course
- Park
- Post Office
- School
- Shopping
- Special Point of Interest

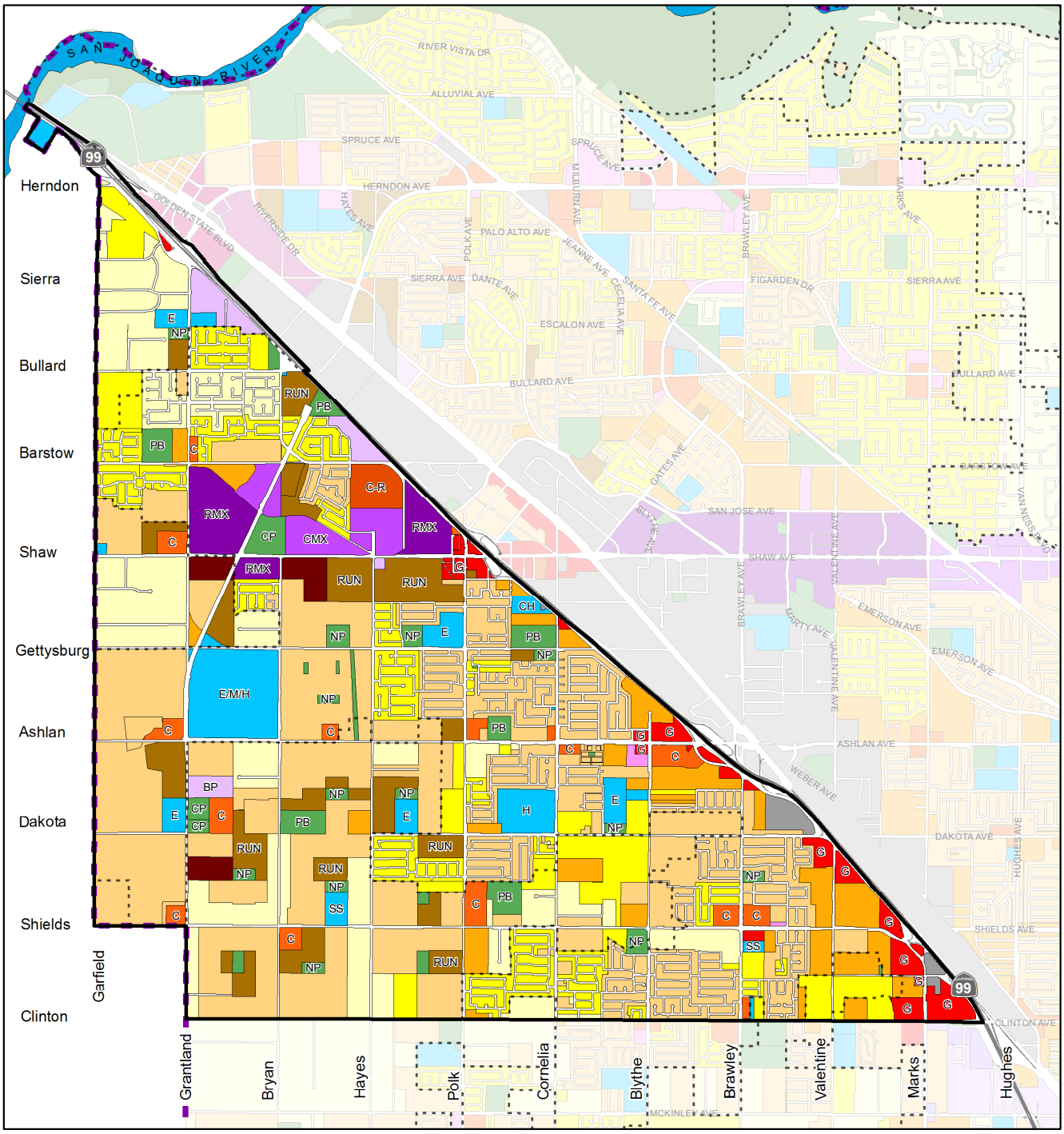
0 ¼ ½ Miles

Sources: Fresno County; Madera County, Cal Atlas. Map date: May 8, 2019.

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 3. Aerial View of Project Site

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm



BOUNDARIES
- City Limits
- West Area Specific Plan Boundary
- Sphere Of Influence

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

PUBLIC FACILITIES
- Public/Quasi-public Facility
- SS Special School
- E Elementary School
- E/M/H Elementary, Middle & High School
- H High School
- CH Church
- FS Fire Station

EMPLOYMENT
- Office
- BP Business Park
- Light Industrial

MIXED USE
- CMX Corridor/Center Mixed Use
- RMX Regional Mixed Use

OPEN SPACE
- CP Community Park
- PB Open Space - Ponding Basin
- NP Neighborhood Park
- Open Space
- P Park

COMMERCIAL
- Community
- Recreation
- General

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 4. Existing General Plan Land Use Designations

N

0 0.25 0.5 Miles

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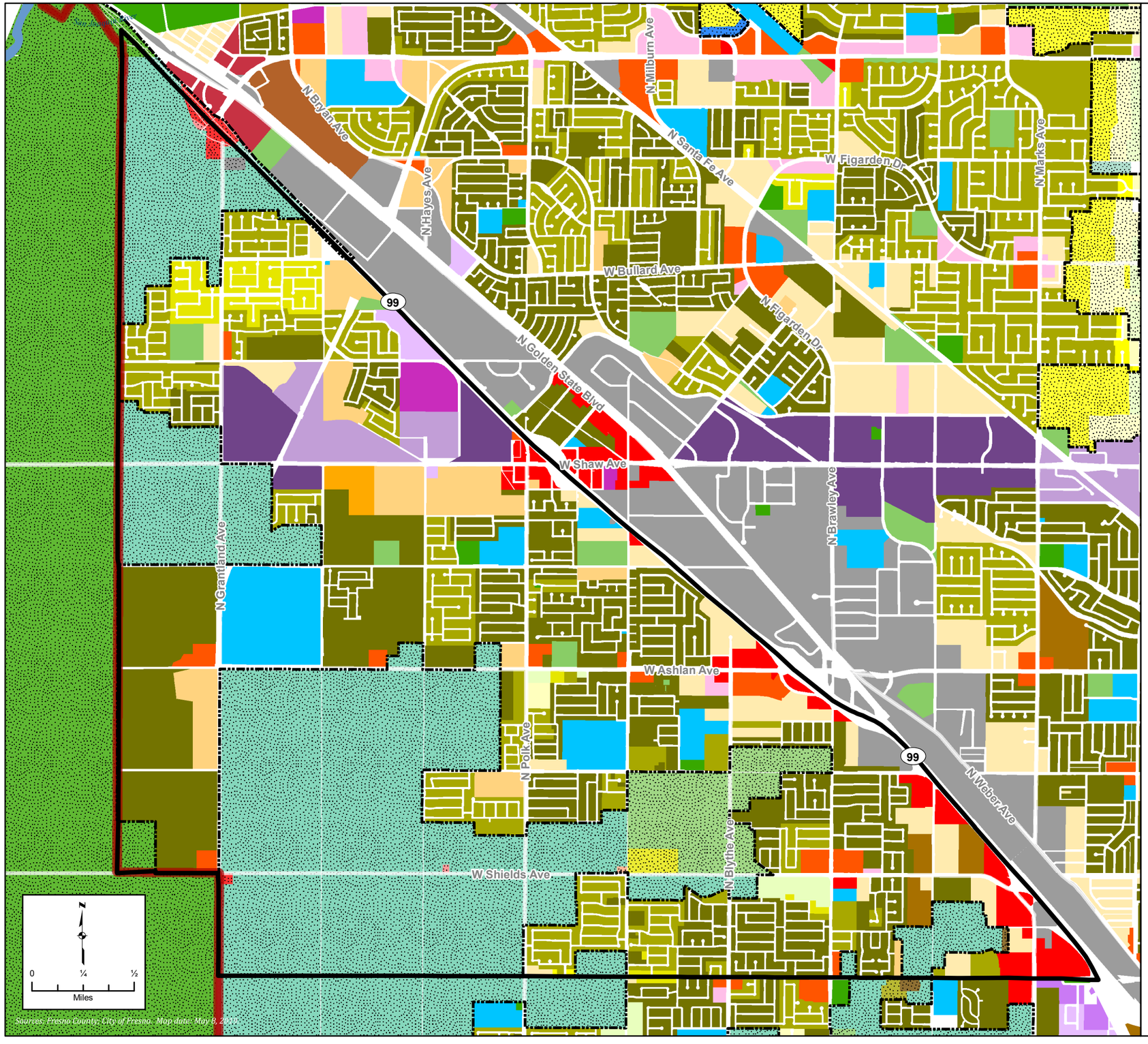
CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 5. Existing Zoning Designations



Sources: Fresno County; City of Fresno. Map date: May 8, 2015

BOUNDARIES

- Specific Plan of the West Area Boundary
- Fresno City Limits
- Fresno Sphere of Influence

CITY OF FRESNO ZONING DESIGNATIONS

- CC:Commercial Community
- CG:Commercial General
- CH:Commercial Highway and Auto
- CR:Commercial Regional
- CRC:Commercial Recreation
- IL:Light Industrial
- CMX:Corridor/Center Mixed Use
- NMX:Neighborhood Mixed Use
- RMX:Regional Mixed Use
- BP:Business Park
- O:Office
- PI:Public and Institutional
- OS:Open Space
- PR:Park and Recreation
- RE:Residential Estate
- RS-1:Residential Single-Family, Extremely Low Density
- RS-2:Residential Single-Family, Very Low Density
- RS-3:Residential Single-Family, Low Density
- RS-4:Residential Single-Family, Medium Low Density
- RS-5:Residential Single-Family, Medium Density
- RM-1:Residential Multi-Family, Medium High Density
- RM-2:Residential Multi-Family, Urban Neighborhood
- RM-3:Residential Multi-Family, High Density
- RM-MH:Mobile Home Park

FRESNO COUNTY ZONING DESIGNATIONS

- County Overlay
- RCC - Rural Commercial Center
- C4 - Central Trading
- C6 - General Commercial
- M1 - Light Manufacturing
- CP - Administrative/Professional Office
- AE20 - Exclusive Agriculture
- AL20 - Limited Agriculture
- RA - Single Family Residential Agricultural
- RR - Rural Residential
- R1E/R1EH - Single Family Residential Estates (37,500)
- R1A/R1AH - Single Family Residential (20,000)
- R1B - Single Family Residential (12,500)
- R1C - Single Family Residential (9,000)
- R1 - Single Family Residential (6,000)
- TP - Trailer Park Residential

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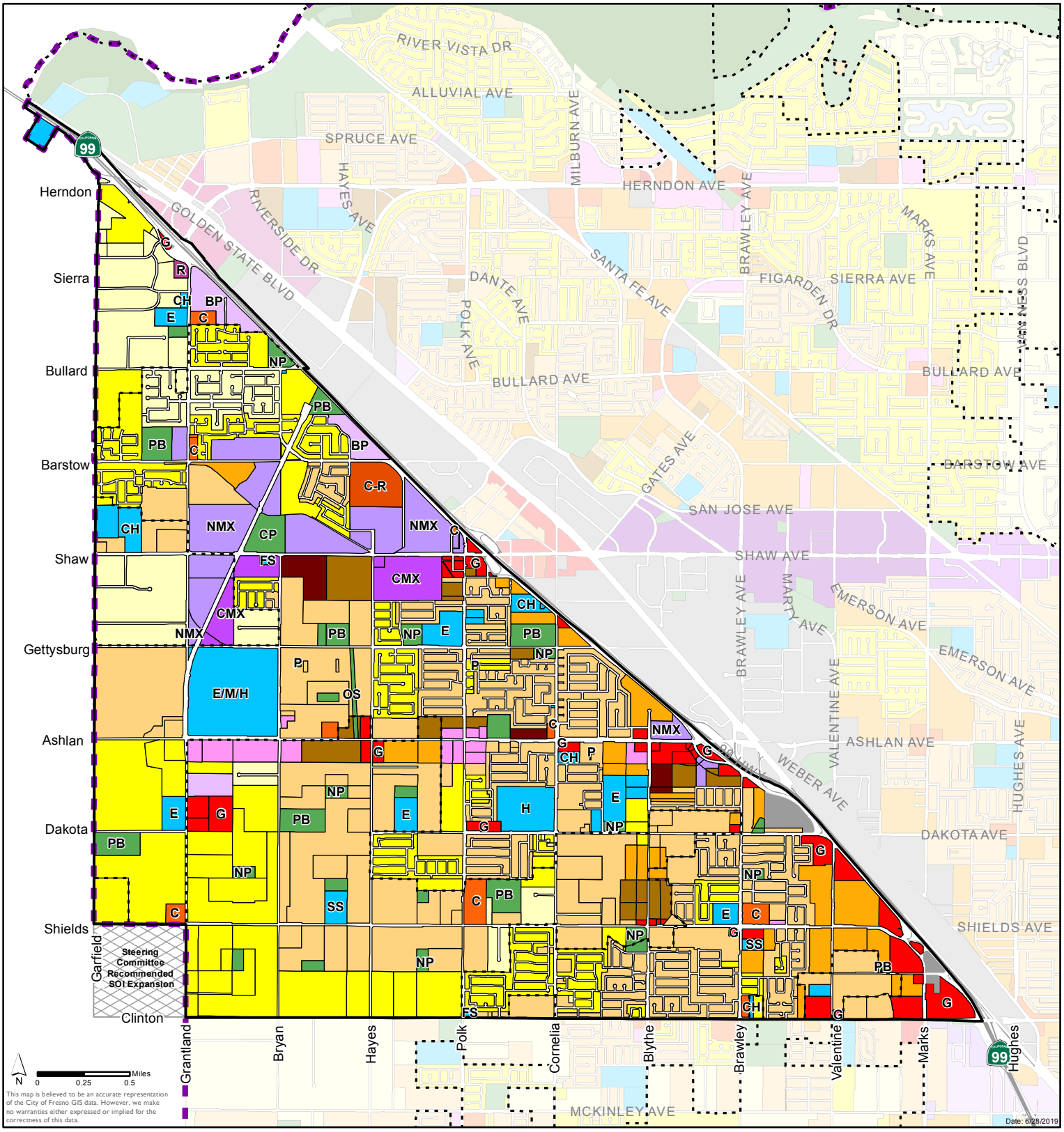


Figure 6. Proposed General Plan Land Use Designations

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

COMMERCIAL
- Community
- Recreation
- General
- Regional

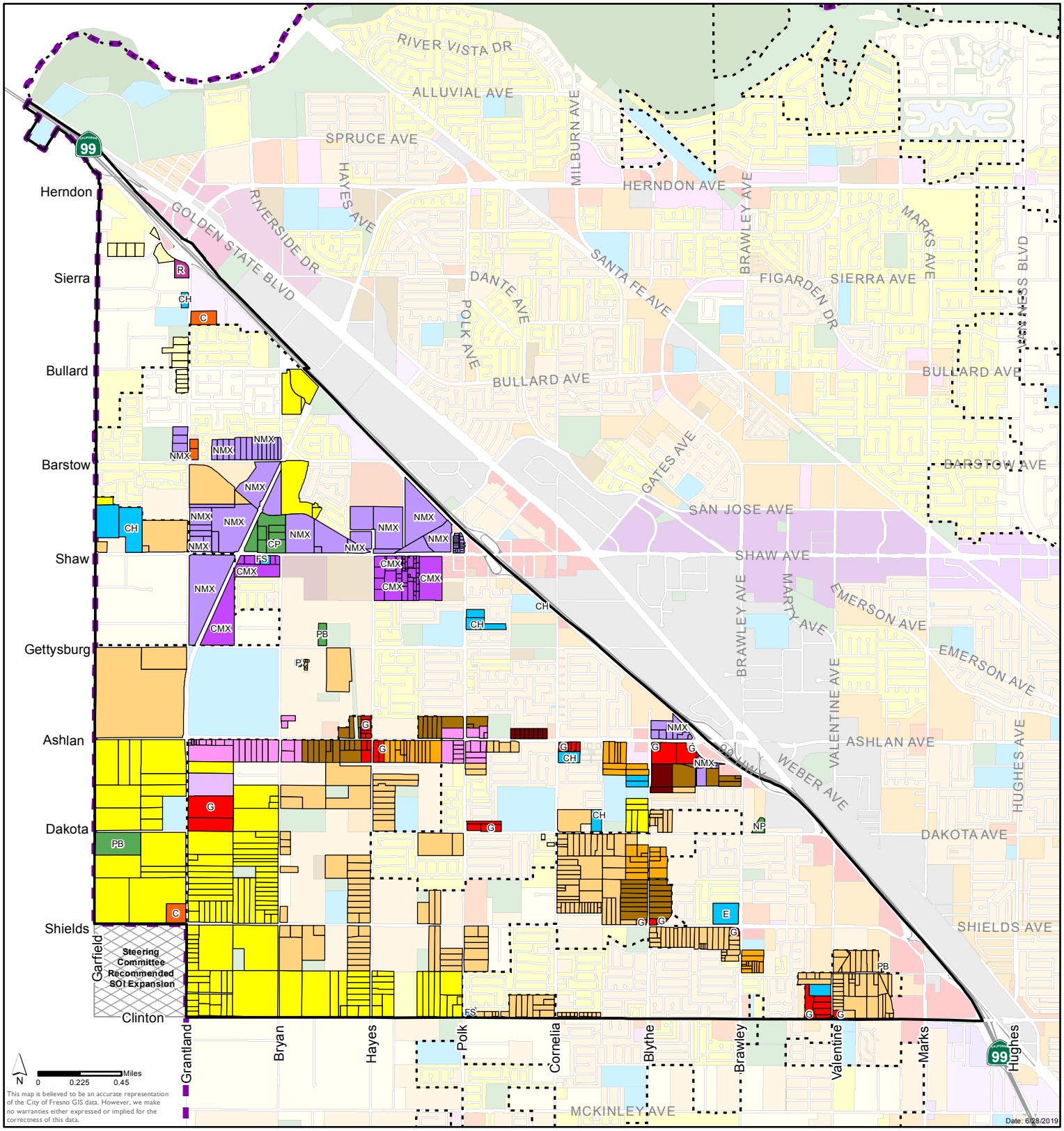
EMPLOYMENT
- Office
- Business Park
- Light Industrial

MIXED USE
- Neighborhood Mixed Use
- Corridor/Center Mixed Use
- Regional Mixed Use

OPEN SPACE
- Community Park
- Pocket Park
- Neighborhood Park
- Open Space
- Park
- Ponding Basin

PUBLIC FACILITIES
- Public/Quasi-public Facility
- Special School
- Elementary School
- Elementary & Middle School
- Elementary, Middle & High School
- High School
- Church
- Fire Station

BOUNDARIES
- Fresno City Limts
- Specific Plan of the West Area
- Sphere Of Influence



Source: City of Fresno

Figure 7. Parcels Proposed for Change in Proposed Land Use Map

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

COMMERCIAL
- Community
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- Regional

EMPLOYMENT
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- CMX Neighborhood Mixed Use
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PUBLIC FACILITIES
- Public/Quasi-public Facility
- E Elementary School
- CH Church
- FS Fire Station

BOUNDARIES
- Specific Plan of the West Area
- Fresno City Limits
- Sphere Of Influence

Elise Carroll

From: Steve McMurtry <smcmurtry@denovoplanning.com>
Sent: Thursday, August 1, 2019 4:22 PM
To: 'Elise Carroll'; 'Josh Smith'
Subject: FW: Notice of Preparation for the Specific Plan of the West Area
Attachments: image001.png

NOP comments

Steve McMurtry | Principal
De Novo Planning Group | www.denovoplanning.com
smcmurtry@denovoplanning.com | 916.580.9818
Northern California | 1020 Suncast Lane #106 | El Dorado Hills, CA 95762
Southern California | 180 East Main Street # 108 | Tustin, CA 92780

From: Rodney Horton <Rodney.Horton@fresno.gov>
Sent: Thursday, August 1, 2019 11:48 AM
To: 'smcmurtry@denovoplanning.com' <smcmurtry@denovoplanning.com>
Subject: FW: Notice of Preparation for the Specific Plan of the West Area

Please see the comments below.

Rodney

From: April Henry [mailto:april.hccd@gmail.com]
Sent: Thursday, August 01, 2019 9:57 AM
To: Rodney Horton
Subject: Re: Notice of Preparation for the Specific Plan of the West Area

Rodney,
As I am becoming intimately involved with DRIVE for a 10 year plan, and am sitting specifically on the core team of "Civic Infrastructure for Low Opportunity Neighborhoods", as a community leader and community member, I am really concerned that this plan is riddled with a lack of true community input.
It became so academically wordy that only those on the committee who seem to have personal agendas for what they wanted to see done, it lost what really needs to be done in forgotten Fresno, and makes huge assumptions based on land use (that plan also was not the voice of the community) and assumes large chunks of land owners will want to change their zoning/use
I don't know how to change that but it can cause initiative changes that really dont accomplish the overall wish of the neighborhoods and then work against this 20 year plan.

On Fri, Jun 28, 2019, 4:50 PM Rodney Horton <Rodney.Horton@fresno.gov> wrote:

Dear Friends of the West Area and Interested Parties,

I am pleased to provide you with an electronic copy of the Notice of Preparation for the Specific Plan of the West Area. This is to notify public agencies and the general public that the City of Fresno, as the Lead Agency, will prepare an Environmental Impact Report (EIR) for the Specific Plan of the West Area. The City of Fresno is interested in the input and/or comments of public agencies and the general public as to the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the proposed project, and public input. Responsible/trustee agencies will need to use the EIR prepared by the City of Fresno when considering applicable permits, or other approvals for the proposed project. Consistent with the time limits prescribed by California State law, your input, comments or responses must be received in writing and sent at the earliest possible date, but not later than 5:00 p.m., August 2, 2019. Please send your comments/input (including the name for a contact person in your agency) to me. You may use the following methods:

Mail:

City of Fresno – DARM

Attn: Rodney Horton

2600 Fresno Street, Suite 3065

Fresno, CA 93721-3604

Electronic mail:

rodney.horton@fresno.gov

Also, on July 24, 2019, the City of Fresno will conduct a public scoping meeting to solicit input and comments from public agencies and the general public on the proposed project and scope of the EIR. This meeting will be held at the Glacier Point Middle School, Cafeteria, located at 4055 N. Bryan Avenue, Fresno, CA 93722, from 6:00 PM to 7:30 PM. This meeting will be an open house format and interested parties may drop in to review the proposed project exhibits and submit written comments at any time between 6:00 PM and 7:30 PM. Representatives from the City of Fresno and the EIR consultant will be available to address questions regarding the EIR process and scope. Members of the public may provide written comments throughout the meeting.

If you have any questions regarding the scoping meeting, contact me at (559) 621-8181 or rodney.horton@fresno.gov.

Thank you,

Rodney L. Horton, MPA

Planner III

Development and Resource Management Department

Rodney.Horton@fresno.gov

559.621.8181

Disclaimer:

This email is for informational purposes, and is not intended to spark a dialogue between Steering Committee members with or without the public, which may infringe on the Brown Act. These matters may be discussed at future public Steering Committee meetings or with City staff.

Please be advised, in accordance with the applicable provisions of the Brown Act, all forms of community feedback and public input that is provided to the City of Fresno will be made available to the general public.

Elise Carroll

From: Steve McMurtry <smcmurtry@denovoplanning.com>
Sent: Friday, August 2, 2019 3:15 PM
To: 'Elise Carroll'
Subject: FW: Concerned citizen of Herndon Acres

Steve McMurtry | Principal
De Novo Planning Group | www.denovoplanning.com smcmurtry@denovoplanning.com | 916.580.9818 Northern California | 1020 Suncast Lane #106 | El Dorado Hills, CA 95762 Southern California | 180 East Main Street # 108 | Tustin, CA 92780

-----Original Message-----
From: Rodney Horton <Rodney.Horton@fresno.gov>
Sent: Friday, August 2, 2019 9:02 AM
To: 'smcmurtry@denovoplanning.com' <smcmurtry@denovoplanning.com>
Subject: FW: Concerned citizen of Herndon Acres

-----Original Message-----
From: Lydia [mailto:creole10@sbcglobal.net]
Sent: Friday, August 02, 2019 9:01 AM
To: Rodney Horton
Cc: creole10@sbcglobal.net
Subject: Concerned citizen of Herndon Acres

Good morning Mr. Horton,

I hope your having a great day. My husband and I moved to this quiet neighborhood we call “Herndon Acres” 18 years ago because it was so peaceful here. We were hoping we would continue to be the Forgotten neighborhood as said by the Fresno Sheriffs Department called us but when things started to change and houses were being built we were in fact “The Forgotten neighborhood” now named “Forgotten FRESNO”. No fault of ours, just left out of the loop of everything being built around us. It’s truly disgusting the traffic issues are out here. I cringed every school day just waiting for something horrific to happen. Praying it doesn’t.

I would especially talk about all the traffic at the 76 station and the 18 wheelers that take Grantland as an alternate route. It’s getting worse by the day. This traffic and blocking the streets is a constant each and every day. I’m sickened by it. We are. Asking as a safety measure that you and your constituents an remedy this problem. Please help us instead of allowing people to disregard us. We are all very proud tax paying citizens and would love to see our stress flow like they are supposed to. Thank you.

Carl & Lydia Franklin
7061 W. Tenaya Avenue
Fresno, CA 93723
559-907-1136

August 1, 2019

TO: Rodney Horton
City of Fresno

FROM: Cathy Caples
7232 W Dovewood Lane
Fresno CA 93723
(559) 304 2687
cathybcaples@gmail.com

RE: West Area Specific Plan EIR Scope

Thank you for the opportunity to provide comment during this phase of the West Area Specific Planning Process. It has been an interesting and eye-opening experience to serve on the West Area Steering Committee representing Council District 2 which is the area north of Shaw and West of 99 and so as you read my comments think more specifically about this area within the planning area as it is the area I am most familiar with.

Aesthetics:

- One of the concerns of this area is the view of travelers coming through Fresno on Hwy 99. We get a bad rap as a city because people view the entire community from this perspective and it's really ugly. This area also has the first exits off of Hwy 99 into Fresno County. There has been discussion about creation of a Welcome Center in this area that could welcome travelers highlighting local business & agricultural economy to increase tourism including visitor's information for wineries, agricultural products like raisins, stone fruit, nuts, restaurants and attractions. Although Herndon is the first exit and someday may have an Aquarium at the River, with the right type of Urban Corridor at Shaw or Bullard exits, the Welcome Center may offer more benefits to Fresno County with a better traffic flow from Hwy 99 to the West.
- Because this area was agricultural and Rural Residential (RR) and many of the orchards have been eliminated, this area has no aesthetics and is in great need of landscape and trees. Tree Fresno has been working on a plan for south of Shaw but the area to the north is not included in that planning process. The RR properties along Shaw are real eyesores with collections of junk, or in one case the property has become a truck stop with sometimes 18 semi trucks parked on the property which could become hazardous if there is every a fuel leak.
- We value our agricultural roots, there has been discussion of art and planting to reflect that history. Italian farmers mostly settled in this area and to the west of 99 we have Forestiere Underground Gardens, a significant historical feature and tourist attraction for Fresno. The Highway City village just west of 99 exit is in need of beautification and/or redevelopment to enhance the entrance to Fresno for tourists.

Agricultural Resources:

- Within the area most of the agricultural that remains is new orchards that were planted during the Recession to give a developer a tax break until it was time to tear them out and build. There is a treasured farm stand with strawberries and garden vegetables on the NE corner of Grantland and Shaw. It is hoped that we can improve the aesthetics of the Farm Stand and it will remain under the NMX land use designation as a feature of the transition from urban corridor along Shaw to transition to agriculture

Air Quality:

- We have air pollution from Highway 99, trains to the east and agriculture to the west. And lots of dust from construction.

Biological Resources:

- We are on the edge of the country and still have animals living in our midst. One of our neighbors who is a bird watcher has sighted 28 different kinds of birds with a large flock Canadian Geese that live year round in the ponding basin on Herndon. That basin also has a multi-generational troop of fox. Lots of lizards, an occasional snake, bobcat and coyote.
- Not sure if there is something to consider environmentally in the torn down orchard (North of Shaw, Parkway to Grantland) that has left the trees to rot since at least 2008.
- The San Joaquin River is on the northern point of this area with a planned Aquarium by a nonprofit in the fundraising stage. There is not much of the land in the City of Fresno but it would be nice if the land surrounding the Aquarium could be preserved as trail or park. One landowner owns much of the Bluff property and has a horse stable and event area at the Western part of his land.

Cultural and Tribal Resources:

- There is a large Sikh population in the WASP area as it is also home to the Sikh Institute of Fresno. Our Sikh neighbors, especially the gentleman, spend a lot of time in the pocket parks and walking in the neighborhood. It would be great if there were enough benches or gathering spots with chairs for them to sit upon.

Geology, soils and seismicity:

- Hardpan often taking at least 3-5 feet to break through for proper planting and drainage.
- There is an existing canal that runs along Barstow and cuts down to almost Shaw between Grantland. It is currently used as a dusty dirt trail by residents. We are hopeful that this will become a permanent landscaped trail along the canal that will connect with the planned trail system for Veterans Blvd and the proposed park.

Greenhouse Gas Emissions and Energy: Many of the new homes have solar. As development happens, it is hoped that future technology would be taken into consideration with charging stations for cars. Including underground parking in the urban corridors to eliminate the need for so much hot tar to pave parking lots.

Hazards and Hazardous Materials

- There is a property on northside of Shaw near Bryan that has become a truck stop with sometimes 18 semi-trucks parked on the property which could become hazardous if there is every a fuel leak.

Hydrology and Water Quality

- Much concern has been expressed by the longtime RR residents about the amount of water being used for new construction and how that will impact their wells.

Land Use and Planning

- City of Fresno has a huge deficit in the inventory of affordable housing. A concern of residents has been that the first time home buyer homes are causing a more transient population in the schools in the area as people move away to areas with larger homes as families grow.
- There is also concern that affordable housing not be concentrated in any one particular area of the planning area but spread equitably throughout.
- As the Urban Corridor is developed along Shaw Avenue it is hoped that we will consider this more an urban center like Santana Row in San Jose or Whittier Blvd near the college without Big Box Stores like WalMart, Costco, Ikea with big tar parking lots. It is desired that it be a more eco friendly shopping environment with underground parking, local businesses, restaurants, maybe a local theater, museum or art galleries featuring local artists with a architectural feel of the tribute to agriculture we desire. In the NW area we already have El Paseo with a growing variety of chain stores and larger retailers. We would like to be able to walk to and through this village with patios facing the trail and green space.

Noise

- In addition to trains and cars, for some atmospheric reason we hear the gunfire from the Sheriff's Gun Range on the E side of 99 and the first day of dove season each year it's like a war zone.

Population and Housing

- There is a large Sikh population in the WASP area as it is also home to the Sikh Institute of Fresno. Our Sikh neighbors, especially the gentleman, spend a lot of time in the pocket parks and walking in the neighborhood. It would be great if there were enough benches or gathering spots with chairs for them to sit upon.
- There is an aging population in our area with no senior services, extremely limited public transportation and medical care
- This area also has a very young population with limited day care and enrichment services.
- Although our income is higher than the rest of Fresno, our education levels are lower with less people with post high school education than the rest of Fresno and we are the further from any higher education opportunities. For the seniors, it would be great to connect the Mosher Learning at CSUF to our area along the Urban Corridor which will have public transportation. We discussed having an educational center along Grantland south of Shaw close the new High School to allow students an opportunity for enrichment as well, perhaps a satellite Community College Campus.

Public Services and Recreation

- The park choices: there are 3 sites to be studied as a regional park for this area. I would recommend that the scoping consultants study the Park Master Plan adopted by the City of Fresno and take into consideration that information in studying the area and these sites. I would like to call attention to the large aging population in addition to the younger population needs to be considered.
    - Park by the River – which will cause traffic congestion in the area with not enough space for parking etc and close to regional park on the general plan on the east side of 99 at the River. It is remote and has no planned access to public transportation.
    - Park in the SW corner of the area, which is close to the largest park already in the study area and close to Roeding and Kearny regional parks as well as the Sports complex in the Southwest Area Specific Plan. It is also away from the majority of the population and not easily accessible by most.
    - Park currently show adjacent to Parkway on the map. This park discussion was first raised by my neighborhood as part of the discussion of where we could dream to live. We envisioned a park as a feature of the urban corridor being planned along Shaw Avenue.
        - The vision was to create a feature for the City of Fresno that would highlight agriculture, spur economic development, raise the opinion of the drive through visitors AND include a canopied walking, fitness and play space for residents at the same time.
        - The only green space north of Shaw currently are pocket parks in neighborhoods that have no room for family parties and the most of the yards are too small as well.
        - When we first raised the idea – the park was closer to the center of the vacant land north of Shaw with a Shaw entrance and was moved to Parkway when we were told that it needed to serve a lower social economic population (a misconception of the elected officials).

- One advantage to this location, is that it is adjacent to a seasonal water park that might have potential for public private partnership over parking and event space for Holiday Ice Rink or Harvest and Blossom Festivals.
- We would love to see an old fashioned bandstand type amphitheater for Friday night concerts in a non-alcoholic venue (currently only wineries offer this option) and basketball courts so we stop getting cited by code enforcement for having street basketball hoops.
- If you have any questions about this vision, please contact me. I was disheartened to hear at the scoping meeting that already this site has air quality issues etc – we would happily consider other locations in the urban corridor. It could just as easily be in the current general plan location with a connector to the trails along veteran's and the canal.

Transportation and Circulation:

- My biggest transportation concern is the zipper streets throughout the planned area where new development meets old with routes to schools that do not allow for safe routes to schools for our children.
- Congestion on Grantland north of Shaw is horrible and I know you have heard from many residents on this issue so I am not going to dwell on it. It is of particular concern when county land use change is under consideration. The County planning commission makes a decision that effects the City of Fresno. Such an instance is in the courts right now when the county approved an animal shelter on zoned RR land changing the land use to a specific purpose.

Utilities and Service Systems

- Police Department – we are covered by NW and there are too few officers to cover our area and the rest of the NW with substation at Marks and W Shaw.
- Fire Station is currently in planned construction stage.

Wildfire

- There was a grass fire last year in the torn down orchard (North of Shaw, Parkway to Grantland)
- There is currently no fire station in the NW section of the planned area (one is in the works on the South side of Shaw at Bryan)

Central Grizzlies Youth Football & Cheer

My name is Ashleigh Garrett, I am the President of a non-profit youth organization called the Central Grizzlies Youth Football and Cheer. Parents and children for the CGYF program are families of the Northwest community. Our biggest issue as an organization is trying to find a location for our program to not only have a practice field but also somewhere to have home games. This past 8 months alone we have not been able to find somewhere to accommodate not just my program but other outside organizations as well. We have attempted to request the use school facility fields in the Central Unified School District with resistance. One being there is high demand in facility field request from outside organizations making it almost impossible to accommodate school related activities and outside organizations. Although we may have several parks in the Northwest Area, we only have one park with proper lightening for sports during nighttime use. That park alone cannot accommodate multiple sport organizations at one time during its season. As the Northwest community continues to grow at rapid pace, we are in desperate need of a lightened park space in our community. I am in hopes that approved developers that are coming into our community be required to assist in offsetting a park for our children to have a safe, productive place to engage in activities and promote a healthy lifestyle for our children.

Thank you,

Ashleigh Garrett

P:559-864-4022/ 559-250-1112 4186 W. Swift Ave Suite #108, Fresno, Ca 93722 Central.grizzlies@yahoo.com

City of FRESNO

DEPARTMENT OF TRANSPORTATION

DATE: July 29, 2019

TO: Jennifer Clark, Director, Department of Planning and Development

FROM: GREGORY A. BARFIELD, Director
Department of Transportation

SUBJECT: Environmental Impact Report for West Area Specific Plan

The City of Fresno Transportation Department, Fresno Area Express (FAX) received the copy of the Notice of Preparation (NOP) for an Environmental Impact Report (EIR) for the West Area Specific Plan.

The West Area Specific Plan includes a wide variety of proposed land uses, ranging from low density residential to high density residential, regional mixed use, recreation commercial, schools, fire stations and other land uses, as well as the required transportation and utility improvements. An accessible and well-connected transportation network is a critical component of the area's quality of life.

Given that FAX currently provides only one transit route west of State Route 99 and that this area is projected for growth, FAX requests that the EIR include a coordinated analysis of transportation alternatives, as well as consideration of potential mitigation measures to help fund transit operations should the EIR determine that transit is a feasible component of the long-term transportation network.

In providing transit service, FAX must continually balance the competing needs of productivity and coverage, meaning the performance of its existing transit routes versus service expansions to new and developing areas that are not within proximity of existing services. Ongoing financial constraints must be taken into consideration when evaluating the financial sustainability of operating new transit services. In short, if FAX adds new transit service to any given area, it must remove or reduce service to other areas to keep the operational costs of the system in check. FAX is looking forward to better understanding the environmental impacts of the planned land uses on transportation, traffic congestion, and air quality, as well as the proposed mitigation measures that will support the operation of the most effective transportation network.

INTER OFFICE MEMO

Fresno County Public Library

Date: July 8, 2019

To: Rodney Horton, MPA, Project Manager

From: Karen Coletti, Executive Secretary

Subject: Notice of Preparation of an Environmental Impact Report and Scoping West Area

Reviewed and had no comments.

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

JUL 19 2019

Mr. Rodney Horton
City of Fresno, Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, California 93721

Notice of Completion and Environmental Document Transmittal for the Specific Plan of the West Area, SCH2019069117
Fresno County

Dear Mr. Horton:

The Division of Safety of Dams (DSOD) has reviewed the Notice of Completion and Environmental Document Transmittal for the Specific Plan of the West Area which describes land use planning for the approximate 7,077 acre-foot tract of land for the future development of residential and non-residential uses.

Insufficient information is provided to determine if any of the ponding basins are subject to State jurisdiction for dam safety. Therefore, the City needs to submit preliminary plans so that DSOD can make a jurisdictional determination.

As defined in sections 6002 and 6003, Division 3, of the California Water Code, dams 25 feet or higher with a storage capacity of more than 15 acre-feet, and dams higher than 6 feet with a storage capacity of greater than 50 acre-feet or more are subject to State jurisdiction. The dam height is the vertical distance measured from the maximum possible water storage level to the downstream toe of the barrier.

If any of the ponding basins are subject to State jurisdiction, a construction application, together with plans, specifications, and the appropriate filing fee must be filed with DSOD for this project. All dam safety related issues must be resolved prior to approval of the application, and the work must be performed under the direction of a Civil Engineer registered in California. Erik Malvick, our Design Engineering Branch Chief, is responsible for the application process and can be reached at (916) 565-7840.

If you have any questions or need additional information, you may contact, Area Engineer William Vogler at (916) 565-7828 or me at (916) 565-7827.

Sincerely,

Ernie. M. Tapia, Acting Regional Engineer
Southern Region
Field Engineering Branch
Division of Safety of Dams

cc: Governor's Office of Planning and Research
State Clearinghouse
state.clearinghouse@opr.ca.gov

FORGOTTEN FRESNO
FORGOTTENFRESNO@GMAIL.COM
EIN 83-2685199

Wednesday, July 17, 2019

City of Fresno – DARM
Attn: Rodney Horton
2600 Fresno Street, Suite 3065
Fresno, CA 93721-3604

Dear Mr. Horton,

We the undersigned residents of Forgotten Fresno appreciate the opportunity to comment on the Notice of Preparation for the Specific Plan of the West Area. As the City of Fresno proceeds with the Environmental Impact Report (EIR) for the Specific Plan of the West Area, we would like to request attention to the matters detailed below.

1. The infrastructure of our community has not kept pace with the rapid housing development of the past, present, and future. Commonly Initial Studies submitted to the Development and Resource Management Department during the application process are recommend by staff that the Mitigated Negative Declarations (MND) be approved. Often the MND fails to consider what we constituents consider common sense. Traffic concerns have been severely downplayed in the past for our community. We are currently in litigation for a rezone item with Fresno County where an MND with a traffic study done on a Wednesday was approved. Wednesday's are early out days for Central Unified School District; therefore, typical traffic occurs earlier in the day. This is a clever way to downplay our traffic plight. We would like to request that any future traffic studies submitted are not permitted to be executed on a Wednesday.

2. In speaking to a neighbor that works for the Fresno Fire Department it was alarming to find out that Shaw Avenue traffic signals do not have the ability to be changed during an emergency. Not only are the Levels of Service (LOS) at stoplights utilized to travel our community reprehensible, emergency services are delayed when a response is required. It is very common to see police officers, the fire department, or ambulances stuck on Shaw or Herndon at Golden State or Highway 99. It is abysmal that this has perpetuated as long as it has and we would like to have the widening of the Shaw Avenue at Highway 99 and the underpass at Herndon Avenue and Highway 99 be priorities in the future. We would also like to have the traffic signals improved to have the ability to be controlled by emergency services when required.

3. We are in desperate need of lighted park spaces in our community. Developers should have to mitigate benches, tables, lights, playground structures, and fields for sports activities. To help promote healthier lifestyles a community should be designed to promote that vision. The housing tracts are produced to optimize the number of units therefore resulting in small yard spaces. Many local youth teams do not have a place to adequately practice or play their games. The majority of green space in the West Area is owned by Central Unified School District and it is not the school district's responsibility to provide such spaces for the community at large. Rather than Code Enforcement issuing notices for basketball hoops in the streets the city can have playground spaces mitigated by housing developers.

We'd like to request that offsite improvements be near completion before a developer begins their construction. This would be applicable to both commercial and residential construction. For far too many years construction workers and material supply trucks have overwhelmed our roads. With the development of High Speed Rail and Veteran's Boulevard in the works our community will suffer without such mitigation.

4. We are against the intensification of land uses outside of the General Plan. Many of us have been attending the West Side Steering Committee Meetings and have voiced our desires on the record. Serving the personal interests of private developers and corporations at the expense of our constituency is unwelcome.

We are not against development, but we do appeal that the City of Fresno request all necessary mitigation in relation to traffic and public safety for future development applications for the West Area.

We thank you for your time and consideration.

Sincerely

Roger Day

Gurbinder S. Dhaliwal

Jagir S. Gill

Elisa Bilios

Amolak Singh

Printed Name	Signature	Address	Date
Elisa Bilicq		5323 N Tisha Ave. Fresno CA 93723	7.17.19
Roger Day		7206 W. Menlo Ave Fresno, CA. 93723	7-24-19
Ryan Day		7162 W. San ~~Madelyn~~ Ramon Fresno, Calif. 93723	7-24-19
Seana Day		7206 W. Menlo Ave. Fresno CA 93723	7-31-19
Amanda Francis		7260 W. San Ramon Fresno CA 93723	7.31.19
Sherley Lee	Shirley Lee	7335 W. San Bruno Ave Fresno, CA 93723	8/01/19
Justin Hickey		7335 W San Bruno ave Fresno, CA 93723	
Frank Crabson		5187 N Tisha Fresno CA 93723	8/1/19
Ranbir Kaur		5367 N. Madelyn Ave Fresno, CA 93723	8/1/19
Hilda Medrano		7417 W. San Ramon Ave. F/CA	8/1/19
CARLOS ORTIZ		7438 W. SAN RAMON AVE 93723	8/1/19
Ruby Marquez		7353 W. San Jose Ave	8/1/19
David Delgado		5232 N. Annapolis Ave.	8-1-19
Elizabeth Delgado		5232 N. Annapolis Ave	8-1-19
Ashleigh Garren		5218 N. Phoenix Ave	8.1.19
Douglas McBee		5218 N. Phoenix Ave	8/01/19
Brenda McBee		5218 N. Phoenix Ave	8-1-19

Printed Name	Signature	Address	Date
GURPREET TOOR	Gurpreet Toor	5922 W. La Ventana Ave Fresno CA 93723	8-1-19
Sukhdeep Sethi	Sukhdeep Sethi	3470 N. Gregory Ave Fresno CA 93722	8.1.19 $40.00
GARY MANN		6809 N. Robinwood Fresno CA 93723	
Bobby Dhaliwal		5951 N. Sycamore Ave Fresno CA 93722	
Jay Sunga		11328 N. SAGEBERRY FRESNO, CA 93730	8-1-19
SANDEEP MEHAT		10865 N. WHITNEY AVE FRESNO CA 93730	8-1-19
Sarbjit Kau	SKau	3337 W. Princeton Ave Fresno CA 93722	8-1-19
Kulwant Kaur		7840 N Gregory Ave Fresno CA 93722	
Rajwinder Kaur		7568 N Hanna Ave 93722	
Parmjit Kaur		4618 W GRANT AVE 93722	
Aman Kaur		7562 N SUNRIVER DR.	93722
GURINDERJIT KAUR	Gurinderjit Kaur	6078 N. TORREY PINES AVE,	93723
Sharan Dhaliwal		5897 W. Ramona Way Fresno, CA 93722	
Chenrjit Toor		6953 W. OSWEGO AVE FRESNO, CA 93723	
AMAR Mann		5847 Torrey Pines Fresno CA 93723	8-19
HARMAIL KHELA		6678 N. Olinda AVE FRESNO CA 93722	8-1-19
GARY SIDHU		6087 N. Figarden Dr. # 387 Fresno, CA 93722	8-1-19
ISH RAKHRA	IR	4744 W Cornell AVE	8-1-19

Printed Name	Signature	Address	Date
Tajinder Nijhar	T.Nijhar	536 west Normal Ave	8-1-19
KARANDEEP SINGH		4757 W. SPRUCE AVE #105	8-1-19
Sarbjit S. Dhol		6609 W. Celeste Aver Kerman, CA 93630	8/1/19
Sunny Boparai	Sunny Boparai	5839 N. Sycamore Ave	8-1-19
GURJIT SINGH		5140 W. Michigan Ave	8-1-19
Gurvendera Singh		6649 W. Wrenwood Ln	8-1-19
Gurdev Singh		5438 N. Shiraz Ave	8-1-19
Jasvinder Singh		5458 N. Shiraz Ave	8-1-19
VIK MANN		5847 TURLEY PINES Ave	8/1/19
GURBINDER S. DHALIWAL		5951 N SYCAMORE FRESNO CA 93	8-1-19
KULWANT K DHALIWAL	Kulwant K Dhaliwal	5951 N SYCAMORE FRESNO	8-1-19
D.S SAGHERA		5950 N SYCAMORE AVE FRESNO	8-1-19
GURCHARAN SINGH		5951 N SYCAMORE AVE FRESNO	8-1-19
INDERJIT KAUR		5951 N SYCAMORE Ave FRESNO.	8-1-19

Printed Name	Signature	Address	Date
Brandon Camarena	[illegible]	5316 N. Madelyn Ave	7/19/19
Beverly Medina	Beverly Medina	Same as above	7/19/19
Manpreet Kaberwal	[illegible]	7440 W. San Bruno Ave. Fresno	7-19-19
ROB MELTON	Rob Melton	7365 W San JOSE	7-19-19
Cathy Melton	Cathy Melton	7365 W. San Jose Ave	7-19-19
Mannie Camarena	Mannie Camarena	5316 N Madelyn Ave	7/19/19
Sardool S. Dhillon	S. Dhillon	5304 N. Madelyn Ave.	7/19/19
Cathy R Gonzales	Cathy R Gonzales	5366 N San Clemente, Fresno 93723	7/20/19
Denise Rangel	Denise Rangel	5350 N. TISHA Ave.	7/21/19
Shawn Hildebrand	[illegible]	5371 N Tish Ave	7/21/19
HAL HILDEBRAND	[illegible]	5371 N TISHA AVE	7/21/19
JEREMY DOTY	[illegible]	7338 W SAN JOSE AVE	7/21/19
Janel Ortiz	[illegible]	7233 W. San Jose Ave	7/21/19
Lupe Mendez	[illegible]	5265 N. Madelyn Ave	7/21/19
Guillermo Ga[illegible]	[illegible]	5265 N Madelyn Ave	7/21/19
RAVINDER Gill	[illegible]	5277 N MADLYE	7/21/19
Manuel Carbajal	[illegible]	5301 N Madelyn Ave	7/21/19
Raymond Ramirez	[illegible]	Lucia Reyes	7-21-19
Darrin Jones	[illegible]	7377 W San Jose Ave	7-21-19

Printed Name	Signature	Address	Date
Lisa Pierson	Lisa D.	7340 W. San Ramon Ave.	7/22/19
Kenzie Vaccaro	Kenzie Vaccaro	7113 W. Scott Ave.	7/22/19
Daniel Vaccaro		7113 W. Scott Ave	7/22/19
Robert Hopkins		7424 W San Bruno	7/22/19
Nancy Bluhm	Nancy Bluhm	7424 W. San Bruno	7/22/19
Claudia Galvez	Claudia Galvez	5313 N. Madelyn Ave	7/22/19
Junior Luna	Junior Luna	7415 W San Bruno	7/22/19
Sandy Kaur	Sandy Kaur	7431 W. San Bruno Ave	7/22/19
Manuelita Altamirano	Manuelita Altamirano	5313 N. Madelyn Ave.	7/22/19
Cathyen Wilkinson		7338 W San Jose Ave	7/22/19
Damien Robles	D Robles	7322 W San Jose	7/23/19
Ray De La Cruz		7250 W San Jose Ave.	7/23/19
JEDD INGRAHAM		7202 W. SAN JOSE AVE	07/23/2019
Erica Flores	Erica Flores	7259 W. San Madele Ave	7/23/19
Paul Alaniz		7259 W. San Madele Ave	7/23/2019
Phil Gonzales		5366 N. San Clemente	7-24-19
Dena Curtis	Dena Curtis	7258 W. San Jose Ave	7-25-19
Marco A. Diaz		7061 W. San Madele Ave	7/27/19

Printed Name	Signature	Address	Date
Christina Diaz	[signature]	5374 N Tisha Fresno 93723	7/27/19
Gustavo J Diaz	[signature]	5374N Tisha Fresno Ca 93723	7/27/19
RAYMOND AQUINO	[signature]	5335 N TISHA AVE FRESNO CA 93723	7/27/19
RAUL TREVINO	[signature]	5383 N. TISHA AVE FRESNO, CA. 93723	7/27/19
LYSSA TREVINO	[signature]	" " "	"
Judieth Hart	[signature]	5388 N Madelyn Ave Fresno, Ca 93723	7/27/19
Milanie Salas	[signature]	7198 W. San Bruno Fresno, CA 93723	7/28/19
Charanjit Kaur	[signature]	7249 W San Jose Ave Fresno.	7/28/19
Shawn Campbell	[signature]	7250 W San Jose	7/28/19
Scott Wilson	[signature]	5359 N. Tisha Ave.	7/28/19
Kulwant Johl	[signature]	5343 N Madelyn ave	7/29/19
John Lolly	[signature]	5355 N. Madelyn Av	7/29/19
Karina Vera	[signature]	7495 W San Bruno Ave Fresno CA 93723	7/30/19
Jose Vera	[signature]	7495 W San Bruno Ave Fresno CA 93723	7/30/19
DENNIS KATRINIK	[signature]	7292 W SAN RAMON AVE FRESNO CA 93723	7/29/19
Carolina Mora	[signature]	5866 N. Shiraz Fresno, CA 93723	7/31/19
MICHAEL SANTOYA	[signature]	7292 W SAN BRUNO FRESNO 93723	7/31/19
Shirley Jackson	[signature]	7260 W. San Bruno	7/31/19

Fresno Metropolitan Flood Control District
Capturing Stormwater since 1956

File 420.214

August 1, 2019

Rodney Horton, Project Planner
City of Fresno
Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, CA 93721

Dear Mr. Horton,

Fresno Metropolitan Flood Control District Comments on the City of Fresno Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Specific Plan of the West Area

Drainage Areas "EJ", "EM", "EN", "AI", "CD", "EO", "AJ", "CG", "CH", "CI", "AK", "AN", "AL", "AH" and "XX"

This letter is in response to the City's request for comments regarding the Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Specific Plan of the West Area. Fresno Metropolitan Flood Control District (FMFCD) bears responsibility for storm water management within the Fresno-Clovis metropolitan area, including the area within the Plan boundary. Within this area, the community has developed and adopted Storm Drainage and Flood Control Master Plans as shown in the attached (Storm Drainage Master Plan Map). In general, each property contributes its pro-rata share to the cost of the public drainage system. All properties are required to participate in the community system for everyone. It is this form of participation in the cost and/or construction of the drainage system that will mitigate the impact of development. The subject property shall pay drainage fees pursuant to the Drainage Fee Ordinance prior to approval of any final maps and/or issuance of building permits at the rates in effect at the time of such approval. Please contact FMFCD for a final fee obligation prior to issuance of the construction permits within the Plan area.

The grading of proposed development within the Plan area shall be designed such that there are not adverse impacts to the passage of said major storm through that development. Additionally, the development shall provide any surface flowage easements or covenants for any portions of the development area that cannot convey storm water to public right of way without crossing private property.

If there are to be storm water discharges from the private facilities to FMFCD's storm drainage system, they shall consist only of storm water runoff and shall be free of solids and debris. Landscape and/or area drains are not allowed to connect directly onto FMFCD's facilities.

5469 E. Olive Avenue • Fresno, CA 93727 • (559) 456-3292 • FAX (559) 456-3194
www.fresnofloodcontrol.org

FMFCD will need to review and approve the final improvement plans for all development (i.e. grading, street improvement and storm drain facilities) within the boundaries of the proposed project to insure consistency with the future Storm Drainage Master Plan.

Storm drain easements will be required whenever storm drain facilities are located on private property. No encroachments into the easement will be permitted including, but not limited to, foundations, roof overhangs, swimming pools, and trees.

Permanent drainage service is available in those areas where Master Plan facilities exist provided the developer can verify to the satisfaction of the City and FMFCD that runoff can be safely conveyed to existing the Master Plan facilities. Permanent drainage service will not be available if the downstream Master Plan facilities are not constructed or operational and in this instance FMFCD recommends the City require temporary drainage facilities until permanent drainage service is available. Prior to submitting any development proposal, it is recommended FMFCD be contacted for information regarding the status of the Master Plan drainage facilities and the availability of permanent drainage service.

In Master Plan areas where no drainage facilities have been constructed, the drainage plans can be revised to accommodate new land uses and pipe alignments that respect the City's Plan. For areas of the Plan that have existing drainage facilities and propose changing to land uses that generate more runoff than originally planned, some type of mitigation to accommodate the increased flow such as parallel pipes and/or on-site retention may be required. FMFCD has identified properties within the Plan area that may require some form of mitigation. (See the attached Potential Areas for Mitigation Map). Contact FMFCD to verify mitigation requirements that may apply to development.

FMFCD may require the developer to construct certain storm drain facilities as described in the Storm Drain Master Plan. The cost of construction of Master Plan facilities excluding dedication of storm drainage easements is eligible for credit against the drainage fee of the drainage area served by the facilities. A development agreement shall be executed with FMFCD to affect such credit. Reimbursement provisions, in accordance with the Drainage Fee Ordinance, will be included to the extent that developer's Master Plan costs for an individual drainage area exceed the fee of said area. Should the facilities cost for such individual development total less than the fee of said area, the difference shall be paid upon demand to the City or FMFCD.

Within the Plan area there are no flood prone areas designated on the most current official Flood Insurance Rate Maps. However, it is responsibility of the developer to review and verify the information at the time of the development proposal. The official Flood Insurance Rate Maps are available at the Federal Emergency Management Agency (FEMA) Flood Map Service Center.

In an effort to improve storm runoff quality, outdoor storage areas shall be constructed and maintained such that material that may generate contaminants will be prevented from contact with rainfall and runoff and thereby prevent the conveyance of contaminants in runoff into the storm drain system.

FMFCD encourages, but does not require that roof drains from non-residential development be constructed such that they are directed onto and through a landscaped grassy swale area to filter out pollutants from roof runoff.

Runoff from areas where industrial activities, product, or merchandise come into contact with and may contaminate storm water must be directed through landscaped areas or otherwise treated before discharging it off-site or into a storm drain. Roofs covering such areas are recommended. Cleaning of such areas by sweeping instead of washing is to be required unless such wash water can be directed to the sanitary sewer system. Storm drains receiving untreated runoff from such areas that directly connect to FMFCD's system will not be permitted. Loading docks, depressed areas, and areas servicing or fueling vehicles are specifically subject to these requirements. FMFCD's policy governing said industrial site NPDES program requirements are available. Contract FMFCD's Environmental Department for further information regarding these policies related to industrial site requirements.

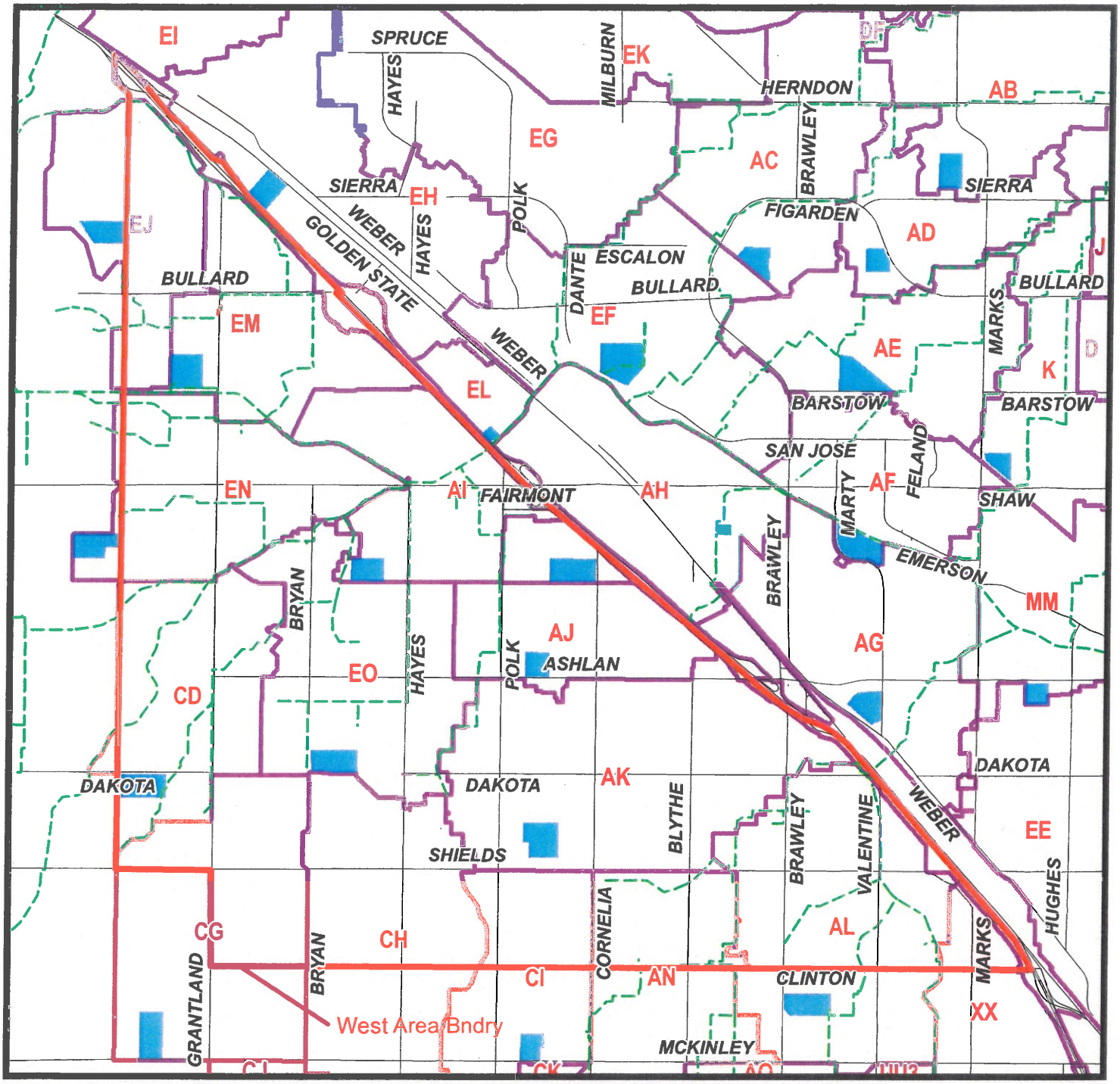
Thank you for your consideration of these comments and for allowing us to be a part of the Specific Plan process. We continue to look forward to working with you and the City of Fresno on the Plan process.

Very Truly Yours,

Wendell Lum
Master Plan Special Projects Manager

WL/lrl

Attachments



SYMBOL LEGEND

- PRIVATE INLET*
- DESIGN INLET
- EXISTING INLET
- EXISTING MANHOLE
- FUTURE INLET
- FUTURE INLET W/ CONTRACT
- NON MASTER PLAN FUTURE INLET
- PRIVATE PIPE*
- DESIGN PIPE
- EXISTING PIPE
- FUTURE PIPE
- FUTURE PIPE W/ CONTRACT
- NON MASTER PLAN FUTURE PIPE
- PARCELS
- EXISTING BASIN
- PROPOSED BASIN
- DRAINAGE AREA
- INLET BOUNDARY
- LANDUSE BOUNDARY
- SPECIFIC PLAN OF WEST AREA BOUNDARY
- EXISTING TYPE "E" INLET
- PUMP STATION
- EXISTING OUTFALL
- EXISTING TOP OF CURB ELEV
- FUTURE TOP OF CURB ELEV
- EXISTING CURB

*Non-District Facilities

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

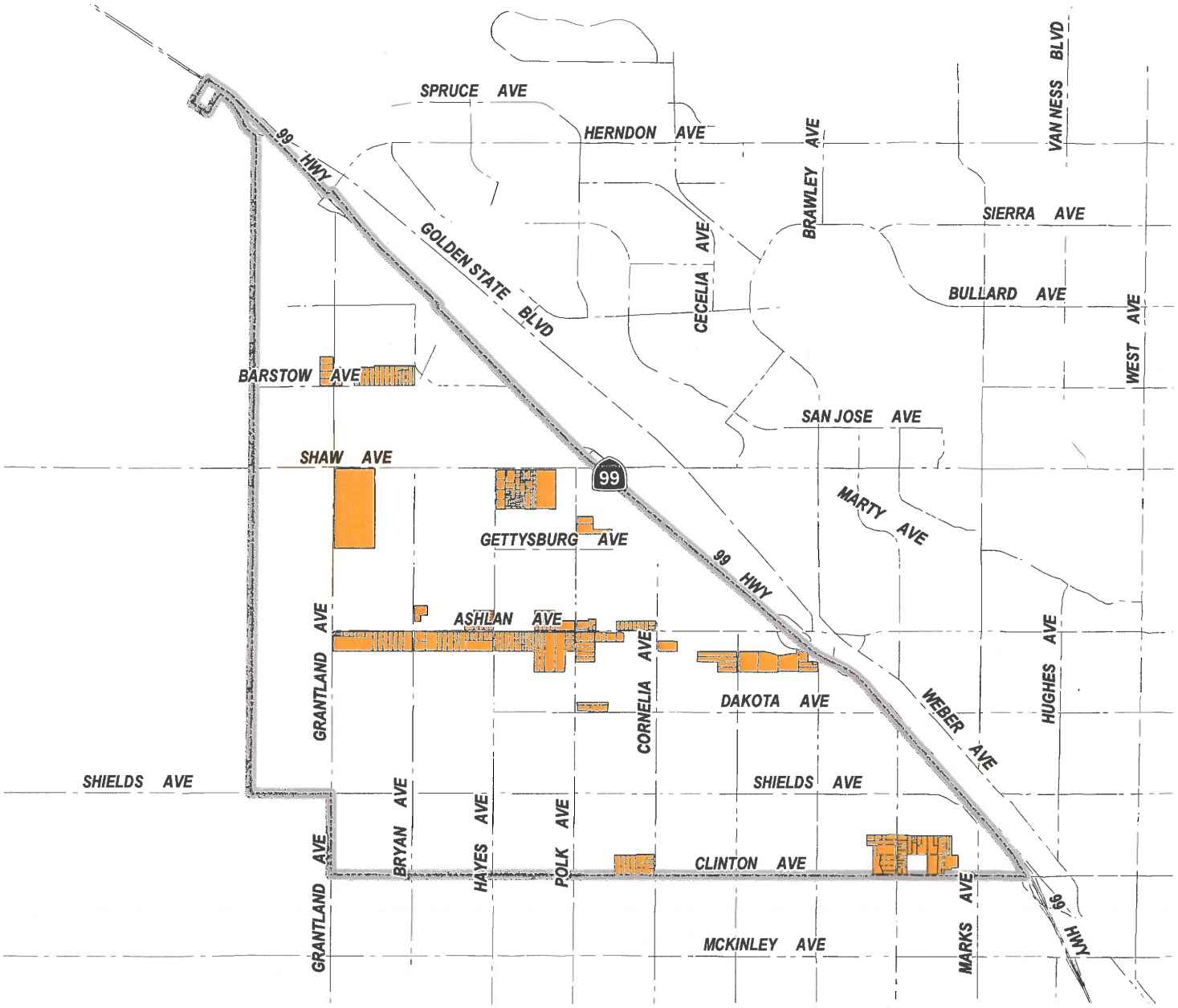
STORM DRAINAGE MASTER PLAN

FRESNO COUNTY CALIFORNIA

NORTH

1 " = 4000 '

NOTE: THIS MAP IS SCHEMATIC. DISTANCES, AMOUNT OF CREDITABLE FACILITIES, AND LOCATION OF INLET BOUNDARIES ARE APPROXIMATE.



LEGEND

Potential Areas for Mitigation

N

1 " = 5000 '

Specific Plan of the West Area

POTENTIAL AREAS FOR MITIGATION

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

Prepared by: rickh
Date: 8/1/2019
Path: K:\Autocad\DWGS\0EXHIBIT\MITIGATION\West Specific Plan.mxd

Specific Plan of the West Area
Scoping Meeting Agenda
Wednesday, July 24, 2019 - 6:00 PM

1. ***Registration Period:*** Attendees will sign in and give his/her name, association, address, and email. This information will be put on a mailing list for future mailings.

2. ***Format:*** Short Presentation and Open House

    a. Brief Presentation: 6:00-6:15pm - A brief presentation will be provided at the beginning of the meeting. The presentation will provide an overview of the project, the purpose of the meeting, and opportunities for community input/participation during the environmental review process.

    b. Open House: 6:15-7:30pm - Stations will be provided throughout the room with maps and information. Each station will be staffed with a Planner. The intent of each station is to provide you with an opportunity to review some materials, ask some questions, and provide some comments if desired.

3. ***Questions/Comments:*** De Novo Planning Group and City of Fresno staff will accept questions and comments concerning the project and scope of the EIR. The intent is to record comments/concerns so they can be addressed within the Draft EIR.

Please write any comment or concern regarding this project in the space provided below.

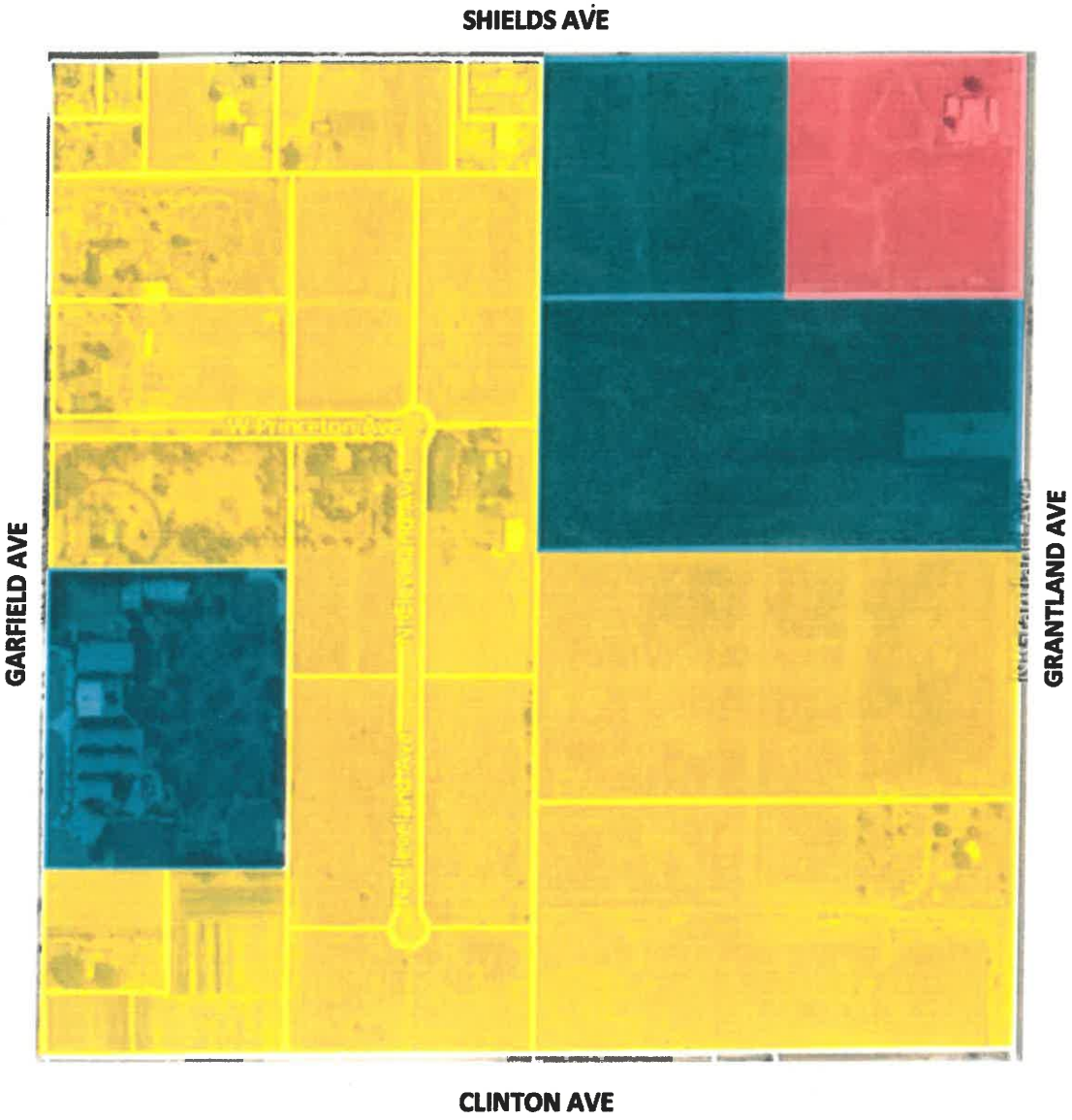
Re: 160 acres @ SW Corner of W. Shields Ave and N. Grantland Ave.

I am interested in what land use patterns will be used to analyze potential environmental impacts for this area

This should be provided as an 'Exhibit' within the Draft EIR document. An example (Exhibit 'A') is attached to illustrate proposed land use designations

Jeff Roberts
Committee Member

"Exhibit A"


SHIELDS AVE
GARFIELD AVE
GRANTLAND AVE
CLINTON AVE
Legend
Medium Low Density Residential
Commercial (Community)
Public Facility
N

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Gavin Newsom
Governor

Kate Gordon
Director

Notice of Preparation

June 28, 2019

To: Reviewing Agencies

Re: Specific Plan of the West Area
SCH# 2019069117

Attached for your review and comment is the Notice of Preparation (NOP) for the Specific Plan of the West Area draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Rodney Horton
Fresno, City of
2600 Fresno Street, Room 3065
Fresno, CA 93721

with a copy to the State Clearinghouse in the Office of Planning and Research at state.clearinghouse@opr.ca.gov . Please refer to the SCH number noted above in all correspondence concerning this project on our website: https://ceqanet.opr.ca.gov/2019069117/2.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

cc: Lead Agency

Print Form

Notice of Completion & Environmental Document Transmittal

2019069117

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # _____

Project Title: Specific Plan of the West Area

Lead Agency: City of Fresno, Development and Resources Mgmt. Dept. | Contact Person: Rodney Horton

Mailing Address: 2600 Fresno Street, Room 3065 | Phone: (559) 621-2485

City: Fresno | Zip: 93721 | County: Fresno

Project Location: County: Fresno | City/Nearest Community: Fresno

Cross Streets: See NOP | Zip Code: 93721

Lat. / Long.: 36 ° 47 ' 41.8 " N/ 119 ° 53 ' 57.5 " W | Total Acres: 7,077

Assessor's Parcel No.: See NOP | Section: Various | Twp.: 13S | Range: 19E | Base: MDBM

Within 2 Miles: State Hwy #: SR 99 | Waterways: San Joaquin River

Airports: N/A | Railways: UPRR | Schools: See NOP

Document Type:

Governor's Office of Planning & Research
JUN 28 2019
STATE CLEARINGHOUSE

CEQA: ☑ NOP ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) _____ ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Other _____

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other _____

Local Action Type:

☐ General Plan Update ☑ Specific Plan ☑ Rezone ☐ Annexation
☑ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☐ Other _____

Development Type:

☑ Residential: Units _____ Acres _____
☐ Office: Sq.ft. _____ Acres _____ Employees _____
☑ Commercial: Sq.ft. _____ Acres _____ Employees _____
☐ Industrial: Sq.ft. _____ Acres _____ Employees _____
☐ Educational _____
☑ Recreational _____

☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☐ Power: Type _____ MW _____
☐ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☑ Other: See Table 2 of NOP

Project Issues Discussed in Document:

☑ Aesthetic/Visual ☐ Fiscal ☑ Recreation/Parks ☑ Vegetation
☑ Agricultural Land ☑ Flood Plain/Flooding ☑ Schools/Universities ☑ Water Quality
☑ Air Quality ☑ Forest Land/Fire Hazard ☑ Septic Systems ☑ Water Supply/Groundwater
☑ Archeological/Historical ☑ Geologic/Seismic ☑ Sewer Capacity ☑ Wetland/Riparian
☑ Biological Resources ☑ Minerals ☑ Soil Erosion/Compaction/Grading ☑ Wildlife
☐ Coastal Zone ☑ Noise ☑ Solid Waste ☑ Growth Inducing
☑ Drainage/Absorption ☑ Population/Housing Balance ☑ Toxic/Hazardous ☑ Land Use
☑ Economic/Jobs ☑ Public Services/Facilities ☑ Traffic/Circulation ☑ Cumulative Effects

☑ Other Green House Gas Emissions

Present Land Use/Zoning/General Plan Designation:

See NOP

Project Description: *(please use a separate page if necessary)*

The proposed Specific Plan will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre Plan Area. The Specific Plan would allow for the future development of residential and non-residential uses. The proposed land use plan also designates public facility uses that are currently existing within the Plan Area, including schools and churches. Additionally, the proposed land use plan would allow for approximately 248 acres of park, open space, and ponding basin uses. The Specific Plan also includes circulation and utility improvements, some of which are planned in the City's current program for capital improvements.

Note: The state Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

January 2008

NOP Distribution List

County: Fresno

SCH# 2019069117

esources Agency

- **Resources Agency**
  Nadell Gayou
- ☐ **Dept. of Boating & Waterways**
  Denise Peterson
- ☐ **California Coastal Commission**
  Allyson Hitt
- ☐ **Colorado River Board**
  Elsa Contreras
- ☐ **Dept. of Conservation**
  Crina Chan
- ☐ **Cal Fire**
  Dan Foster
- ☐ **Central Valley Flood Protection Board**
  James Herota
- ☐ **Office of Historic Preservation**
  Ron Parsons
- **Dept of Parks & Recreation**
  Environmental Stewardship Section
- ☐ **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- ☐ **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Wildlife

- ☐ **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- ☐ **Fish & Wildlife Region 1**
  Curt Babcock
- ☐ **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- ☐ **Fish & Wildlife Region 2**
  Jeff Drongesen
- ☐ **Fish & Wildlife Region 3**
  Craig Weightman
- **Fish & Wildlife Region 4**
  Julie Vance
- ☐ **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- ☐ **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- ☐ **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- ☐ **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- ☐ **California Department of Education**
  Lesley Taylor
- **OES (Office of Emergency Services)**
  Monique Wilber
- ☐ **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- ☐ **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- ☐ **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- ☐ **Delta Protection Commission**
  Erik Vink
- ☐ **Delta Stewardship Council**
  Anthony Navasero
- ☐ **California Energy Commission**
  Eric Knight
- **Native American Heritage Comm.**
  Debbie Treadway
- **Public Utilities Commission**
  Supervisor
- ☐ **Santa Monica Bay Restoration**
  Guangyu Wang
- **State Lands Commission**
  Jennifer Deleong
- ☐ **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- ☐ **Caltrans - Division of Aeronautics**
  Philip Crimmins
- ☐ **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- ☐ **Caltrans, District 1**
  Rex Jackman
- ☐ **Caltrans, District 2**
  Marcelino Gonzalez
- ☐ **Caltrans, District 3**
  Susan Zanchi
- ☐ **Caltrans, District 4**
  Patricia Maurice
- ☐ **Caltrans, District 5**
  Larry Newland
- **Caltrans, District 6**
  Michael Navarro
- ☐ **Caltrans, District 7**
  Dianna Watson
- ☐ **Caltrans, District 8**
  Mark Roberts
- ☐ **Caltrans, District 9**
  Gayle Rosander
- ☐ **Caltrans, District 10**
  Tom Dumas
- ☐ **Caltrans, District 11**
  Jacob Armstrong
- ☐ **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- **Airport & Freight**
  Jack Wursten
  - ☐ **Transportation Projects**
    Nesamani Kalandiyur
  - ☐ **Industrial/Energy Projects**
    Mike Tollstrup
- ☐ **California Department of Resources, Recycling & Recovery**
  Kevin Taylor/Jeff Esquivel
- ☐ **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- ☐ **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- ☐ **State Water Resources Control Board**
  Div. Drinking Water #_____
- **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- **Dept. of Toxic Substances Control Reg. #_____**
  CEQA Tracking Center
- ☐ **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- ☐ **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ **RWQCB 3**
  Central Coast Region (3)
- ☐ **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- ☐ **RWQCB 5S**
  Central Valley Region (5)
  - **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- ☐ **RWQCB 6**
  Lahontan Region (6)
  - ☐ **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- ☐ **RWQCB 7**
  Colorado River Basin Region (7)
- ☐ **RWQCB 8**
  Santa Ana Region (8)
- ☐ **RWQCB 9**
  San Diego Region (9)

☐ **Other** _____

_____

_____

☐ _____
Conservancy

Last Updated 5/22/18

Specific Plan of the West Area
Scoping Meeting Agenda
Wednesday, July 24, 2019 - 6:00 PM

1. ***Registration Period:*** Attendees will sign in and give his/her name, association, address, and email. This information will be put on a mailing list for future mailings.

2. ***Format:*** Short Presentation and Open House

    a. Brief Presentation: 6:00-6:15pm - A brief presentation will be provided at the beginning of the meeting. The presentation will provide an overview of the project, the purpose of the meeting, and opportunities for community input/participation during the environmental review process.

    b. Open House: 6:15-7:30pm - Stations will be provided throughout the room with maps and information. Each station will be staffed with a Planner. The intent of each station is to provide you with an opportunity to review some materials, ask some questions, and provide some comments if desired.

3. ***Questions/Comments:*** De Novo Planning Group and City of Fresno staff will accept questions and comments concerning the project and scope of the EIR. The intent is to record comments/concerns so they can be addressed within the Draft EIR.

Please write any comment or concern regarding this project in the space provided below.

Traffic has increased tremendously on Ashlan due to the building of Harvest Elementary, Glacier & now the new high school. We can't get out of our yard in the early morning hour or afternoon hrs. when school is released or beginning. This should be studied.

Patricia and Clifford Upton
6117 W. Ashlan
Fresno, Ca 93723
559 275 6041

Specific Plan of the West Area
Scoping Meeting Agenda
Wednesday, July 24, 2019 - 6:00 PM

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Please write any comment or concern regarding this project in the space provided below.

(1) We would prefer that the City Limits end on Grantland not on Garfield Ave
(2) we do not want Garfield Avenue opened up thru between Shaw Ave & Shields, It would destroy the safety and quietness of our neighborhood.
(3) We do not want to be on poisoned chlorinated Fresno City water, Our well water is great and flavorful to drink
(4) We do not want light pollution brought in to our neighborhood with street lights.
(5) We do not want to be under the politics of Fresno City Council, we moved out of Fresno City in the 1970's to get away from city politics

Dave Efseaff
275-1618

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

July 15, 2019

Rodney Horton
City of Fresno
Development & Resource Management
2600 Fresno Street, Third Floor
Fresno 93721-3604

Project: NOP – Specific Plan of the West Area – SCH # 2019069117

District CEQA Reference No: 20190888

Dear Mr. Horton:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation for the above referenced project. The Specific Plan of the West Area (also known as "Specific Plan" or "West Area") encompasses approximately 7,077 acres in the City of Fresno city limits and unincorporated Fresno County (Project). Of the approximately 11 square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth. The Plan Area is located west of State Route 99 and bounded on the south by West Clinton Avenue and to the west by Grantland and Garfield Avenues. The Plan area includes the southwest portion of Highway City adjacent to State Route 99. The Specific Plan of the West Area (Plan) is a master level Project and, while Project-specific data may not be available until specific approvals are being granted, the Environmental Impact Report (EIR) should include a discussion of policies, which when implemented, will reduce or mitigate impacts on air quality at the individual project level. To aid the Lead Agency in addressing project specific issues at the program level the District offers the following comments and recommendations:

Land Use Planning

1. Nearly all development projects within the San Joaquin Valley Air Basin, from general plans to individual development projects have the potential to generate air pollutants, making it more difficult to attain state and federal ambient air quality standards. Land

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

use decisions are critical to improving air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence transportation needs and motor vehicle emissions are the largest source of air pollution. Land use decisions and project design elements such as preventing urban sprawl, encouraging mix-use development, and project designs that reduce vehicle miles traveled (VMT) have proven benefit for air quality. The District recommends that the Specific Plan include or incorporate by reference, policies that will reduce or mitigate VMT impacts to the extent feasible. VMT can be reduced through encouragement of mixed-use development, walkable communities, etc. Recommended design elements can be found on the District's website at: http://www.valleyair.org/ISR/ISROnSiteMeasures.htm.

To aid agencies in addressing VMT impacts the District has prepared the following guidance documents: *Air Quality Guidelines for General Plans*, and *AB 170 Requirements for General Plans*. These documents provide general information and recommendations for policies that are effective in reducing impacts from growth and development projects. These documents are available on the District's web site at: http://www.valleyair.org/transportation/Guidelines_for_General_Plans.htm.

Emissions Analysis

1) At the federal level for the National Ambient Air Quality Standards (NAAQS), the District is currently designated as extreme nonattainment for the 8-hour ozone standards; nonattainment for the PM2.5 standards; and attainment for the 1-Hour ozone, PM10 and CO standards. At the state level, the District is currently designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 California Ambient Air Quality Standards (CAAQS). The District recommends that the Air Quality section of an Environmental Impact Report (EIR) include a discussion of the following impacts:

   a) **Criteria Pollutants:** Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions.

      i) Construction Emissions: Construction emissions are short-term emissions and should be evaluated separately from operational emissions. For reference, the District's annual criteria thresholds of significance for construction are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

         - *Recommended Mitigation Measure if needed:* To reduce impacts from construction related exhaust emissions, the District recommends feasible mitigation for the Project to utilize off-road construction fleets that can

achieve fleet average emissions equal to or cleaner than the Tier III emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be achieved through any combination of uncontrolled engines and engines complying with Tier III and above engine standards.

ii) Operational Emissions: Permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. For reference, the annual criteria thresholds of significance for operation of permitted and non-permitted sources each are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

iii) Recommended Model: Project related criteria pollutant emissions from construction and operation non-permitted (limited to equipment not subject to District permits) should be identified and quantified. Emissions analysis should be performed using CalEEMod (**Cal**ifornia **E**mission **E**stimator **Mod**el), which uses the most recent approved version of relevant Air Resources Board (ARB) emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com .

b) **Nuisance Odors:** The Project should be evaluated to determine the likelihood that the Project would result in nuisance odors. Nuisance orders are subjective, thus the District has not established thresholds of significance for nuisance odors. Nuisance odors may be assessed qualitatively taking into consideration of project design elements and proximity to off-site receptors that potentially would be exposed objectionable odors.

c) **Health Risk Screening/Assessment:** A Health Risk Screening/Assessment identifies potential Toxic Air Contaminants (TAC's) impact on surrounding sensitive receptors such as hospitals, daycare centers, schools, work-sites, and residences. TAC's are air pollutants identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) (https://www.arb.ca.gov/toxics/healthval/healthval.htm) that pose a present or potential hazard to human health. A common source of TACs can be attributed to diesel exhaust emitted from both mobile and stationary sources. Industry specific TACs generated must also be identified and quantified.

The District recommends the Project be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multi-year construction TAC emissions.

i) The District recommends conducting a screening analysis that includes all sources of emissions. A screening analysis is used to identify projects which may have a significant health impact. A prioritization, using CAPCOA's updated methodology, is the recommended screening method. A prioritization score of 10 or greater is considered to be significant and a refined Health Risk Assessment (HRA) should be performed. The prioritization calculator can be found at: http:www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION%20RMR%202016.XLS.

ii) The District recommends a refined HRA for projects that result in a prioritization score of 10 or greater. It is recommended that the Project proponent contact the District to review the proposed modeling protocol. The Project would be considered to have a significant health risk if the HRA demonstrates that the project related health impacts would exceed the Districts significance threshold of 20 in a million for carcinogenic risk and 1.0 for the Acute and Chronic Hazard Indices.

Please provide the following information electronically to the District for review:

- HRA AERMOD model files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodology.

More information on toxic emission factors, prioritizations and HRAs can be obtained by:

- E-Mailing inquiries to: hramodeler@valleyair.org; or
- The District can be contacted at (559) 230-6000 for assistance; or
- Visiting the Districts website (Modeling Guidance) at http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm

d) **Ambient Air Quality Analysis:** An ambient air quality analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a Project will cause or contribute to a violation of the ambient air quality standards. The District recommends that an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

If an AAQA is performed, the analysis should include emissions from both Project specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis. Specific information for assessing significance, including screening tools and modeling guidance is available online at the District's website www.valleyair.org/ceqa.

2) In addition to the discussions on potential impacts identified above, f preliminary review indicates that an EIR should be prepared, the District recommends the EIR also include the following discussions:

   a) A discussion of the methodology, model assumptions, inputs and results used in characterizing the Project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for any modeling referenced in the EIR.

   b) A discussion of the components and phases of the Project and the associated emission projections, including ongoing emissions from each previous phase.

   c) A discussion of Project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the Project.

      i) The following policies/mitigation measures are recommended to reduce or mitigate impacts from criteria pollutant emissions:

         (1) Use of off-road construction fleets that can achieve fleet average emissions equal to or less than the Tier III emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. The District recommends incorporating, as a condition of Project approval, a requirement that off-road construction equipment used on site achieve fleet average emissions equal to or less than the Tier III emissions standard of 4.8 NOx g/hp-hr. This can be achieved through any combination of uncontrolled engines and engines complying with Tier III and above engine standards.

         (2) For projects exceeding the applicability thresholds identified in Section 2.0 of District Rule 9510, a condition of Project approval requiring demonstration of compliance with Rule 9510, prior to the issuance of grading and/or building permits.

         (3) For projects subject to District permitting requirements, demonstration of compliance with District Rule 2201, such as a copy of the Authority to Construct (ATC), before issuance of the first building permit, be made a condition of project approval.

      ii) The following policies/mitigation measures are recommended to mitigate potential health impacts of individual projects:

(1) Development projects resulting in toxic air contaminant emissions will be located an adequate distance from residential areas and other sensitive receptors in accordance to ARB's *Air Quality and Land Use Handbook: A Community Health Perspective.*

(2) A health risk screening and/or assessment will be performed to assess potential risks to sensitive receptors for the following projects:

(3) Projects whose proposed locations are within the established buffer distances identified in ARB's handbook;

(4) Projects whose land uses are not specifically identified in ARB's handbook (such as shopping centers), but there is sufficient information to reasonably conclude that sensitive receptors would be exposed to significant sources of toxic air contaminants; and

(5) Projects that would otherwise appear to be exempt from CEQA requirements, but there is sufficient information to reasonably conclude that sensitive receptors would be exposed to significant sources of toxic air contaminants, such as industrial use projects allowed by right.

d) A discussion of whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. More information on the District's attainment status can be found online by visiting the District's website at: http://valleyair.org/aqinfo/attainment.htm.

District Rules and Regulations

3) District Rule 9510 (Indirect Source Review) is intended to mitigate a project's impact on air quality through project design elements or by payment of applicable off-site fees.

Future individual development project(s) within the Project would be subject to District Rule 9510 if (1) upon full build-out the project would receive a project-level discretionary approval from a public agency and would equal or exceed any one of the applicability thresholds below for example, or (2) would equal or exceed any of the applicability thresholds in section 2.0 of the rule:

- 50 dwelling units
- 2,000 square feet of commercial space;
- 25,000 square feet of light industrial space;
- 100,000 square feet of heavy industrial space;
- 20,000 square feet of medical office space;
- 39,000 square feet of general office space; or

- 9,000 square feet of educational space; or
- 10,000 square feet of government space; or
- 20,000 square feet of recreational space; or
- 9,000 square feet of space not identified above

District Rule 9510 also applies to any transportation or transit development projects where construction exhaust emissions equal or exceed two (2.0) tons of NOx or two (2.0) tons of PM10.

In the case the individual development project(s) are subject to District Rule 9510, an Air Impact Assessment (AIA) application is required and the District recommends that demonstration of compliance with District Rule 9510, before issuance of the first building permit, be made a condition of Project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm. The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

District staff is available to provide assistance with determining if future individual development projects will be subject to Rule 9510, and can be reached at (559) 230-6000 or by email at ISR@valleyair.org.

4) Particulate Matter 2.5 microns or less in size (PM2.5) from under-fired charbroilers pose immediate health risk. Since the cooking of meat can release carcinogenic PM2.5 species like polycyclic aromatic hydrocarbons, controlling emissions from under-fired charbroilers will have a substantial positive impact on public health.

Charbroiling emissions occur in populated areas, near schools and residential neighborhoods, resulting in high exposure levels for sensitive Valley residents. The air quality impacts on neighborhoods near restaurants with under-fired charbroilers can be significant on days when meteorological conditions are stable, when dispersion is limited and emissions are trapped near the surface within the surrounding neighborhoods. This potential for neighborhood-level concentration of emissions during evening or multi-day stagnation events raises environmental concerns.

Furthermore, the latest photochemical modeling indicates that reducing commercial charbroiling emissions is critical to achieving attainment of multiple federal PM2.5 standards and associated health benefits in the Valley.

Therefore, the District strongly recommends new restaurants that will operate under-fired charbroilers install emission control systems during the construction phase since installing charbroiler emissions control systems during construction of new facilities is likely to result in substantial economic benefit compared to costly retrofitting. To ease the financial burden for Valley businesses that wish to install control equipment before it is required by District Rule 4692 (Commercial Charbroiling), the District is currently offering substantial incentive funding that covers the full cost of purchasing, installing,

and maintaining the system for up to two years. Please contact the District at (559) 230-5800 or technology@valleyair.org for more information.

5) Future individual development projects may also be subject to District regulations including, but limited to: Regulation VIII (Fugitive PM10 Prohibitions), District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 4002 (National Emission Standards for Hazardous Air Pollutants), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). To avoid potential delays in project development, the District strongly encourages project proponents to contact the District's Small Business Assistance (SBA) Office early in the planning phase to discuss whether an Authority to Construct (ATC) and Permit to Operate (PTO) are required, and to identify other District rules or regulations that apply to their project.

   The District recommends that a mitigation measure be included that requires, for any project within the scope of this EIR that is subject to District permits, demonstration of compliance with District permitting requirements, such as a copy of the ATC, before issuance of the first building permit, be made a condition of project approval.

6) Future individual development Project may be subject to District Rule 9410 (Employer Based Trip Reduction) if the Project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees. Information about how District Rule 9410 can be found online at: www.valleyair.org/tripreduction.htm. For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org

7) The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888. Current District rules can be found online at the District's website at: www.valleyair.org/rules/1ruleslist.htm.

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please call Georgia Stewart at (559) 230-5937 or email Georgia.Stewart@valleyair.org. When calling or emailing the District, please reference District CEQA number 20190888.

Sincerely,

Arnaud Marjollet
Director of Permit Services

for Brian Clements
Program Manager

AM: gs

NOTICE OF PREPARATION

FOR THE

SPECIFIC PLAN OF THE WEST AREA

JULY 2019

Prepared for:

City of FRESNO
Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
(559) 621-2485

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

NOTICE OF PREPARATION

FOR THE

SPECIFIC PLAN OF THE WEST AREA

JULY 2019

Prepared for:

Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
(559) 621-8003

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

DATE: July 2, 2019

TO: State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Organizations and Interested Persons

SUBJECT: Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Specific Plan of the West Area

LEAD AGENCY: City of Fresno, Development and Resources Management Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
(559) 621-2485

PROJECT PLANNER: Rodney Horton
rodney.horton@fresno.gov
(559) 621-8181

PURPOSE OF NOTICE

This is to notify public agencies and the general public that the City of Fresno, as the Lead Agency, will prepare an Environmental Impact Report (EIR) for the Specific Plan of the West Area. The City of Fresno is interested in the input and/or comments of public agencies and the public as to the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the proposed project, and public input. Responsible/trustee agencies will need to use the EIR prepared by the City of Fresno when considering applicable permits, or other approvals for the proposed project.

COMMENT PERIOD

Consistent with the time limits mandated by State law, your input, comments or responses must be received in writing and sent at the earliest possible date, but not later than 5:00 PM, August 2, 2019.

Please send your comments/input (including the name for a contact person in your agency) to: Attn: Rodney Horton at the City of Fresno, 2600 Fresno Street, Room 3065, Fresno, CA 93721; or by e-mail to rodney.horton@fresno.gov.

SCOPING MEETING

On July 24, 2019, the City of Fresno will conduct a public scoping meeting to solicit input and comments from public agencies and the general public on the proposed project and scope of the EIR. This meeting will be held at the Glacier Point Middle School, Cafeteria, located at 4055 N. Bryan Avenue, Fresno, CA 93722, from 6:00 PM to 7:30 PM.

This meeting will be an open house format and interested parties may drop in to review the proposed project exhibits and submit written comments at any time between 6:00 PM and 7:30 PM. Representatives from the City of Fresno and the EIR consultant will be available to address questions regarding the EIR process and scope. Members of the public may provide written comments throughout the meeting.

If you have any questions regarding the scoping meeting, contact Rodney Horton, Project Planner, at (559) 621-8181 or rodney.horton@fresno.gov.

PROJECT LOCATION

The Specific Plan of the West Area (also-known-as "Specific Plan" or "West Area") encompasses approximately 7,077 acres (or a little more than 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. The footprint of the Specific Plan is referred to as the "Plan Area." Of the eleven square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth.

The Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to State Route 99. See Figure 1 for the regional location map and Figure 2 for the Plan Area vicinity map.

PROJECT SETTING

EXISTING SITE CONDITIONS

The Plan Area is relatively flat with natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level. A significant amount of land in the Plan Area is farmland or rural residential lots with large, uneven, and underutilized parcels. The West Area has approximately 3,070.95 acres of land that is classified as Urban and Built-Up, according to the State Department of Conservation. Prime farmland is principally located outside of the Plan Area. The West Area has 285.65 acres of Farmland of Statewide Importance which is located primarily in the western edge of the Plan Area. Approximately 509.39 acres of Unique Farmland is located within the Plan Area, most of which is within the southwest portion of the Plan Area. Farmland of Local Importance is located throughout the entire Plan Area, and totals approximately 1,562.82 acres. Vacant or Disturbed Land and Rural Residential Land account for approximately 1,650.17 acres within the growth area. See Figure 3 for an aerial view of the Plan Area.

SURROUNDING LAND USES

Surrounding land uses include State Route 99, the unincorporated communities of Herndon, Highway City, and Muscatel, and incorporated areas of the City of Fresno to the north (including mostly industrial uses), incorporated areas of the City of Fresno to the east (also including mostly industrial uses), unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels) and unincorporated Fresno County to the west (including farmland and rural residential uses).

EXISTING LAND USES AND ZONING

A portion of the Plan Area is located within the City of Fresno city limits, and a portion is within unincorporated Fresno County (but within the City's SOI). The City of Fresno General Plan designates the Plan Area as: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, General Commercial, Recreation Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Community Park, Open Space – Ponding Basin, Neighborhood Park, Open Space, Public/Quasi-Public Facility, Special School, Elementary School, Elementary, Middle & High School, and High School. See Figure 4 for the existing City General Plan land use designations.

The City of Fresno Zoning Map provides zoning for those portions of the Plan Area located within the city limits, but not for areas within the unincorporated County. Zoning designations are generally consistent with the existing General Plan land uses. The City zoning designations for the Plan Area include: Residential Estate (RE), Residential Single-Family, Extremely Low Density (RS-1), Residential Single-Family, Very Low Density (RS-2), Residential Single-Family, Low Density (RS-3), Residential Single-Family, Medium Low Density (RS-4), Residential Single-Family, Medium Density (RS-5), Residential Multi-Family, Medium High Density (RM-1), Residential Multi-Family, Urban Neighborhood (RM-2), Residential Multi-Family, High Density (RM-3), Mobile Home Park (RM-MH), Commercial Community (CC), Commercial General (CG), Commercial Regional (CR), Commercial Recreation (CRC), Light Industrial (IL), Corridor/Center Mixed Use (CMX), Neighborhood Mixed Use (NMX), Regional Mixed Use (RMX), Business Park (BP), Office (O), Open Space (OS), and Park and Recreation (PR). See Figure 5 for the existing zoning designations.

The Fresno County Zoning Map designates the portions of the Plan Area outside the city limits as: Rural Commercial Center (RCC), Central Trading (C4), General Commercial (C6), Light Industrial (M1), Exclusive Agricultural (AE20), Limited Agricultural (AL20), Rural Residential (RR), Single Family Residential Agricultural (RA), Single Family Residential (12,500) (R1B), and Trailer Park Residential (TP). Upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would not apply to the parcel.

PROJECT GOALS AND OBJECTIVES

Consistent with the California Environmental Quality Act (CEQA), Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed project shall be discussed. The objectives of the proposed project include future development of land for a wide variety of land uses including: Low Density Residential, Medium Low Density Residential, Medium Density Residential, Medium High Density Residential, Urban Neighborhood Residential, High Density Residential, Community Commercial, Recreation Commercial, General Commercial, Regional Commercial, Office, Business Park, Light Industrial, Corridor/Center Mixed Use, Regional Mixed Use, Pocket Park, Neighborhood Park, Community Park, Open Space, Ponding Basin, Public Facility, Church, Special School, Elementary School, Elementary, Middle & High School, High School, and Fire Station uses, as well as the required transportation and utility improvements.

Other objectives and purposes of the Specific Plan are summarized as follows:

- Accommodate and improve roadway access, connectivity and mobility among all modes of transportation, and prioritize roadway widening where bottlenecking exists.
- Accommodate planned transit services in the West Area by locating routes near or adjacent to the community centers, schools, parks, and retail centers.
- Provide a complete, safe, and well-maintained sidewalk network from residential neighborhoods to commercial centers, schools, parks, and community centers.
- Provide a complete, safe, and well-maintained roadway network that allows for efficient and smooth access from the West Area to other sections of the City and region.
- Create parks that are within existing and planned neighborhoods that are easily accessed by community members using pedestrian and bicycle pathways, transit services, or motor vehicles, consistent with the City of Fresno's Parks Master Plan.
- Provide for the location of a flagship Regional Park in the Plan Area that has components of the Plan Area's agricultural history through the planting of drought-resistant vegetation or trees, and the creation of public art that exhibits the Plan Area's contribution to the agricultural industry.
- Incorporate elements of agriculture in future parks by planting a mixture of native drought tolerant vegetation, shrubs, and trees that can serve to provide shade and enhance the streetscape.
- Encourage and provide land use opportunities for agri-tourism ventures to occur in the West Area.
- Encourage the development of harvest – producing community gardens.
- Attract desired and needed local retail establishments to serve the needs of the West Area community. Such establishments include grocery stores, bakeries, restaurants other than fast food places, and boutiques.
- Discourage the expansion of undesirable retail establishments such as liquor stores, tobacco and vapor stores, short-term loan and pawn shops, and adult stores.
- Encourage the development of retail establishments along commercial corridors.

- Encourage the orderly and consistent development of civic, parkland, retail and commercial, mixed-use, and multi-family uses along West Shaw Avenue, West Ashlan Avenue, Veterans Boulevard, West Shields Avenue, West Clinton Avenue, and Blythe Avenue.
- Encourage a variety of housing types and styles.
- Encourage the development of housing to accommodate an aging population including, multi-generational houses and other elder housing options.
- Reaffirm the City's commitment and obligation to affirmatively furthering access to fair and affordable housing opportunities by strongly encouraging equitable and fair housing opportunities to be located in strategic proximity to employment, recreational facilities, schools, neighborhood commercial areas, and transportation routes.
- Attract much needed educational opportunities for the residents of the West Area, especially for post-secondary education, and access to programs for life-long learners.
- Provide for safe routes to schools for children, with the City and County working together with residents, to provide sidewalks in neighborhood that have sporadic access.
- Work to promote Neighborhood Watch in all neighborhoods, and further assess the need for the location of emergency response facilities west of State Route 99.

PROJECT CHARACTERISTICS AND DESCRIPTION

BACKGROUND

The proposed Specific Plan process officially started in September 2017 with the drafting of the existing conditions report. That document provides a detailed overview of the existing land uses within the Plan Area. Outreach to the West Area community started in early 2018 with individual meetings between City staff and community stakeholders, including residents, local agencies, institutional partners, elected officials, land owners, and developers. Public outreach included community stakeholder interviews, Steering Committee orientation sessions and meetings, community meetings and workshops, and an on-line survey.

The 11-member Steering Committee, established in March 2018 by the Fresno City Council, held regular public meetings to provide recommendations to the draft land use map and guiding principles based on input received from community members. Additionally, approximately 25 community stakeholders were interviewed from January 2018 to April 2018. Next, a kick-off survey regarding the Plan Area was released in April 2018. The survey covered topics such as quality of life, needed improvements, needed housing and commercial development, agri-tourism, and the overall future vision for the Plan Area. Two community conversations (i.e., workshops) were also held in order to receive feedback: Community Conversation No. 1 was held in May 2018, and Community Conversation No. 2 was held in June 2018. The Steering Committee then held meetings in June, July, August, November, and January 2018 in order to review and select the conceptual land use options. The draft land use map and guiding principles were released to the public on November 28, 2018. The draft land use map was then amended by the Steering Committee in January 2019. Lastly, an agri-tourism workshop was held in the spring of 2019.

INTRODUCTION

The proposed Specific Plan will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre Plan Area. The Specific Plan will serve as a bridge between the Fresno General Plan and individual development applications in the Plan Area.

The Specific Plan of the West Area seeks to provide for the orderly and consistent development that promotes and establishes the West Area as a complete neighborhood with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The Plan Area does not currently have needed commercial amenities, forcing residents to travel east of State Route 99 for retail services. The Plan Area also lacks a complete roadway network and parkland.

LAND USE MAP AND MAXIMUM BUILDOUT POTENTIAL

The proposed Specific Plan refines the General Plan's land use vision for the West Area. The draft land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The Specific Plan of the West Area land use plan utilizes the City's existing General Plan land use designations to maintain or re-designate some parcels in the West Area. Some of the designation changes include: Low Density Residential (1 to 3.5 dwelling units per acre [DU/AC]), Medium Low Density Residential (3.5 to 6 DU/AC), Medium Density Residential (5 to 12 DU/AC), Medium High Density Residential (12 to 16 DU/AC), Urban Neighborhood Residential (16 to 30 DU/AC), High Density Residential (30 to 45 DU/AC), Community Commercial (1.0 maximum floor-area-ratio [FAR]), Recreation Commercial (0.5 maximum FAR), General Commercial (2.0 maximum FAR), Regional Commercial (1.0 maximum FAR), Office (2.0 maximum FAR), Business Park (1.0 maximum FAR), Light Industrial (1.0 maximum FAR), Corridor/Center Mixed Use (16 to30 UD/AC and 1.5 maximum FAR), Regional Mixed Use (30 to 45 UD/AC and 2.0 maximum FAR), Pocket Park, Neighborhood Park, Community Park, Open Space, Ponding Basin, Public Facility, Church, Special School, Elementary School, Elementary, Middle & High School, High School, and Fire Station. See Table 1 for a summary of the existing and proposed land uses within the city limits, growth area, and Plan Area. See Figure 6 for the proposed General Plan land use designations.

As previously indicated, the City of Fresno Zoning Map designates the Plan Area as: RE, RS-1, RS-2, RS-3, RS-4, RS-5, RM-1, RM-2, RM-3, RM-MH, CC, CG, CR, CRC, IL, CMX, NMX, RMX, BP, O, OS, and PR. The Fresno County Zoning Map designates the portions of the Plan Area outside the city limits as: RCC, C4, C6, M1, AE20, AL20, RR, RA, R1B, and TP. In conjunction with the approval of the Specific Plan, the parcels in the City which would have a changed land use designation as a result of the Specific Plan would be rezoned to the corresponding City zoning designation.

TABLE 1: PARCEL ACREAGES BY LAND USE CLASSIFICATION FOR GENERAL PLAN AND PROPOSED SPECIFIC PLAN

GENERAL PLAN LAND USE DESIGNATIONS	*CITY LIMITS*			*GROWTH AREA*			*PLAN AREA TOTAL*		
	GENERAL PLAN ACRES	*SPECIFIC PLAN ACRES*	*DIFFERENCE IN CITY*	*GENERAL PLAN ACRES*	*SPECIFIC PLAN ACRES*	*DIFFERENCE IN GROWTH AREA*	*GENERAL PLAN ACRES*	*SPECIFIC PLAN ACRES*	*OVERALL CHANGE*
Low	146.20	95.82		671.59	420.76		817.79	516.57	
Medium Low	582.37	821.03		243.59	635.94		825.97	1,456.98	
Medium	1,460.88	1,240.70		896.13	824.67		2,357.00	2,065.37	
Medium High	261.09	224.31	- 163.47	88.33	51.24	- 143.64	349.42	275.55	- 307.11
Urban Neighborhood	214.65	96.53		213.96	75.11		428.61	171.64	
High	28.00	51.33		37.76	0.00		65.76	51.33	
Subtotal - Residential	*2,693.19*	*2,529.72*		*2,151.36*	*2,007.72*		*4,844.55*	*4,537.44*	
Community	81.87	27.40		56.79	25.34		138.66	52.74	
Recreation	41.34	41.34		0.00	0.00		41.34	41.34	
General	141.59	155.38	- 40.68	1.63	65.40	+ 36.56	143.21	220.78	- 4.11
Regional	0.00	0.00		0.00	4.24		0.00	4.24	
Subtotal - Commercial	*264.80*	*224.12*		*58.42*	*94.98*		*323.21*	*319.10*	
Office	7.51	42.94		0.00	45.87		7.51	88.81	
Business Park	22.71	20.57	+ 32.91	54.40	35.45	+ 26.92	77.11	56.02	+ 59.84
Light Industrial	33.13	32.75		0.00	0.00		33.13	32.75	
Subtotal - Employment	*63.35*	*96.26*		*54.40*	*81.32*		*117.75*	*177.59*	
Neighborhood	0.00	211.12		0.00	44.83		0.00	255.95	
Corridor/Center	106.19	71.78	+ 114.60	0.00	24.23	+ 69.06	106.19	96.00	+ 183.66
Regional	144.72	82.61		0.00	0.00		144.72	82.61	
Subtotal - Mixed Use	*250.90*	*365.50*		*0.00*	*69.06*		*250.90*	*434.56*	
Pocket Park	2.45	1.55		0.00	0.00		2.45	1.55	
Neighborhood Park	36.67	39.22		47.04	47.04		83.71	86.26	
Community Park	24.20	24.20		13.98	0.00		38.18	24.20	
Regional Park	0.00	0.00	+ 24.58	0.00	0.00	+ 14.49	0.00	0.00	+ 10.09
Open Space	5.03	5.03		1.76	1.76		6.79	6.79	
Ponding Basin	67.06	89.99		40.12	39.60		107.18	129.59	
Subtotal - Open Space	*135.41*	*159.99*		*102.90*	*88.41*		*238.31*	*248.40*	
Public Facility	4.98	12.64		16.81	14.78		21.78	27.42	
Church	9.93	21.20		1.66	34.60		11.59	55.80	
Special School	4.50	4.50		13.88	13.88		18.38	18.38	
Elem. School	56.18	66.17	+ 32.05	25.65	25.65	+ 25.59	81.82	91.82	+ 57.65
Elem./Middle/High School	145.37	145.37		0.00	0.00		145.37	145.37	
High School	46.95	46.95		0.00	0.00		46.95	46.95	
Fire Station	0.20	3.32		5.32	0.00		5.52	3.32	
Subtotal - Public Facilities	*268.10*	*300.15*		*63.32*	*88.91*		*331.41*	*389.06*	
Grand Total	***3,675.75***	***3,675.75***	**--**	***2,430.39***	***2,430.39***	**--**	***6,106.14***	***6,106.14***	**--**

The parcels that are currently within the County will not be rezoned. Instead, upon a proposal to annex unincorporated land into the city limits, the City of Fresno would prezone the land to a zone that is consistent with the General Plan land use. Once annexation occurs, the County zoning would not apply to the parcel.

Table 2 summarizes the acreages of each land use, the maximum number of units, and the maximum non-residential square footage that would be allowed under the proposed Specific Plan.

TABLE 2: MAXIMUM DEVELOPMENT POTENTIAL WITHIN SPECIFIC PLAN OF THE WEST AREA

General Plan Land Use Designations (and Density/Intensity)	*Specific Plan Acres*	*Maximum Development Potential*	
		Dwelling Units	*Non-Residential SF*
Low (1-3.5 DU/AC)	516.57	1,807	--
Medium Low (3.5-6 DU/AC)	1,456.98	8,741	--
Medium (5-12 DU/AC)	2,065.37	24,784	--
Medium High (12-16 DU/AC)	275.55	4,408	--
Urban Neighborhood (16-30 DU/AC)	171.64	5,149	--
High (30-45 DU/AC)	51.33	2,309	--
Subtotal - Residential	*4,537.44*	*47,199*	--
Community (1.0 Max. FAR)	52.74	--	2,297,354.40
Recreation (0.5 Max. FAR)	41.34	--	900,385.20
General (2.0 Max. FAR)	220.78	--	19,234,353.60
Regional (1.0 Max. FAR)	4.24	--	184,694.40
Subtotal - Commercial	*319.10*	--	*22,616,787.60*
Office (2.0 Max. FAR)	88.81	--	--
Business Park (1.0 Max. FAR)	56.02	--	--
Light Industrial (1.0 Max. FAR)	32.75	--	--
Subtotal - Employment	*177.59*	--	--
Neighborhood (12-16 DU/AC; 1.5 Max. FAR)	255.95	4,095	16,723,773.00
Corridor/Center (16-30 UD/AC; 1.5 Max. FAR)	96.00	2,880	6,272,640.00
Regional (30-45 UD/AC; 2.0 Max. FAR)	82.61	3,717	7,196,983.20
Subtotal - Mixed Use	*434.56*	*10,692*	*30,193,396.20*
Pocket Park	1.55	--	--
Neighborhood Park	86.26	--	--
Community Park	24.20	--	--
Regional Park	0.00	--	--
Open Space	6.79	--	--
Ponding Basin	129.59	--	--
Subtotal - Open Space	*248.40*	--	--
Public Facility	27.42	--	--
Church	55.80	--	--
Special School	18.38	--	--
Elem. School	91.82	--	--
Elem./Middle/High School	145.37	--	--
High School	46.95	--	--
Fire Station	3.32	--	--
Subtotal - Public Facilities	*389.06*	--	--
Grand Total	***6,106.14***	***57,891 DU***	***52,810,183.80 SF***

As shown in the table, the Specific Plan would allow for the future development of up to 57,891 DU (including 47,199 DU in the residential category and 10,692 DU in the mixed use category) and 52,810,183.80 SF of non-residential uses. The proposed land use plan also designates public facility uses that are currently existing within the Plan Area, including schools and churches. In the northern portion of the Plan Area, Fire Station No. 18 is located off of West Bullard Avenue at 5938 North La Ventana Avenue. Fire Station 18 will be relocated to a permanent location on

the south side of the 6000 block of West Shaw Avenue to maximize the department's "4 Minutes to Excellence" response time goal. Additionally, the proposed land use plan would allow for approximately 248 acres of park, open space, and ponding basin uses. The Specific Plan also includes circulation and utility improvements, some of which are planned in the City's current program for capital improvements.

The Specific Plan is designed to provide flexibility, so there is an extensive number of hypothetical variations/combinations for residential and non-residential development. However, the data within the above table represents the maximum density allowed without an amendment approved by the City. In effect, this is very likely an overestimate of what will actually be developed, but for purposes of environmental analysis in the EIR it represents the worst-case scenario.

It is noted that the proposed Specific Plan would amend the land uses for approximately half of the land within the Plan Area. The remaining parcels would maintain their existing land use and zoning designations. The parcels that are proposed for change by the proposed land use map are shown in Figure 7.

REVISIONS TO CORE GOALS

In addition to the proposed land use plan, the following are revisions to the core goals provided in the General Plan for the West Area:

1. West Shaw Avenue Town Center: The West Shaw Avenue Town Center (the Town Center) will extend from State Route 99 to the east side of Grantland Avenue and is envisioned to be comprised of mixed-use development supported by enhanced transit service. Land on the south side of West Shaw Avenue will provide additional neighborhood and commercial mixed-use opportunities.
2. Catalytic Corridors: The proposed Specific Plan designates higher density land uses along corridors for the purpose of providing easy access to major arterials and streets, retail centers, and community amenities. Catalytic corridors will include transit services. The corridors are designed to include neighborhood and pocket parks, commercial and retail uses, educational facilities, multi-family dwelling units, and professional offices. The corridors are located on the following streets:
    a) West Shaw Avenue, from State Route 99 to the east side of Grantland Avenue;
    b) West Ashlan Avenue, from State Route 99 to the commercial nodes located on the west side of Grantland Avenue;
    c) North Blythe Avenue, from West Shields to West Ashlan Avenue;
    d) West Clinton Avenue from State Route 99 to North Brawley Avenue; and
    e) Veterans Boulevard, from West Gettysburg Avenue to West Barstow Avenue.

PROJECT ALTERNATIVES

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that

requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must "set forth only those alternatives necessary to permit a reasoned choice." (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a "range of reasonable alternatives" and, thus limit the number and type of alternatives that need to be evaluated in an EIR. An EIR need not include any action alternatives inconsistent with the lead agency's fundamental underlying purpose in proposing a project. (In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1166.)

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, "feasible" is defined as:

> … *capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.* (CEQA Guidelines 15364)

The inclusion of an alternative in an EIR is not evidence that it is feasible as a matter of law, but rather reflects the judgment of lead agency staff that the alternative is potentially feasible. The final determination of feasibility will be made by the lead agency decision-making body through the adoption of CEQA Findings at the time of action on the Project. (Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal.App.4th 477, 489 see also CEQA Guidelines, §§ 15091(a)) (3) (findings requirement, where alternatives can be rejected as infeasible); 15126.6 ([an EIR] must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation").) The following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (Section 15126.6 (f) (1)).

ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Equally important to attaining the project objectives is the reduction of some or all significant impacts, particularly those that could not be mitigated to a less-than-significant level. The exact alternatives that will be evaluated in the Draft EIR will be determined through the Notice of Preparation (NOP) and Scoping Process. Through preliminary discussions, there are three alternatives to the proposed Specific Plan that are being contemplated for evaluation in the Draft EIR. The alternatives being considered include the following:

- **No Project (Existing General Plan) Alternative**: Under this alternative, the Plan Area would remain in its current General Plan land use and zoning designations. Future development allowed under the existing General Plan land use map would be permitted in the Plan Area.
- **Regional Park Alternative:** Under this alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map. However, this alternative would provide a Regional Park within the Plan Area, which would be a minimum of 40 acres in size.
- **Lower Density Alternative:** Under this alternative, future development in the Plan Area would occur similar to what would be allowed under the proposed land use map, but at lower densities.

It is noted that the final alternatives selected for analysis in the Draft EIR will be based on the public scoping process, including input received through public comment.

PLAN ADOPTION AND REGULATION

The Specific Plan may include certain development regulations and standards that are intended to be specific to the Specific Plan Area. Where there is a matter or issue not specifically covered by the Specific Plan development regulations and design standards, the Fresno Zoning Code would apply. Where there is a conflict between the Specific Plan and the Zoning Code, the Specific Plan would prevail.

The Specific Plan is intended to be adopted by the City Council and to serve as a tool for the City of Fresno to implement. The Specific Plan is to be used by designers, developers, builders, and planners, to guide development of the Plan Area. The land use, development standards, and design guidelines are provided to ensure that all proposed developments remain consistent with the vision established by the Specific Plan as the Project is built over time. The Specific Plan development concepts, design guidelines, and standards are in accordance with the City's General Plan, Municipal Ordinances, and City Specifications. The Specific Plan shall be used to review, process, and approve development proposals for the Project site including but not limited to site specific development applications and site improvement plans.

TYPE OF EIR

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the proposed project as a whole.

It is noted that the Specific Plan provides a very broad level of planning detail. To the extent that sufficient detail is available in the Specific Plan, a more detailed level of analysis is provided in this EIR. Examples of a more detailed level of analysis would include topics that are related to the physical acreage affected (i.e. the project footprint), maximum number of units (or FAR), land uses/zoning, or other design parameters. In many cases, there will be site specific uses that

will have design details developed at a later date. These details are unknown at this time and cannot reasonably be analyzed at a project-level at this time.

This EIR examines the planning, construction and operation of the project. The program-level approach, with limited project-level analysis, is appropriate for the proposed project because it allows comprehensive consideration of the reasonably anticipated scope of the development plan; however, as discussed above, not all design aspects of the future development phases are known at this stage in the planning process. Subsequent individual development that requires further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

CEQA Guidelines Section 15168 states that a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1. Geographically,
2. As logical parts in the chain of contemplated actions,
3. In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

According to CEQA Guidelines section 15168, subdivision (c)(5), "[a] program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible." Later environmental documents (EIRs, mitigated negative declarations, or negative declarations) can incorporate by reference materials from the program EIR regarding regional influences, secondary impacts, cumulative impacts, broad alternatives, and other factors (CEQA Guidelines Section 15168[d][2]). These later documents need only focus on new impacts that have not been considered before (CEQA Guidelines Section 15168[d][3]).

Section 15168(c), entitled "Use with Later Activities," provides, in pertinent part, as follows:

Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared:

1. If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
2. If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activities as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
3. An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

4. Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

Here, the City anticipates preparing an initial study whenever landowners within the Plan Area submit applications for site-specific approvals (i.e. tentative maps, conditional use permits, or other discretionary entitlements). The initial study would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. are there new environmental effects that were not covered by the program EIR). The City's expectation, at least at present, is that the initial study will conclude that most components of the Specific Plan can be developed with no new analysis of environmental effects given that there has been analysis in this program EIR. In some cases, however, a site-specific application (i.e. commercial use) may have specific issues associated with the project, or business, that this program EIR could not anticipate given the information that was available at this time. In those situations, the detailed site-specific information from that application could have site-specific effects not wholly anticipated in this EIR and would require some additional environmental review. (See also CEQA Guidelines section 15063, subd. (b)(1)(C).)

Future site-specific approvals may also be narrowed pursuant to the rules for tiering set forth in CEQA Guidelines Section 15152. "'[T]iering is a process by which agencies can adopt programs, plans, policies, or ordinances with EIRs focusing on 'the big picture,' and can then use streamlined CEQA review for individual projects that are consistent with such…[first tier decisions] and are…consistent with local agencies' governing general plans and zoning.'" (*Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29, 36.) Section 15152 provides that, where a first-tier EIR has "adequately addressed" the subject of cumulative impacts, such impacts need not be revisited in second- and third-tier documents. Furthermore, second- and third-tier documents may limit the examination of impacts to those that "were not examined as significant effects" in the prior EIR or "[a]re susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means." In general, significant environmental effects have been "adequately addressed" if the lead agency determines that:

1. they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental impact report; or
2. they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.

Here, as noted above, the City anticipates preparing Initial Study whenever landowners within the Plan Area submit applications for site-specific approvals (i.e. tentative maps, conditional use

permits, or other discretionary entitlements). The checklist would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. have all significant environmental impacts identified been "adequately addressed" in the program EIR). Thus, if a new analysis is required for these site-specific actions, it would focus on impacts that cannot be "avoided or mitigated" by mitigation measures that either (i) were adopted in connection with the Specific Plan or (ii) were formulated based on information in this EIR.

In addition, because the EIR addresses the effects of rezoning the land within the proposed Plan Area, future environmental review can also be streamlined pursuant to Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183. These provisions, which are similar but not identical to the tiering provisions, generally limit the scope of necessary environmental review for site-specific approvals following the preparation of an EIR for a "zoning action." For such site-specific approvals, CEQA generally applies only to impacts that are "peculiar to the parcel or to the project" and have not been previously disclosed, except where "substantial new information" shows that previously identified impacts would be more significant than previously assumed. Notably, impacts are considered not to be "peculiar to the parcel or to the project" if they can be substantially mitigated pursuant to previously adopted, uniformly applied development policies or standards. As noted above, the City anticipates that, in assessing the extent to which the Specific Plan EIR has previously addressed significant impacts that might occur with individual projects, the City may conclude that in some instances (e.g., with respect to agricultural resources, cultural resources, geology, soils, and paleontological resources), no further analysis beyond that found in the program EIR will be necessary.

Finally, for purely residential projects consistent with the Specific Plan, the City intends to preserve its ability to treat such projects as exempt from CEQA pursuant to Government Code section 65457. Subdivision (a) of that statute provides that "[a]ny residential development project, including any subdivision, or any zoning change that is undertaken to implement and is consistent with a specific plan for which an [EIR] has been certified after January 1, 1980, is exempt from the requirements of [CEQA]." The statutes go on to say, moreover, that "if after adoption of the specific plan, an event as specified in Section 21166 of the Public Resources Code occurs, the exemption provided by this subdivision does not apply unless and until a supplemental [EIR] for the specific plan is prepared and certified in accordance with the provisions of [CEQA]. After a supplemental [EIR] is certified, the exemption … applies to projects undertaken pursuant to the specific plan." (See also CEQA Guidelines section 15182.)

When purely residential projects are proposed, the City will consider whether they qualify for this exemption or whether the Specific Plan EIR must be updated through a supplement to this EIR or a subsequent EIR as required by Public Resources Code section 21166 and CEQA Guidelines sections 15162 and 15163.

PROJECT ENTITLEMENTS

The City of Fresno will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Certification of the EIR and adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- Approval of the Specific Plan of the West Area;
- Approval of the General Plan amendment modifying land uses.
- Approval of the Zoning Ordinance amendment modifying zoning.

The EIR analyzes the impacts of the Specific Plan and the anticipated subsequent filing of maps and other development applications in the future. Therefore, the EIR analyzes the maximum impacts of the Specific Plan, including these applications yet unfiled, so that future filings will not require separate environmental analysis, as long as development proposed does not substantially deviate from the approved Specific Plan.

ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR will involve the following general procedural steps:

NOTICE OF PREPARATION

The City must circulate a NOP of an EIR for the proposed project to responsible and trustee agencies, the State Clearinghouse, and the public. A public scoping meeting must be held during the public review period to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP will be considered during preparation of the Draft EIR. The NOP and responses to the NOP by interested parties will be presented in an appendix to the EIR.

DRAFT EIR

The Draft EIR will contain a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The Draft EIR will identify issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP will be considered in preparing the analysis in the EIR. Upon completion of the Draft EIR, the City will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the 45-day public review period.

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to significant environmental issues raised either in written comments received during the public review period or in oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

CEQA Guidelines Section 15090 requires lead agencies to certify the final EIR prior to approving a project. The lead agency decision making body shall certify that (i) the Final EIR has been completed in compliance with CEQA; (ii) that the Final EIR was presented to the decision-making body, which reviewed and considered the information contained in the Final EIR prior to approving the project; and (iii) that the Final EIR reflects the lead agency's independent judgment and analysis.

For the proposed project, the City Council City shall be the City's ultimate decision-making body. The Council will therefore review and consider the Final EIR and make a determination regarding whether the document is "adequate and complete." In general, a Final EIR meets this standard if:

1. The EIR shows a good faith effort at full disclosure of environmental information; and
2. The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

The level of detail contained throughout the EIR is intended to be consistent with Section 15151 of the CEQA Guidelines and recent court decisions, which provide the standard of adequacy on which the document is based. The Guidelines state as follows:

> *"An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of the environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."*

Following review and consideration of the Final EIR, the City may take action to approve, modify, or reject the project. As part of project approval, the City also is also required to adopt a Mitigation Monitoring and Reporting Program, as described below, prepared in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097. This Mitigation Monitoring and Reporting Program must include all of the mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment, and would be designed to ensure that these measures are actually carried out during project implementation.

USES OF THE EIR AND REQUIRED AGENCY APPROVALS

The City of Fresno will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Other agencies may be required to issue permits or approve certain aspects of the proposed project.

Actions that would be required from the City include, but are not limited to, the following:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Approval of City of Fresno General Plan Amendments;
- Approval of City of Fresno rezoning;
- Approval of Specific Plan;
- Approval of Development Agreement;
- Approval of future tentative and final maps;
- Approval of future improvement plans;
- Approval of future grading plans;
- Approval of future building permits;
- Approval of future site plan and design review;
- City review and approval of future project utility plans.

The other governmental agencies that may require approvals in connection with the project include, but are not limited to, the following:

- California Department of Fish and Wildlife;
- California Department of Transportation;
- Central Valley Regional Water Quality Control Board - Storm Water Pollution Prevention Plan approval prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District - Approval of construction-related air quality permits;
- San Joaquin Valley Air Pollution Control District - Authority to Construct, Permit to Operate for stationary sources of air pollution;
- State Water Resources Control Board.

AREAS OF POTENTIAL IMPACTS

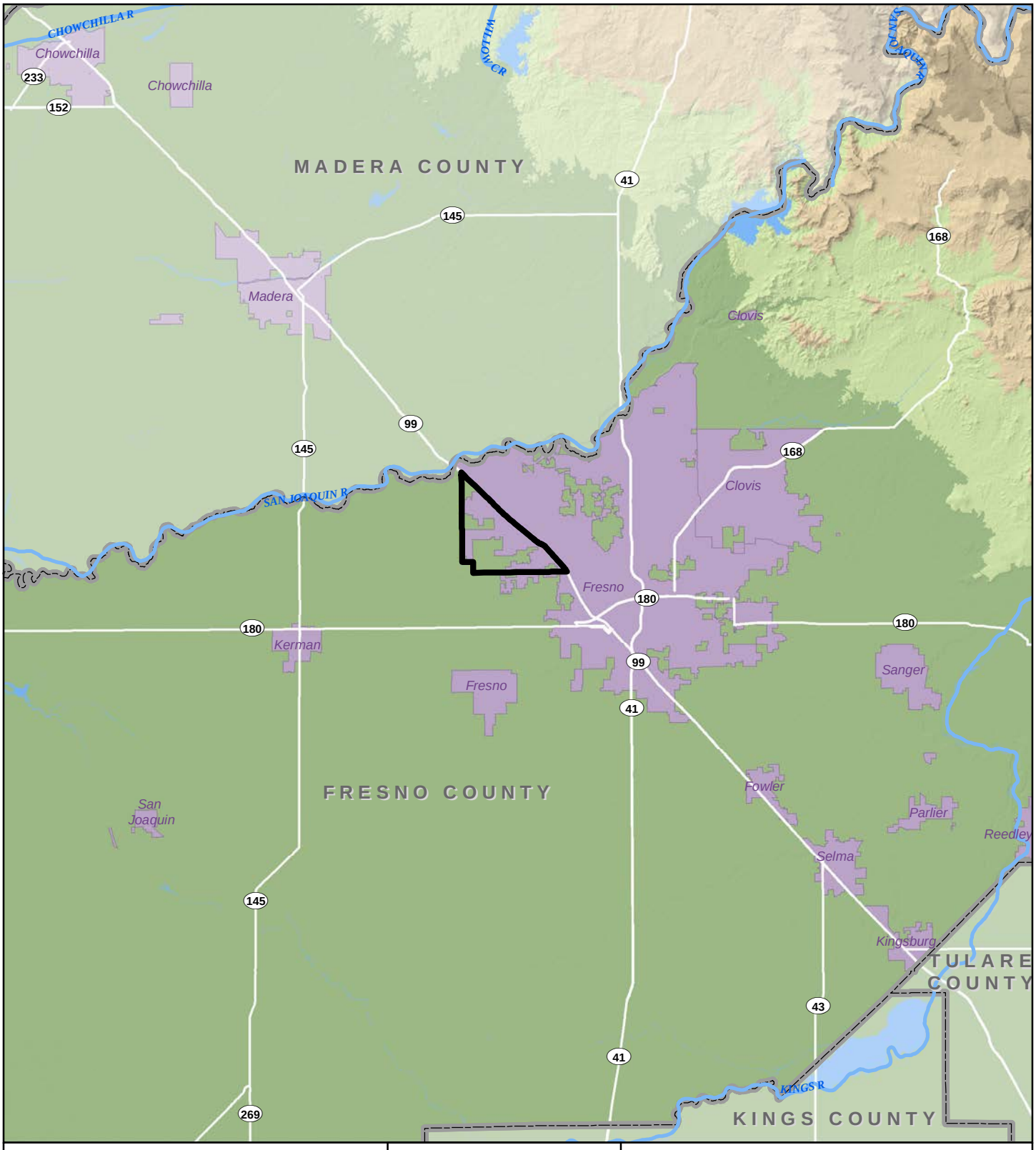
An Initial Study has not been prepared for this project. All environmental topics identified in Appendix G of the State CEQA Guidelines will be analyzed in the EIR, including: Aesthetics, Agricultural and Forest Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gases and Climate Change, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, Wildfire, Cumulative Impacts, and Growth Inducing Impacts.

Date: June 28, 2019

Signature: 

Name/Title: Rodney L. Horton, MPA, Project Planner

Phone/Email: 559-621-8181/Rodney.Horton@fresno.gov



Legend

- Specific Plan of the West Area
- City Area
- County Boundary

N

0 2½ 5

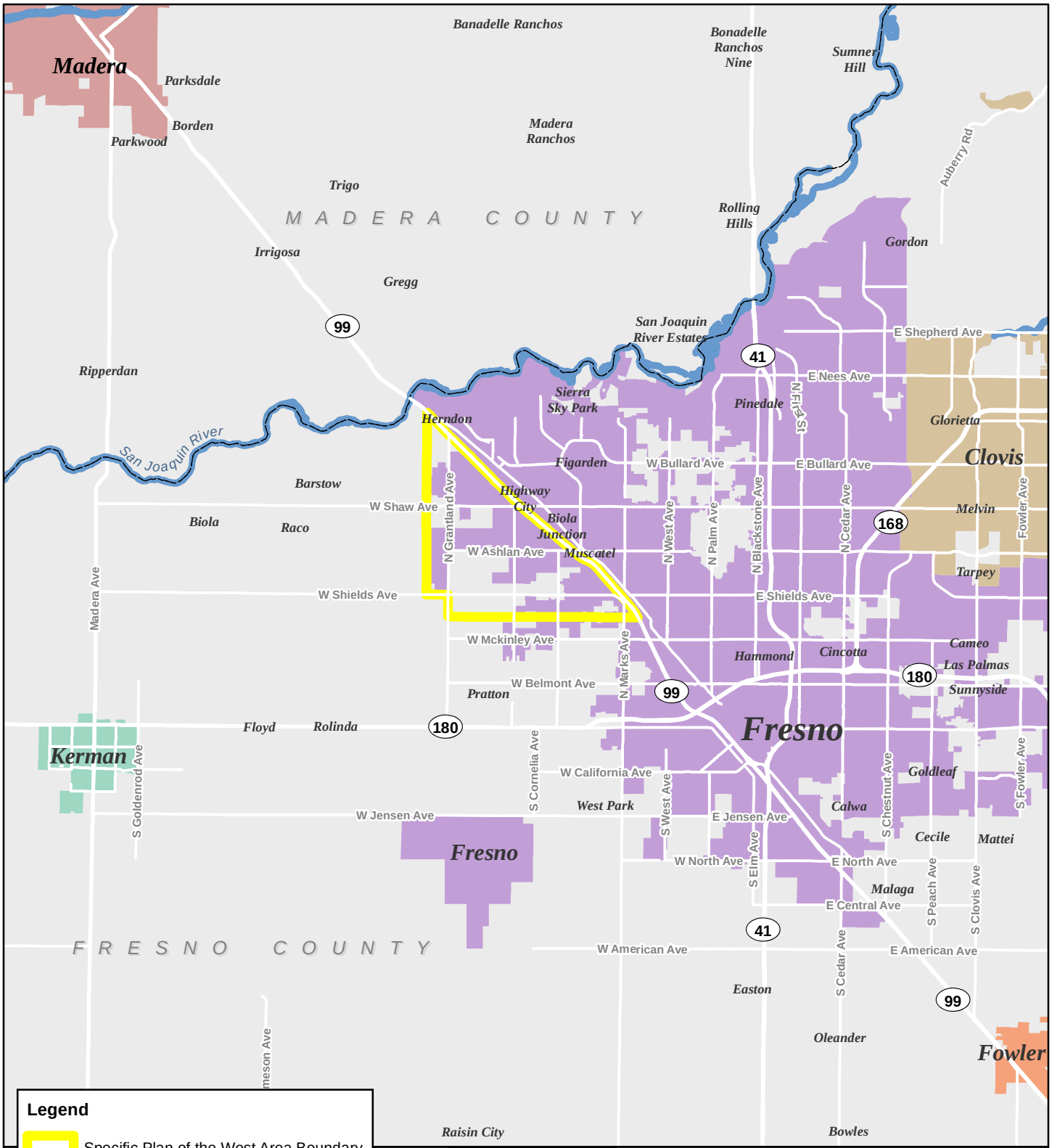
Miles

Sources: CalAtlas; Madera County; Fresno County. Map date: May 8, 2019.

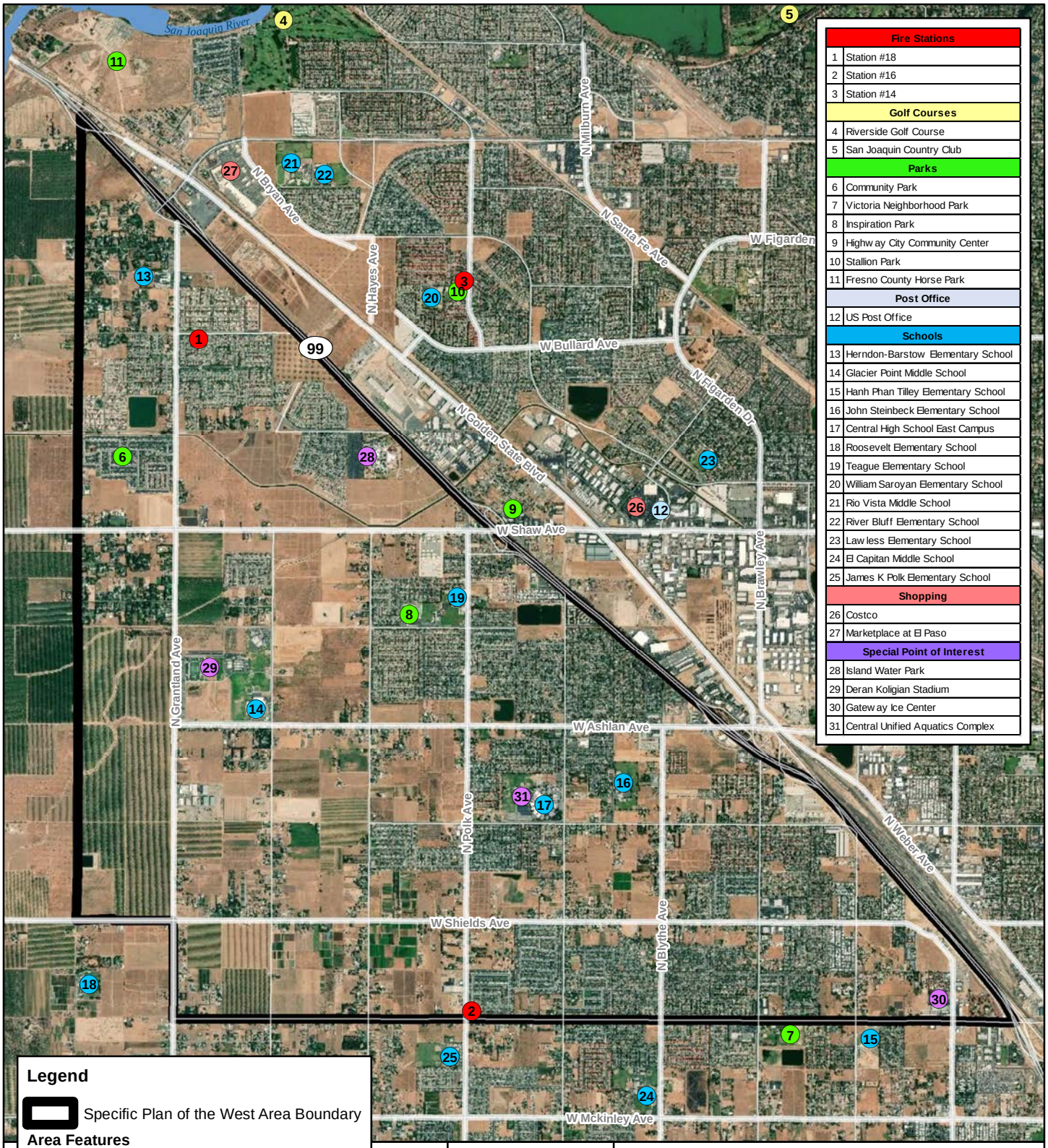
CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 1. Regional Location Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm



Sources: Fresno County; Madera County, Cal Atlas. Map date: May 7, 2019.



Fire Stations	
1	Station #18
2	Station #16
3	Station #14
Golf Courses	
4	Riverside Golf Course
5	San Joaquin Country Club
Parks	
6	Community Park
7	Victoria Neighborhood Park
8	Inspiration Park
9	Highway City Community Center
10	Stallion Park
11	Fresno County Horse Park
Post Office	
12	US Post Office
Schools	
13	Herndon-Barstow Elementary School
14	Glacier Point Middle School
15	Hanh Phan Tilley Elementary School
16	John Steinbeck Elementary School
17	Central High School East Campus
18	Roosevelt Elementary School
19	Teague Elementary School
20	William Saroyan Elementary School
21	Rio Vista Middle School
22	River Bluff Elementary School
23	Lawless Elementary School
24	El Capitan Middle School
25	James K Polk Elementary School
Shopping	
26	Costco
27	Marketplace at El Paso
Special Point of Interest	
28	Island Water Park
29	Deran Koligian Stadium
30	Gateway Ice Center
31	Central Unified Aquatics Complex

Legend

Specific Plan of the West Area Boundary

Area Features

- Fire Station
- Golf Course
- Park
- Post Office
- School
- Shopping
- Special Point of Interest

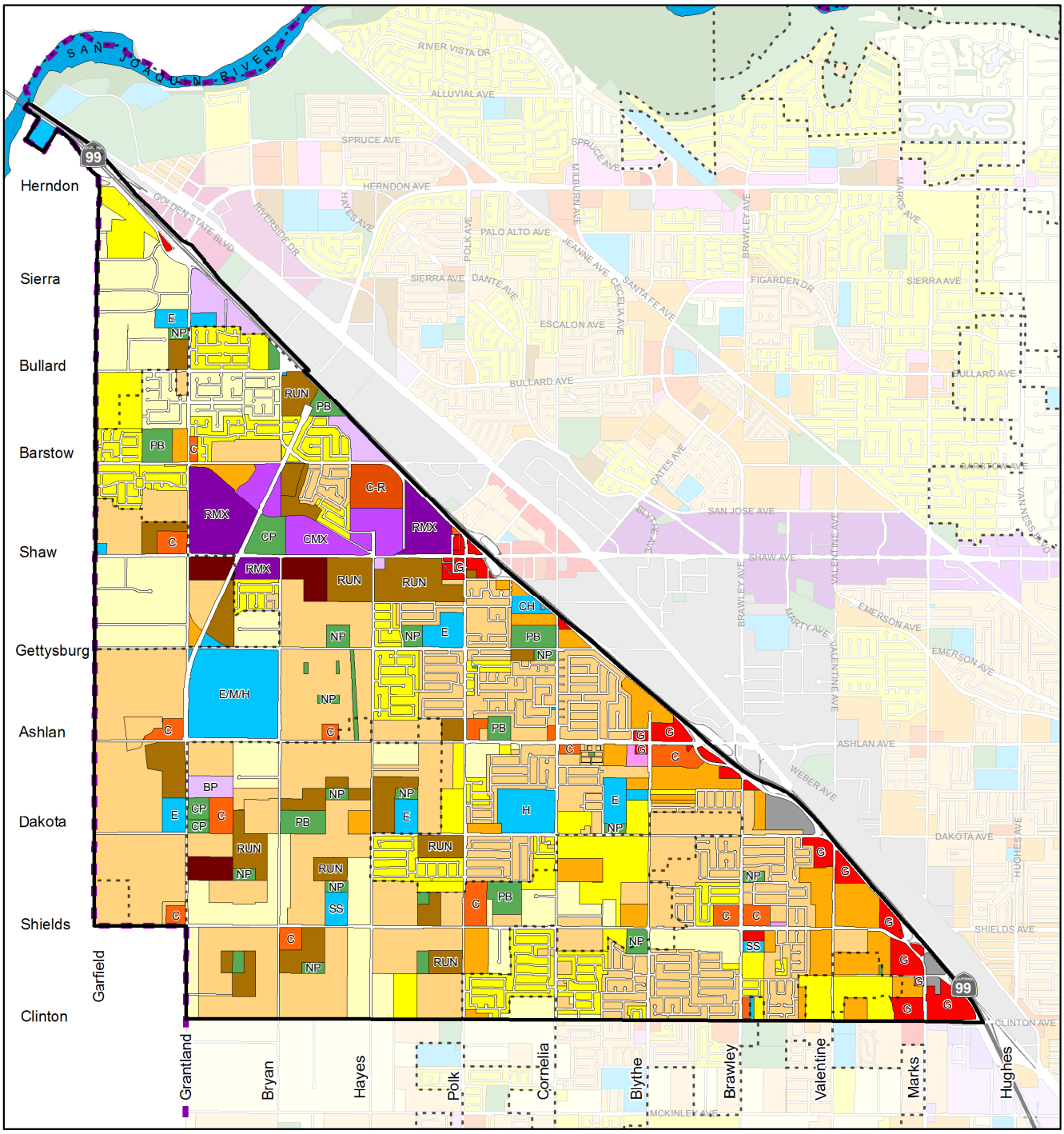
0 ¼ ½ Miles

Sources: Fresno County; Madera County, Cal Atlas. Map date: May 8, 2019.

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 3. Aerial View of Project Site

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm



BOUNDARIES
- City Limits
- West Area Specific Plan Boundary
- Sphere Of Influence

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

PUBLIC FACILITIES
- Public/Quasi-public Facility
- SS Special School
- E Elementary School
- E/M/H Elementary, Middle & High School
- H High School
- CH Church
- FS Fire Station

EMPLOYMENT
- Office
- BP Business Park
- Light Industrial

MIXED USE
- CMX Corridor/Center Mixed Use
- RMX Regional Mixed Use

OPEN SPACE
- CP Community Park
- PB Open Space - Ponding Basin
- NP Neighborhood Park
- Open Space
- P Park

COMMERCIAL
- Community
- Recreation
- General

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 4. Existing General Plan Land Use Designations

N

0 0.25 0.5 Miles

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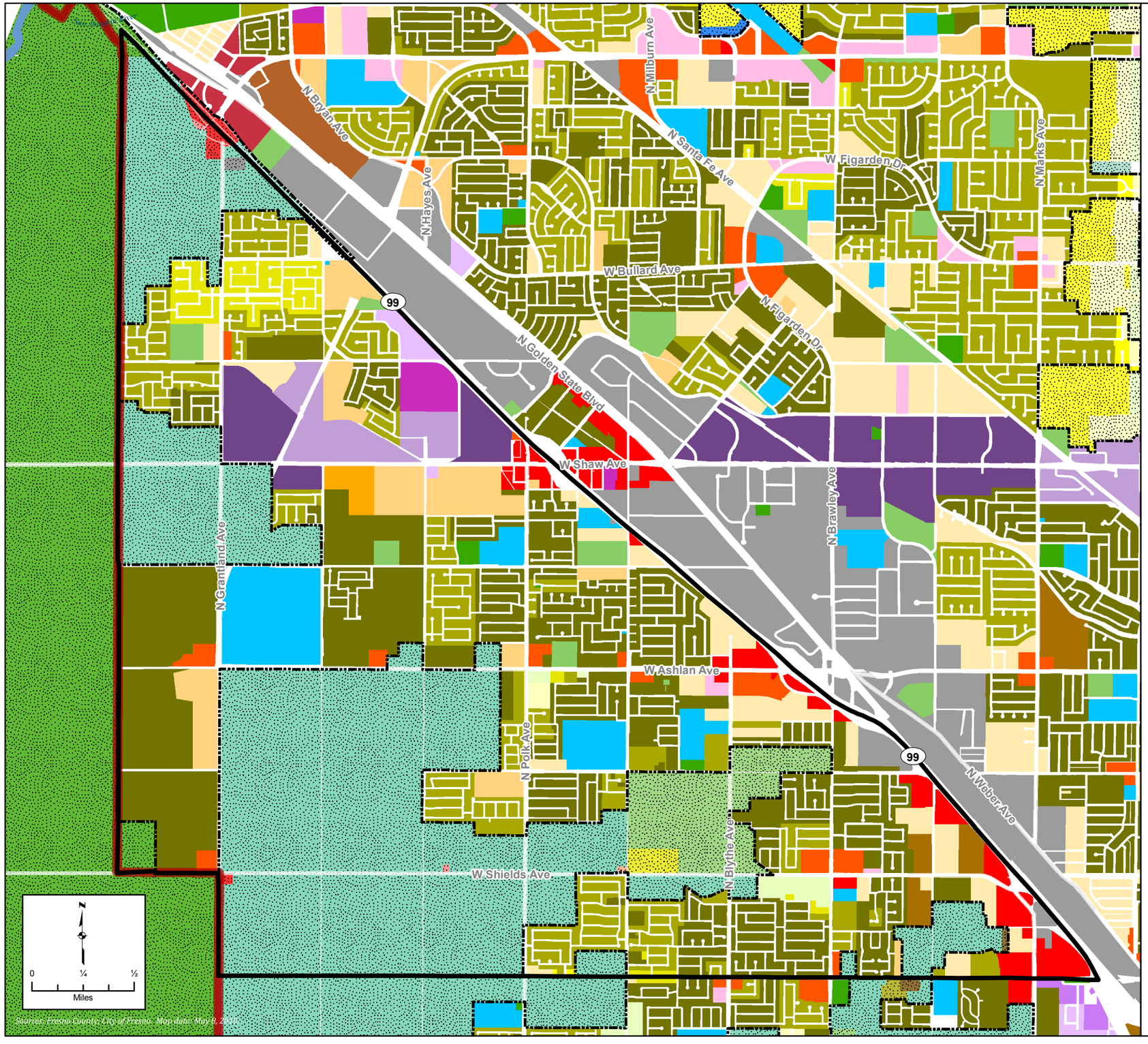
A Land Use Planning, Design, and Environmental Firm

CITY OF FRESNO
SPECIFIC PLAN OF THE WEST AREA

Figure 5. Existing Zoning Designations



Sources: Fresno County; City of Fresno. Map date: May 8, 2015

BOUNDARIES

- Specific Plan of the West Area Boundary
- Fresno City Limits
- Fresno Sphere of Influence

CITY OF FRESNO ZONING DESIGNATIONS

- CC:Commercial Community
- CG:Commercial General
- CH:Commercial Highway and Auto
- CR:Commercial Regional
- CRC:Commercial Recreation
- IL:Light Industrial
- CMX:Corridor/Center Mixed Use
- NMX:Neighborhood Mixed Use
- RMX:Regional Mixed Use
- BP:Business Park
- O:Office
- PI:Public and Institutional
- OS:Open Space
- PR:Park and Recreation
- RE:Residential Estate
- RS-1:Residential Single-Family, Extremely Low Density
- RS-2:Residential Single-Family, Very Low Density
- RS-3:Residential Single-Family, Low Density
- RS-4:Residential Single-Family, Medium Low Density
- RS-5:Residential Single-Family, Medium Density
- RM-1:Residential Multi-Family, Medium High Density
- RM-2:Residential Multi-Family, Urban Neighborhood
- RM-3:Residential Multi-Family, High Density
- RM-MH:Mobile Home Park

FRESNO COUNTY ZONING DESIGNATIONS

- County Overlay
- RCC - Rural Commercial Center
- C4 - Central Trading
- C6 - General Commercial
- M1 - Light Manufacturing
- CP - Administrative/Professional Office
- AE20 - Exclusive Agriculture
- AL20 - Limited Agriculture
- RA - Single Family Residential Agricultural
- RR - Rural Residential
- R1E/R1EH - Single Family Residential Estates (37,500)
- R1A/R1AH - Single Family Residential (20,000)
- R1B - Single Family Residential (12,500)
- R1C - Single Family Residential (9,000)
- R1 - Single Family Residential (6,000)
- TP - Trailer Park Residential

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

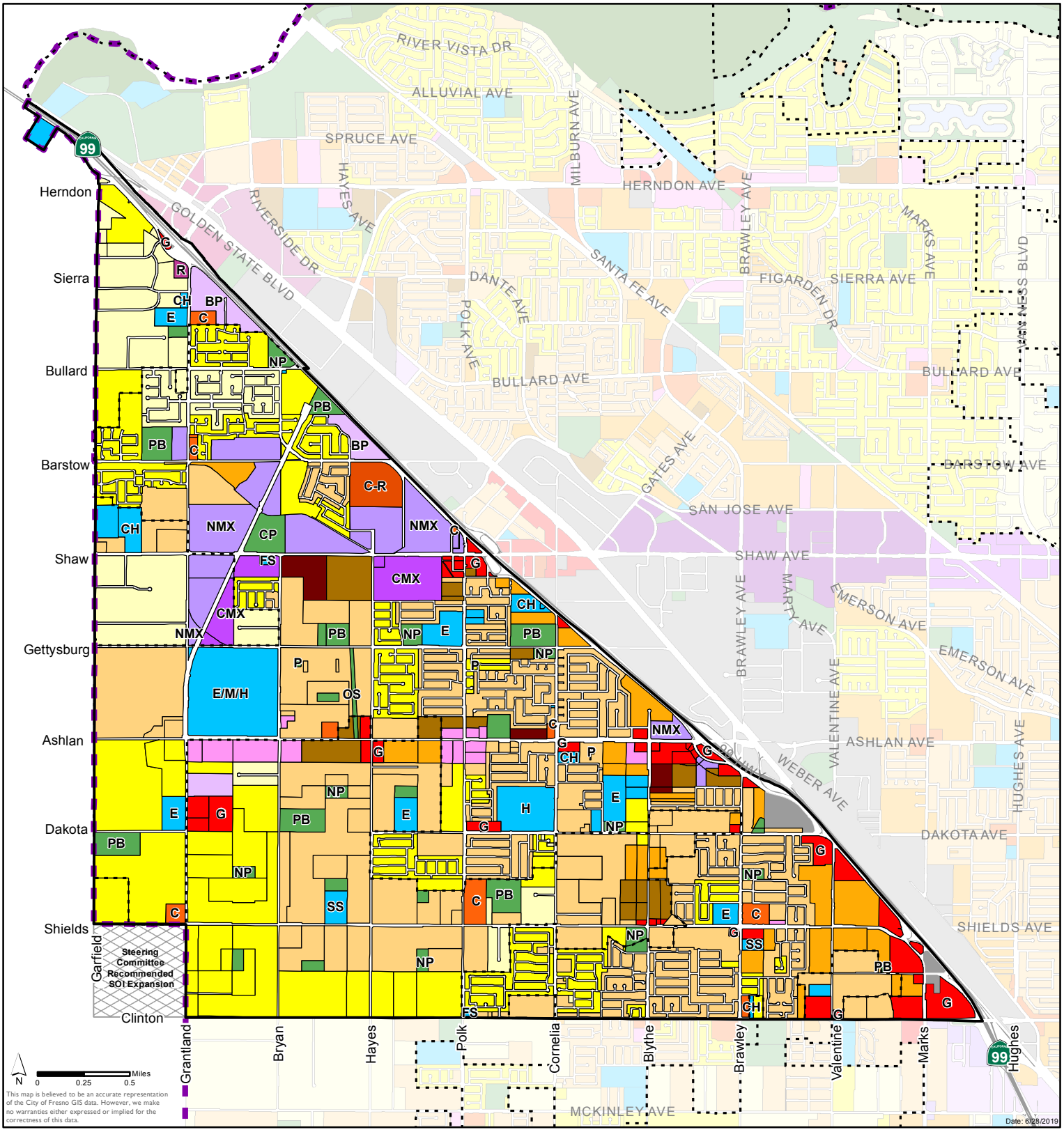


Figure 6. Proposed General Plan Land Use Designations

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

COMMERCIAL
- Community
- Recreation
- General
- Regional

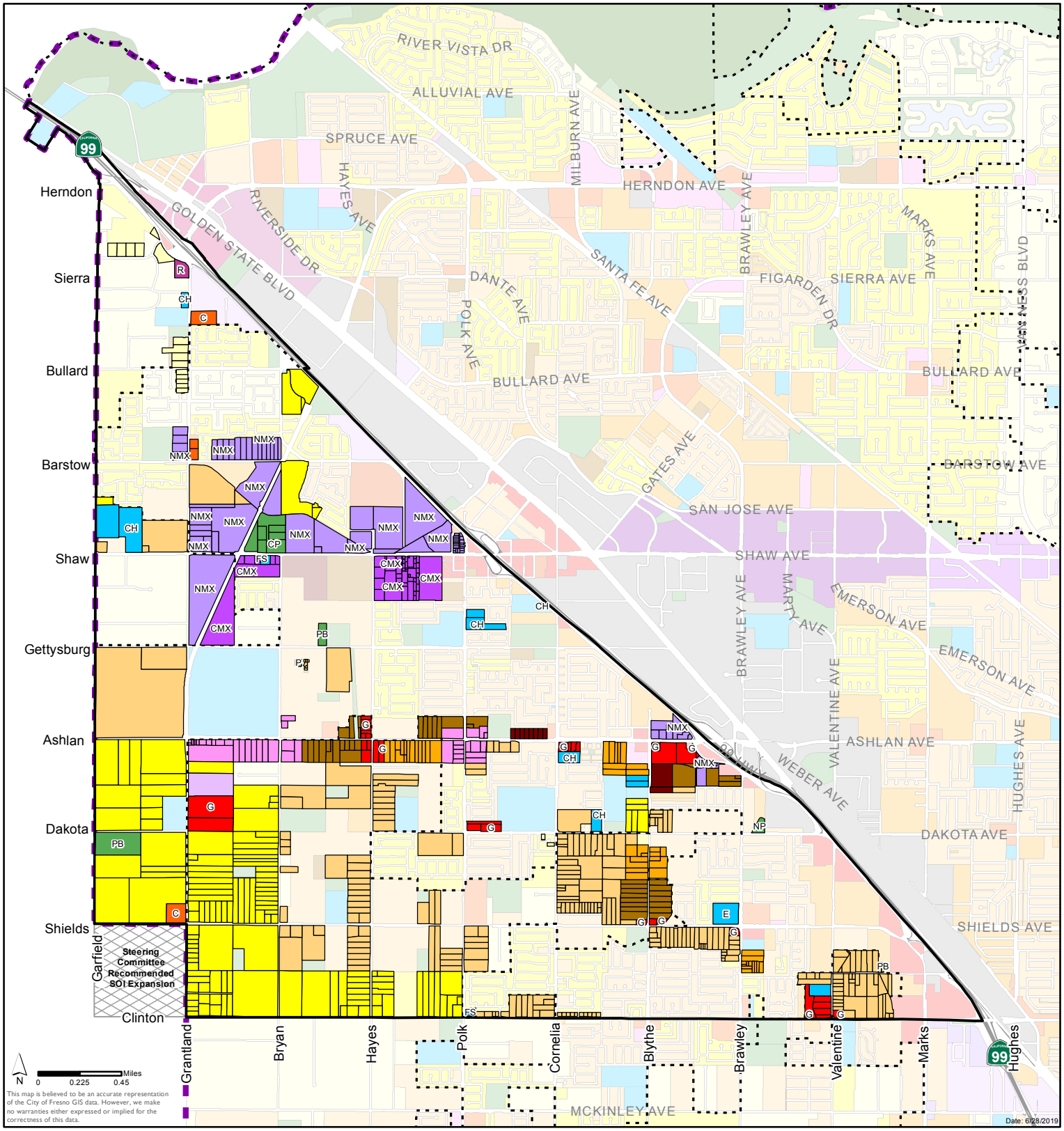
EMPLOYMENT
- Office
- Business Park
- Light Industrial

MIXED USE
- Neighborhood Mixed Use
- Corridor/Center Mixed Use
- Regional Mixed Use

OPEN SPACE
- Community Park
- Pocket Park
- Neighborhood Park
- Open Space
- Park
- Ponding Basin

PUBLIC FACILITIES
- Public/Quasi-public Facility
- Special School
- Elementary School
- Elementary & Middle School
- Elementary, Middle & High School
- High School
- Church
- Fire Station

BOUNDARIES
- Fresno City Limts
- Specific Plan of the West Area
- Sphere Of Influence



Source: City of Fresno

Figure 7. Parcels Proposed for Change in Proposed Land Use Map

RESIDENTIAL
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)
- High Density (30-45 D.U./acre)

COMMERCIAL
- Community
- General
- Regional

EMPLOYMENT
- Office
- BP Business Park

MIXED USE
- CMX Neighborhood Mixed Use
- CMX Corridor/Center Mixed Use

OPEN SPACE
- CP Community Park
- NP Neighborhood Park
- P Park
- PB Ponding Basin

PUBLIC FACILITIES
- Public/Quasi-public Facility
- E Elementary School
- CH Church
- FS Fire Station

BOUNDARIES
- Specific Plan of the West Area
- Fresno City Limits
- Sphere Of Influence

APPENDIX B

Criteria Air Pollutant, Greenhouse Gas, and Energy Modeling Results

CONTENTS

Appendix B.1: CalEEMod Outputs

Appendix B.2: Energy Outputs

Appendix B.3: Analysis of Models and Tools to Correlate Project-Generated Pollutants to Health End Points

APPENDIX B.1

CalEEMod Outputs

Fresno SPWA

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1,810.00	Dwelling Unit	517.22	3,258,000.00	5177
Single Family Housing	8,564.00	Dwelling Unit	1,427.41	15,415,200.00	24493
Single Family Housing	25,100.00	Dwelling Unit	2,091.66	45,180,000.00	71786
Apartments Low Rise	4,458.00	Dwelling Unit	278.63	4,458,000.00	12750
Apartments Mid Rise	4,593.00	Dwelling Unit	153.10	4,593,000.00	13136
Apartments High Rise	2,097.00	Dwelling Unit	46.61	2,097,000.00	5997
Regional Shopping Center	2,515.59	1000sqft	57.75	2,515,590.00	0
Regional Shopping Center	900.39	1000sqft	41.34	900,385.00	0
Regional Shopping Center	18,800.50	1000sqft	215.80	18,800,496.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.79	68,000.00	194
General Office Building	7,165.62	1000sqft	82.25	7,165,620.00	0
Office Park	3,266.13	1000sqft	74.98	3,266,129.00	0
Regional Shopping Center	184.69	1000sqft	4.24	184,694.00	0
General Light Industry	1,427.46	1000sqft	32.77	1,427,461.00	0
Regional Shopping Center	20,195.29	1000sqft	309.08	20,195,287.00	0
Regional Shopping Center	6,293.55	1000sqft	96.32	6,293,549.00	0
City Park	243.63	Acre	243.63	10,612,522.80	0
Library	0.00	1000sqft	26.84	0.00	0
Place of Worship	758.91	1000sqft	60.14	758,910.00	0
Junior College (2Yr)	0.00	1000sqft	18.38	0.00	0
Elementary School	15,631.00	Student	91.83	1,306,804.28	0
Junior High School	7,815.00	Student	145.37	918,744.56	0
High School	9,815.00	Student	46.95	1,302,067.49	0
Library	0.00	1000sqft	3.32	0.00	0
Other Asphalt Surfaces	1,010.00	Acre	1,010.00	43,995,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Buildout year = 2035 (note: consistent with traffic report from Kittelson). Assumes construction starts as early as March 1, 2021 (as conservative estimate).

Land Use - Land uses, unit amounts, and acreages are consistent with VMT analysis. Population est. based on 2.97 persons per du (consistent with the City's GP Housing Element). Shopping center uses assumed for mixed use (highest trip gen).

Construction Phase - Construction schedule assumed based on project characteristics. Actual construction schedule will depend on market conditions.

Demolition - Assumption of 1,000,000 sf of building square footage demolished. Actual demolition will depend on market conditions.

Grading - Assume Plan Area is graded.

Vehicle Trips - Operational mobile trip rates as provided by Kittelson & Associates (VMT Analysis).

Trips and VMT - Default values for construction trips and VMT

Woodstoves - No woodstoves per SJVAPCD Rule 4901.

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10,000.00	20.00
tblConstructionPhase	NumDays	15,500.00	65.00
tblConstructionPhase	NumDays	6,000.00	65.00
tblConstructionPhase	NumDays	11,000.00	85.00
tblConstructionPhase	NumDays	155,000.00	3,833.00

tblConstructionPhase	NumDays	11,000.00	3,656.00
tblConstructionPhase	PhaseEndDate	6/27/2059	3/26/2021
tblConstructionPhase	PhaseEndDate	11/24/2141	9/24/2021
tblConstructionPhase	PhaseEndDate	1/23/2184	12/24/2021
tblConstructionPhase	PhaseEndDate	6/26/2082	6/25/2021
tblConstructionPhase	PhaseStartDate	6/27/2082	6/26/2021
tblConstructionPhase	PhaseStartDate	11/25/2141	9/25/2021
tblConstructionPhase	PhaseStartDate	6/28/2059	3/27/2021
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tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberNoFireplace	943.65	1,153.35
tblFireplaces	NumberNoFireplace	2,006.10	2,451.90
tblFireplaces	NumberNoFireplace	2,097.45	2,563.55
tblFireplaces	NumberNoFireplace	15,963.30	19,510.70
tblGrading	AcresOfGrading	162.50	7,077.00
tblLandUse	LandUseSquareFeet	18,800,500.00	18,800,496.00
tblLandUse	LandUseSquareFeet	3,266,130.00	3,266,129.00
tblLandUse	LandUseSquareFeet	1,427,460.00	1,427,461.00
tblLandUse	LandUseSquareFeet	20,195,300.00	20,195,287.00
tblLandUse	LandUseSquareFeet	6,293,550.00	6,293,549.00
tblLandUse	LotAcreage	587.66	517.22
tblLandUse	LotAcreage	2,780.52	1,427.41
tblLandUse	LotAcreage	8,149.35	2,091.66
tblLandUse	LotAcreage	120.87	153.10
tblLandUse	LotAcreage	33.82	46.61

tblLandUse	LotAcreage	20.67	41.34
tblLandUse	LotAcreage	431.60	215.80
tblLandUse	LotAcreage	164.50	82.25
tblLandUse	LotAcreage	463.62	309.08
tblLandUse	LotAcreage	144.48	96.32
tblLandUse	LotAcreage	17.42	60.14
tblLandUse	LotAcreage	30.00	91.83
tblLandUse	LotAcreage	21.09	145.37
tblLandUse	LotAcreage	29.89	46.95
tblLandUse	LotAcreage	0.00	18.38
tblLandUse	LotAcreage	0.00	26.84
tblLandUse	LotAcreage	0.00	3.32
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	7.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	44.00	0.00

tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	1.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00

tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	75.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	44.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	64.00	100.00
tblVehicleTrips	ST_TR	4.98	3.34
tblVehicleTrips	ST_TR	7.16	5.49
tblVehicleTrips	ST_TR	6.39	4.08
tblVehicleTrips	ST_TR	9.91	7.08
tblVehicleTrips	ST_TR	49.97	12.46
tblVehicleTrips	ST_TR	1.32	3.72
tblVehicleTrips	ST_TR	2.46	7.31
tblVehicleTrips	ST_TR	1.64	5.21
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	0.00	1.42

tblVehicleTrips	ST_TR	0.61	1.52
tblVehicleTrips	ST_TR	11.23	0.00
tblVehicleTrips	ST_TR	0.00	1.60
tblVehicleTrips	ST_TR	46.55	0.00
tblVehicleTrips	ST_TR	10.37	5.21
tblVehicleTrips	SU_TR	3.65	3.34
tblVehicleTrips	SU_TR	6.07	5.49
tblVehicleTrips	SU_TR	5.86	4.08
tblVehicleTrips	SU_TR	8.62	7.08
tblVehicleTrips	SU_TR	25.24	12.46
tblVehicleTrips	SU_TR	0.68	3.72
tblVehicleTrips	SU_TR	1.05	7.31
tblVehicleTrips	SU_TR	0.76	5.21
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	0.00	1.42
tblVehicleTrips	SU_TR	0.25	1.52
tblVehicleTrips	SU_TR	1.21	0.00
tblVehicleTrips	SU_TR	0.00	1.60
tblVehicleTrips	SU_TR	25.49	0.00
tblVehicleTrips	SU_TR	36.63	5.21
tblVehicleTrips	WD_TR	4.20	3.34
tblVehicleTrips	WD_TR	6.59	5.49
tblVehicleTrips	WD_TR	6.65	4.08
tblVehicleTrips	WD_TR	9.52	7.08
tblVehicleTrips	WD_TR	42.70	12.46
tblVehicleTrips	WD_TR	6.97	3.72
tblVehicleTrips	WD_TR	11.03	7.31

tblVehicleTrips	WD_TR	11.42	5.21
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	1.29	1.42
tblVehicleTrips	WD_TR	1.71	1.52
tblVehicleTrips	WD_TR	27.49	0.00
tblVehicleTrips	WD_TR	1.62	1.60
tblVehicleTrips	WD_TR	56.24	0.00
tblVehicleTrips	WD_TR	9.11	5.21
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	33.9694	293.7545	209.4875	1.0856	61.9020	1.8679	63.7700	16.7936	1.7745	18.5681	0.0000	101,058.1779	101,058.1779	8.5656	0.0000	101,272.3168
2021	46.0718	389.0586	275.5323	1.5438	94.6154	1.7146	96.3300	25.2131	1.6160	26.8291	0.0000	143,753.5164	143,753.5164	11.9907	0.0000	144,053.2848
2022	131.0966	365.8712	287.4536	1.6191	102.4712	1.4608	103.9320	27.7253	1.3777	29.1030	0.0000	150,529.0297	150,529.0297	11.5953	0.0000	150,818.9121
2023	124.3786	288.3532	256.9434	1.5690	102.4667	0.8342	103.3009	27.7241	0.7796	28.5037	0.0000	145,921.9249	145,921.9249	8.1747	0.0000	146,126.2917
2024	122.8681	286.3713	239.5917	1.5468	103.2553	0.8135	104.0688	27.9375	0.7601	28.6976	0.0000	143,929.6771	143,929.6771	8.1566	0.0000	144,133.5925
2025	120.2748	281.2971	221.6340	1.5078	102.8616	0.7860	103.6476	27.8310	0.7343	28.5654	0.0000	140,375.2440	140,375.2440	8.0344	0.0000	140,576.1039
2026	118.4711	277.7312	208.5360	1.4820	102.8620	0.7751	103.6371	27.8312	0.7241	28.5553	0.0000	138,019.4139	138,019.4139	7.9289	0.0000	138,217.6353
2027	116.7170	274.2725	195.6893	1.4557	102.8624	0.7499	103.6123	27.8313	0.7008	28.5321	0.0000	135,633.0955	135,633.0955	7.8184	0.0000	135,828.5548
2028	114.4693	270.5286	183.8922	1.4274	102.4686	0.7158	103.1844	27.7248	0.6692	28.3940	0.0000	133,051.3790	133,051.3790	7.6612	0.0000	133,242.9101
2029	113.0134	268.9554	174.1904	1.4128	102.8630	0.6886	103.5517	27.8316	0.6441	28.4757	0.0000	131,732.5749	131,732.5749	7.5537	0.0000	131,921.4165
2030	111.1402	266.0176	164.9095	1.3958	102.8633	0.6073	103.4706	27.8317	0.5690	28.4006	0.0000	130,187.2965	130,187.2965	7.3579	0.0000	130,371.2448
2031	109.1778	263.9639	156.1351	1.3808	102.8635	0.5815	103.4450	27.8317	0.5451	28.3769	0.0000	128,821.9942	128,821.9942	7.2436	0.0000	129,003.0830
2032	107.8353	263.2006	149.0522	1.3734	103.2579	0.5597	103.8175	27.9384	0.5251	28.4635	0.0000	128,168.2124	128,168.2124	7.1785	0.0000	128,347.6747
2033	105.5094	259.7060	141.3687	1.3522	102.4698	0.5338	103.0036	27.7252	0.5011	28.2264	0.0000	126,225.5881	126,225.5881	7.0242	0.0000	126,401.1928
2034	104.3121	258.4726	135.5110	1.3432	102.4700	0.5140	102.9839	27.7253	0.4828	28.2081	0.0000	125,417.5984	125,417.5984	6.9458	0.0000	125,591.2423
2035	85.8113	2.2523	16.7508	0.0890	13.9395	0.0444	13.9838	3.7069	0.0409	3.7478	0.0000	8,076.9828	8,076.9828	0.1026	0.0000	8,079.5468
Maximum	**131.0966**	**389.0586**	**287.4536**	**1.6191**	**103.2579**	**1.8679**	**104.0688**	**27.9384**	**1.7745**	**29.1030**	**0.0000**	**150,529.0297**	**150,529.0297**	**11.9907**	**0.0000**	**150,818.9121**

2.1 Overall Construction

Mitigated Construction

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	33.9694	293.7545	209.4875	1.0856	61.9020	1.8679	63.7700	16.7936	1.7745	18.5681	0.0000	101,058.1776	101,058.1776	8.5656	0.0000	101,272.3165
2021	46.0718	389.0586	275.5323	1.5438	91.8502	1.7146	93.5648	24.7126	1.6160	26.3285	0.0000	143,753.5155	143,753.5155	11.9907	0.0000	144,053.2839
2022	131.0966	365.8712	287.4536	1.6191	102.4712	1.4608	103.9320	27.7253	1.3777	29.1030	0.0000	150,529.0292	150,529.0292	11.5953	0.0000	150,818.9116
2023	124.3786	288.3532	256.9434	1.5690	102.4667	0.8342	103.3009	27.7241	0.7796	28.5037	0.0000	145,921.9245	145,921.9245	8.1747	0.0000	146,126.2913
2024	122.8681	286.3713	239.5917	1.5468	103.2553	0.8135	104.0688	27.9375	0.7601	28.6976	0.0000	143,929.6767	143,929.6767	8.1566	0.0000	144,133.5921
2025	120.2748	281.2971	221.6340	1.5078	102.8616	0.7860	103.6476	27.8310	0.7343	28.5654	0.0000	140,375.2436	140,375.2436	8.0344	0.0000	140,576.1035
2026	118.4711	277.7312	208.5360	1.4820	102.8620	0.7751	103.6371	27.8312	0.7241	28.5553	0.0000	138,019.4135	138,019.4135	7.9289	0.0000	138,217.6349
2027	116.7170	274.2725	195.6893	1.4557	102.8624	0.7499	103.6123	27.8313	0.7008	28.5321	0.0000	135,633.0951	135,633.0951	7.8184	0.0000	135,828.5544
2028	114.4693	270.5286	183.8922	1.4274	102.4686	0.7158	103.1844	27.7248	0.6692	28.3940	0.0000	133,051.3786	133,051.3786	7.6612	0.0000	133,242.9097
2029	113.0134	268.9554	174.1904	1.4128	102.8630	0.6886	103.5517	27.8316	0.6441	28.4757	0.0000	131,732.5745	131,732.5745	7.5537	0.0000	131,921.4161
2030	111.1402	266.0176	164.9095	1.3958	102.8633	0.6073	103.4706	27.8317	0.5690	28.4006	0.0000	130,187.2961	130,187.2961	7.3579	0.0000	130,371.2444
2031	109.1778	263.9639	156.1351	1.3808	102.8635	0.5815	103.4450	27.8317	0.5451	28.3769	0.0000	128,821.9937	128,821.9937	7.2436	0.0000	129,003.0826
2032	107.8353	263.2006	149.0522	1.3734	103.2579	0.5597	103.8175	27.9384	0.5251	28.4635	0.0000	128,168.2120	128,168.2120	7.1785	0.0000	128,347.6743
2033	105.5094	259.7060	141.3687	1.3522	102.4698	0.5338	103.0036	27.7252	0.5011	28.2264	0.0000	126,225.5877	126,225.5877	7.0242	0.0000	126,401.1923
2034	104.3121	258.4726	135.5110	1.3432	102.4700	0.5140	102.9839	27.7253	0.4828	28.2081	0.0000	125,417.5979	125,417.5979	6.9458	0.0000	125,591.2418
2035	85.8113	2.2523	16.7508	0.0890	13.9395	0.0444	13.9838	3.7069	0.0409	3.7478	0.0000	8,076.9827	8,076.9827	0.1026	0.0000	8,079.5467
Maximum	**131.0966**	**389.0586**	**287.4536**	**1.6191**	**103.2579**	**1.8679**	**104.0688**	**27.9384**	**1.7745**	**29.1030**	**0.0000**	**150,529.0292**	**150,529.0292**	**11.9907**	**0.0000**	**150,818.9116**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.18**	**0.00**	**0.18**	**0.12**	**0.00**	**0.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2021**	**5-31-2021**	109.8220	109.8220
2	**6-1-2021**	**8-31-2021**	109.1470	109.1470
3	**9-1-2021**	**11-30-2021**	108.1750	108.1750
4	**12-1-2021**	**2-28-2022**	120.4846	120.4846
5	**3-1-2022**	**5-31-2022**	126.2386	126.2386
6	**6-1-2022**	**8-31-2022**	125.1211	125.1211
7	**9-1-2022**	**11-30-2022**	124.3415	124.3415
8	**12-1-2022**	**2-28-2023**	109.8559	109.8559
9	**3-1-2023**	**5-31-2023**	104.7775	104.7775
10	**6-1-2023**	**8-31-2023**	104.6141	104.6141
11	**9-1-2023**	**11-30-2023**	103.7986	103.7986
12	**12-1-2023**	**2-29-2024**	102.8211	102.8211
13	**3-1-2024**	**5-31-2024**	103.0529	103.0529
14	**6-1-2024**	**8-31-2024**	102.8980	102.8980
15	**9-1-2024**	**11-30-2024**	102.0844	102.0844
16	**12-1-2024**	**2-28-2025**	100.0865	100.0865
17	**3-1-2025**	**5-31-2025**	101.4734	101.4734
18	**6-1-2025**	**8-31-2025**	101.3275	101.3275
19	**9-1-2025**	**11-30-2025**	100.5132	100.5132
20	**12-1-2025**	**2-28-2026**	98.6503	98.6503
21	**3-1-2026**	**5-31-2026**	100.0853	100.0853
22	**6-1-2026**	**8-31-2026**	99.9455	99.9455
23	**9-1-2026**	**11-30-2026**	99.1341	99.1341

24	**12-1-2026**	**2-28-2027**	97.3059	97.3059
25	**3-1-2027**	**5-31-2027**	98.7390	98.7390
26	**6-1-2027**	**8-31-2027**	98.6065	98.6065
27	**9-1-2027**	**11-30-2027**	97.7953	97.7953
28	**12-1-2027**	**2-29-2028**	97.1506	97.1506
29	**3-1-2028**	**5-31-2028**	97.5660	97.5660
30	**6-1-2028**	**8-31-2028**	97.4397	97.4397
31	**9-1-2028**	**11-30-2028**	96.6290	96.6290
32	**12-1-2028**	**2-28-2029**	94.9271	94.9271
33	**3-1-2029**	**5-31-2029**	96.3913	96.3913
34	**6-1-2029**	**8-31-2029**	96.2712	96.2712
35	**9-1-2029**	**11-30-2029**	95.4612	95.4612
36	**12-1-2029**	**2-28-2030**	93.7179	93.7179
37	**3-1-2030**	**5-31-2030**	95.1402	95.1402
38	**6-1-2030**	**8-31-2030**	95.0256	95.0256
39	**9-1-2030**	**11-30-2030**	94.2183	94.2183
40	**12-1-2030**	**2-28-2031**	92.6094	92.6094
41	**3-1-2031**	**5-31-2031**	94.0867	94.0867
42	**6-1-2031**	**8-31-2031**	93.9780	93.9780
43	**9-1-2031**	**11-30-2031**	93.1703	93.1703
44	**12-1-2031**	**2-29-2032**	92.6652	92.6652
45	**3-1-2032**	**5-31-2032**	93.1611	93.1611
46	**6-1-2032**	**8-31-2032**	93.0575	93.0575
47	**9-1-2032**	**11-30-2032**	92.2498	92.2498
48	**12-1-2032**	**2-28-2033**	90.8236	90.8236
49	**3-1-2033**	**5-31-2033**	92.3712	92.3712
50	**6-1-2033**	**8-31-2033**	92.2717	92.2717

51	**9-1-2033**	**11-30-2033**	91.4646	91.4646
52	**12-1-2033**	**2-28-2034**	90.1403	90.1403
53	**3-1-2034**	**5-31-2034**	91.7258	91.7258
54	**6-1-2034**	**8-31-2034**	91.6267	91.6267
55	**9-1-2034**	**11-30-2034**	90.8258	90.8258
56	**12-1-2034**	**2-28-2035**	45.8234	45.8234
57	**3-1-2035**	**5-31-2035**	21.9675	21.9675
58	**6-1-2035**	**8-31-2035**	21.9609	21.9609
59	**9-1-2035**	**9-30-2035**	7.1612	7.1612
		Highest	126.2386	126.2386

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	682.4791	49.7412	365.8045	0.3104		5.6244	5.6244		5.6244	5.6244	0.0000	53,548.8404	53,548.8404	1.5590	0.9713	53,877.2665
Energy	10.2345	89.8859	55.0159	0.5583		7.0711	7.0711		7.0711	7.0711	0.0000	365,420.0277	365,420.0277	13.8847	4.3280	367,056.8766
Mobile	191.9281	3,044.9622	1,879.5865	16.4121	1,179.9408	6.2605	1,186.2013	317.7573	5.8824	323.6397	0.0000	1,536,405.1288	1,536,405.1288	112.2711	0.0000	1,539,211.9062
Waste						0.0000	0.0000		0.0000	0.0000	23,324.9770	0.0000	23,324.9770	1,378.4667	0.0000	57,786.6433
Water						0.0000	0.0000		0.0000	0.0000	2,846.2240	20,087.2080	22,933.4321	293.2428	7.0906	32,377.4923
Total	**884.6418**	**3,184.5893**	**2,300.4068**	**17.2808**	**1,179.9408**	**18.9560**	**1,198.8968**	**317.7573**	**18.5779**	**336.3352**	**26,171.2011**	**1,975,461.2049**	**2,001,632.4060**	**1,799.4242**	**12.3899**	**2,050,310.1849**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	682.4791	49.7412	365.8045	0.3104		5.6244	5.6244		5.6244	5.6244	0.0000	53,548.8404	53,548.8404	1.5590	0.9713	53,877.2665
Energy	10.2345	89.8859	55.0159	0.5583		7.0711	7.0711		7.0711	7.0711	0.0000	365,420.0277	365,420.0277	13.8847	4.3280	367,056.8766
Mobile	191.9281	3,044.9622	1,879.5865	16.4121	1,179.9408	6.2605	1,186.2013	317.7573	5.8824	323.6397	0.0000	1,536,405.1288	1,536,405.1288	112.2711	0.0000	1,539,211.9062
Waste						0.0000	0.0000		0.0000	0.0000	23,324.9770	0.0000	23,324.9770	1,378.4667	0.0000	57,786.6433
Water						0.0000	0.0000		0.0000	0.0000	2,846.2240	20,087.2080	22,933.4321	293.2428	7.0906	32,377.4923
Total	**884.6418**	**3,184.5893**	**2,300.4068**	**17.2808**	**1,179.9408**	**18.9560**	**1,198.8968**	**317.7573**	**18.5779**	**336.3352**	**26,171.2011**	**1,975,461.2049**	**2,001,632.4060**	**1,799.4242**	**12.3899**	**2,050,310.1849**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Fresno SPWA - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	4/23/2020	1/1/2035	5	3833	
2	Demolition	Demolition	3/1/2021	3/26/2021	5	20	
3	Site Preparation	Site Preparation	3/27/2021	6/25/2021	5	65	
4	Grading	Grading	6/26/2021	9/24/2021	5	65	
5	Underground Utilities	Trenching	9/25/2021	12/24/2021	5	65	
6	Paving	Paving	12/25/2021	4/22/2022	5	85	
7	Architectural Coating	Architectural Coating	12/25/2021	12/31/2035	5	3656	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 7077

Acres of Paving: 1010

Residential Indoor: 152,015,130; Residential Outdoor: 50,671,710; Non-Residential Indoor: 97,553,606; Non-Residential Outdoor: 32,517,869; Striped Parking Area: 2,639,736 (Architectural Coating – sqft)

OffRoad Equipment

Fresno SPWA - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Scrapers	2	8.00	367	0.48
Underground Utilities	Pavers	2	8.00	130	0.42
Underground Utilities	Paving Equipment	2	8.00	132	0.36
Underground Utilities	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Underground Utilities	Pavers	2	8.00	130	0.42
Underground Utilities	Paving Equipment	2	8.00	132	0.36
Underground Utilities	Rollers	2	8.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	4,548.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13,033.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	65,164.00	24,601.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	12	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1919	1.7363	1.5248	2.4400e-003		0.1011	0.1011		0.0951	0.0951	0.0000	209.6070	209.6070	0.0511	0.0000	210.8855
Total	**0.1919**	**1.7363**	**1.5248**	**2.4400e-003**		**0.1011**	**0.1011**		**0.0951**	**0.0951**	**0.0000**	**209.6070**	**209.6070**	**0.0511**	**0.0000**	**210.8855**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3203	275.8707	44.0529	0.6315	14.7545	1.4636	16.2181	4.2622	1.4002	5.6624	0.0000	60,042.5798	60,042.5798	7.4210	0.0000	60,228.1057
Worker	25.4572	16.1475	163.9098	0.4517	47.1476	0.3032	47.4508	12.5314	0.2793	12.8107	0.0000	40,805.9911	40,805.9911	1.0934	0.0000	40,833.3256
Total	**33.7776**	**292.0182**	**207.9627**	**1.0832**	**61.9020**	**1.7668**	**63.6689**	**16.7936**	**1.6794**	**18.4730**	**0.0000**	**100,848.5708**	**100,848.5708**	**8.5144**	**0.0000**	**101,061.4313**

3.2 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1919	1.7363	1.5248	2.4400e-003		0.1011	0.1011		0.0951	0.0951	0.0000	209.6068	209.6068	0.0511	0.0000	210.8852
Total	**0.1919**	**1.7363**	**1.5248**	**2.4400e-003**		**0.1011**	**0.1011**		**0.0951**	**0.0951**	**0.0000**	**209.6068**	**209.6068**	**0.0511**	**0.0000**	**210.8852**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3203	275.8707	44.0529	0.6315	14.7545	1.4636	16.2181	4.2622	1.4002	5.6624	0.0000	60,042.5798	60,042.5798	7.4210	0.0000	60,228.1057
Worker	25.4572	16.1475	163.9098	0.4517	47.1476	0.3032	47.4508	12.5314	0.2793	12.8107	0.0000	40,805.9911	40,805.9911	1.0934	0.0000	40,833.3256
Total	**33.7776**	**292.0182**	**207.9627**	**1.0832**	**61.9020**	**1.7668**	**63.6689**	**16.7936**	**1.6794**	**18.4730**	**0.0000**	**100,848.5708**	**100,848.5708**	**8.5144**	**0.0000**	**101,061.4313**

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2867**	**302.2867**	**0.0729**	**0.0000**	**304.1099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7003	361.3784	55.0571	0.9020	21.2763	0.9701	22.2464	6.1462	0.9280	7.0742	0.0000	85,765.4347	85,765.4347	10.3484	0.0000	86,024.1438
Worker	33.9150	20.7169	214.4470	0.6287	67.9863	0.4232	68.4095	18.0702	0.3897	18.4598	0.0000	56,825.3771	56,825.3771	1.4031	0.0000	56,860.4546
Total	**43.6153**	**382.0953**	**269.5041**	**1.5308**	**89.2625**	**1.3933**	**90.6559**	**24.2164**	**1.3177**	**25.5341**	**0.0000**	**142,590.8118**	**142,590.8118**	**11.7515**	**0.0000**	**142,884.5984**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2863	302.2863	0.0729	0.0000	304.1095
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2863**	**302.2863**	**0.0729**	**0.0000**	**304.1095**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7003	361.3784	55.0571	0.9020	21.2763	0.9701	22.2464	6.1462	0.9280	7.0742	0.0000	85,765.4347	85,765.4347	10.3484	0.0000	86,024.1438
Worker	33.9150	20.7169	214.4470	0.6287	67.9863	0.4232	68.4095	18.0702	0.3897	18.4598	0.0000	56,825.3771	56,825.3771	1.4031	0.0000	56,860.4546
Total	**43.6153**	**382.0953**	**269.5041**	**1.5308**	**89.2625**	**1.3933**	**90.6559**	**24.2164**	**1.3177**	**25.5341**	**0.0000**	**142,590.8118**	**142,590.8118**	**11.7515**	**0.0000**	**142,884.5984**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9922	341.1029	50.7842	0.8900	21.1953	0.8310	22.0263	6.1229	0.7949	6.9178	0.0000	84,621.2534	84,621.2534	9.9989	0.0000	84,871.2267
Worker	31.3735	18.4240	194.7574	0.6036	67.7258	0.4094	68.1351	18.0009	0.3769	18.3778	0.0000	54,574.3318	54,574.3318	1.2467	0.0000	54,605.4991
Total	**40.3657**	**359.5269**	**245.5415**	**1.4936**	**88.9211**	**1.2404**	**90.1614**	**24.1238**	**1.1718**	**25.2956**	**0.0000**	**139,195.5851**	**139,195.5851**	**11.2456**	**0.0000**	**139,476.7258**

3.2 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9922	341.1029	50.7842	0.8900	21.1953	0.8310	22.0263	6.1229	0.7949	6.9178	0.0000	84,621.2534	84,621.2534	9.9989	0.0000	84,871.2267
Worker	31.3735	18.4240	194.7574	0.6036	67.7258	0.4094	68.1351	18.0009	0.3769	18.3778	0.0000	54,574.3318	54,574.3318	1.2467	0.0000	54,605.4991
Total	**40.3657**	**359.5269**	**245.5415**	**1.4936**	**88.9211**	**1.2404**	**90.1614**	**24.1238**	**1.1718**	**25.2956**	**0.0000**	**139,195.5851**	**139,195.5851**	**11.2456**	**0.0000**	**139,476.7258**

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.1627	266.5284	41.2198	0.8682	21.1955	0.2554	21.4510	6.1229	0.2443	6.3672	0.0000	82,553.7765	82,553.7765	6.7663	0.0000	82,722.9346
Worker	29.2254	16.4877	177.8133	0.5808	67.7258	0.3989	68.1246	18.0009	0.3671	18.3681	0.0000	52,527.8739	52,527.8739	1.1122	0.0000	52,555.6797
Total	**35.3880**	**283.0162**	**219.0330**	**1.4490**	**88.9213**	**0.6543**	**89.5756**	**24.1239**	**0.6114**	**24.7353**	**0.0000**	**135,081.6504**	**135,081.6504**	**7.8786**	**0.0000**	**135,278.6142**

3.2 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.1627	266.5284	41.2198	0.8682	21.1955	0.2554	21.4510	6.1229	0.2443	6.3672	0.0000	82,553.7765	82,553.7765	6.7663	0.0000	82,722.9346
Worker	29.2254	16.4877	177.8133	0.5808	67.7258	0.3989	68.1246	18.0009	0.3671	18.3681	0.0000	52,527.8739	52,527.8739	1.1122	0.0000	52,555.6797
Total	**35.3880**	**283.0162**	**219.0330**	**1.4490**	**88.9213**	**0.6543**	**89.5756**	**24.1239**	**0.6114**	**24.7353**	**0.0000**	**135,081.6504**	**135,081.6504**	**7.8786**	**0.0000**	**135,278.6142**

3.2 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0451	266.5354	39.5055	0.8681	21.3590	0.2547	21.6136	6.1702	0.2436	6.4137	0.0000	82,555.5158	82,555.5158	6.8791	0.0000	82,727.4932
Worker	27.5438	14.9292	164.7756	0.5623	68.2467	0.3921	68.6388	18.1394	0.3609	18.5003	0.0000	50,864.0294	50,864.0294	1.0032	0.0000	50,889.1088
Total	**33.5889**	**281.4646**	**204.2811**	**1.4304**	**89.6057**	**0.6468**	**90.2525**	**24.3096**	**0.6044**	**24.9140**	**0.0000**	**133,419.5452**	**133,419.5452**	**7.8823**	**0.0000**	**133,616.6020**

3.2 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0451	266.5354	39.5055	0.8681	21.3590	0.2547	21.6136	6.1702	0.2436	6.4137	0.0000	82,555.5158	82,555.5158	6.8791	0.0000	82,727.4932
Worker	27.5438	14.9292	164.7756	0.5623	68.2467	0.3921	68.6388	18.1394	0.3609	18.5003	0.0000	50,864.0294	50,864.0294	1.0032	0.0000	50,889.1088
Total	**33.5889**	**281.4646**	**204.2811**	**1.4304**	**89.6057**	**0.6468**	**90.2525**	**24.3096**	**0.6044**	**24.9140**	**0.0000**	**133,419.5452**	**133,419.5452**	**7.8823**	**0.0000**	**133,616.6020**

3.2 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8850	263.3982	37.8062	0.8587	21.2779	0.2509	21.5287	6.1468	0.2399	6.3867	0.0000	81,655.0860	81,655.0860	6.8815	0.0000	81,827.1226
Worker	25.7950	13.4351	151.2435	0.5377	67.9863	0.3830	68.3693	18.0702	0.3525	18.4226	0.0000	48,653.3615	48,653.3615	0.9000	0.0000	48,675.8608
Total	**31.6800**	**276.8333**	**189.0497**	**1.3964**	**89.2641**	**0.6339**	**89.8980**	**24.2169**	**0.5924**	**24.8093**	**0.0000**	**130,308.4476**	**130,308.4476**	**7.7814**	**0.0000**	**130,502.9834**

3.2 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8850	263.3982	37.8062	0.8587	21.2779	0.2509	21.5287	6.1468	0.2399	6.3867	0.0000	81,655.0860	81,655.0860	6.8815	0.0000	81,827.1226
Worker	25.7950	13.4351	151.2435	0.5377	67.9863	0.3830	68.3693	18.0702	0.3525	18.4226	0.0000	48,653.3615	48,653.3615	0.9000	0.0000	48,675.8608
Total	**31.6800**	**276.8333**	**189.0497**	**1.3964**	**89.2641**	**0.6339**	**89.8980**	**24.2169**	**0.5924**	**24.8093**	**0.0000**	**130,308.4476**	**130,308.4476**	**7.7814**	**0.0000**	**130,502.9834**

3.2 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7652	261.2514	36.5521	0.8531	21.2783	0.2477	21.5260	6.1469	0.2369	6.3838	0.0000	81,128.5230	81,128.5230	6.8653	0.0000	81,300.1555
Worker	24.3918	12.2525	141.3735	0.5208	67.9863	0.3765	68.3628	18.0702	0.3464	18.4166	0.0000	47,128.9761	47,128.9761	0.8255	0.0000	47,149.6135
Total	**30.1570**	**273.5039**	**177.9257**	**1.3739**	**89.2645**	**0.6242**	**89.8888**	**24.2171**	**0.5833**	**24.8004**	**0.0000**	**128,257.4992**	**128,257.4992**	**7.6908**	**0.0000**	**128,449.7690**

3.2 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7652	261.2514	36.5521	0.8531	21.2783	0.2477	21.5260	6.1469	0.2369	6.3838	0.0000	81,128.5230	81,128.5230	6.8653	0.0000	81,300.1555
Worker	24.3918	12.2525	141.3735	0.5208	67.9863	0.3765	68.3628	18.0702	0.3464	18.4166	0.0000	47,128.9761	47,128.9761	0.8255	0.0000	47,149.6135
Total	**30.1570**	**273.5039**	**177.9257**	**1.3739**	**89.2645**	**0.6242**	**89.8888**	**24.2171**	**0.5833**	**24.8004**	**0.0000**	**128,257.4992**	**128,257.4992**	**7.6908**	**0.0000**	**128,449.7690**

3.2 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6657	259.0861	35.5515	0.8483	21.2786	0.2444	21.5231	6.1471	0.2338	6.3808	0.0000	80,670.9855	80,670.9855	6.8462	0.0000	80,842.1397
Worker	23.0130	11.1746	131.5019	0.5029	67.9863	0.3583	68.3445	18.0702	0.3296	18.3998	0.0000	45,521.6629	45,521.6629	0.7494	0.0000	45,540.3971
Total	**28.6787**	**270.2608**	**167.0534**	**1.3512**	**89.2649**	**0.6027**	**89.8676**	**24.2172**	**0.5634**	**24.7806**	**0.0000**	**126,192.6484**	**126,192.6484**	**7.5955**	**0.0000**	**126,382.5367**

3.2 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6657	259.0861	35.5515	0.8483	21.2786	0.2444	21.5231	6.1471	0.2338	6.3808	0.0000	80,670.9855	80,670.9855	6.8462	0.0000	80,842.1397
Worker	23.0130	11.1746	131.5019	0.5029	67.9863	0.3583	68.3445	18.0702	0.3296	18.3998	0.0000	45,521.6629	45,521.6629	0.7494	0.0000	45,540.3971
Total	**28.6787**	**270.2608**	**167.0534**	**1.3512**	**89.2649**	**0.6027**	**89.8676**	**24.2172**	**0.5634**	**24.7806**	**0.0000**	**126,192.6484**	**126,192.6484**	**7.5955**	**0.0000**	**126,382.5367**

3.2 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5652	256.5462	34.6548	0.8412	21.1975	0.2412	21.4387	6.1236	0.2306	6.3543	0.0000	80,001.5546	80,001.5546	6.7708	0.0000	80,170.8253
Worker	21.4900	10.1770	122.4257	0.4853	67.7258	0.3328	68.0586	18.0009	0.3062	18.3071	0.0000	43,929.1684	43,929.1684	0.6814	0.0000	43,946.2044
Total	**27.0552**	**266.7232**	**157.0805**	**1.3265**	**88.9233**	**0.5740**	**89.4972**	**24.1246**	**0.5368**	**24.6614**	**0.0000**	**123,930.7229**	**123,930.7229**	**7.4523**	**0.0000**	**124,117.0297**

3.2 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5652	256.5462	34.6548	0.8412	21.1975	0.2412	21.4387	6.1236	0.2306	6.3543	0.0000	80,001.5546	80,001.5546	6.7708	0.0000	80,170.8253
Worker	21.4900	10.1770	122.4257	0.4853	67.7258	0.3328	68.0586	18.0009	0.3062	18.3071	0.0000	43,929.1684	43,929.1684	0.6814	0.0000	43,946.2044
Total	**27.0552**	**266.7232**	**157.0805**	**1.3265**	**88.9233**	**0.5740**	**89.4972**	**24.1246**	**0.5368**	**24.6614**	**0.0000**	**123,930.7229**	**123,930.7229**	**7.4523**	**0.0000**	**124,117.0297**

3.2 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5137	255.9705	34.1021	0.8411	21.2793	0.2394	21.5187	6.1473	0.2289	6.3762	0.0000	79,990.2869	79,990.2869	6.7329	0.0000	80,158.6083
Worker	20.0533	9.3401	114.7940	0.4731	67.9863	0.3114	68.2977	18.0702	0.2865	18.3566	0.0000	42,838.4847	42,838.4847	0.6232	0.0000	42,854.0648
Total	**25.5670**	**265.3106**	**148.8961**	**1.3142**	**89.2656**	**0.5508**	**89.8164**	**24.2175**	**0.5154**	**24.7328**	**0.0000**	**122,828.7716**	**122,828.7716**	**7.3561**	**0.0000**	**123,012.6731**

3.2 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5137	255.9705	34.1021	0.8411	21.2793	0.2394	21.5187	6.1473	0.2289	6.3762	0.0000	79,990.2869	79,990.2869	6.7329	0.0000	80,158.6083
Worker	20.0533	9.3401	114.7940	0.4731	67.9863	0.3114	68.2977	18.0702	0.2865	18.3566	0.0000	42,838.4847	42,838.4847	0.6232	0.0000	42,854.0648
Total	**25.5670**	**265.3106**	**148.8961**	**1.3142**	**89.2656**	**0.5508**	**89.8164**	**24.2175**	**0.5154**	**24.7328**	**0.0000**	**122,828.7716**	**122,828.7716**	**7.3561**	**0.0000**	**123,012.6731**

3.2 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4552	254.6141	33.5748	0.8385	21.2796	0.2367	21.5163	6.1474	0.2264	6.3738	0.0000	79,739.3384	79,739.3384	6.6601	0.0000	79,905.8403
Worker	18.5517	8.5469	107.4927	0.4608	67.9863	0.2905	68.2767	18.0702	0.2672	18.3373	0.0000	41,726.2304	41,726.2304	0.5690	0.0000	41,740.4542
Total	**24.0069**	**263.1610**	**141.0675**	**1.2992**	**89.2659**	**0.5272**	**89.7930**	**24.2176**	**0.4936**	**24.7111**	**0.0000**	**121,465.5688**	**121,465.5688**	**7.2290**	**0.0000**	**121,646.2945**

3.2 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4552	254.6141	33.5748	0.8385	21.2796	0.2367	21.5163	6.1474	0.2264	6.3738	0.0000	79,739.3384	79,739.3384	6.6601	0.0000	79,905.8403
Worker	18.5517	8.5469	107.4927	0.4608	67.9863	0.2905	68.2767	18.0702	0.2672	18.3373	0.0000	41,726.2304	41,726.2304	0.5690	0.0000	41,740.4542
Total	**24.0069**	**263.1610**	**141.0675**	**1.2992**	**89.2659**	**0.5272**	**89.7930**	**24.2176**	**0.4936**	**24.7111**	**0.0000**	**121,465.5688**	**121,465.5688**	**7.2290**	**0.0000**	**121,646.2945**

3.2 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4109	253.4596	33.1733	0.8365	21.2798	0.2346	21.5145	6.1475	0.2244	6.3719	0.0000	79,548.1846	79,548.1846	6.6065	0.0000	79,713.3476
Worker	16.9533	7.7976	100.5154	0.4499	67.9863	0.2707	68.2570	18.0702	0.2490	18.3191	0.0000	40,747.7758	40,747.7758	0.5183	0.0000	40,760.7324
Total	**22.3642**	**261.2571**	**133.6886**	**1.2863**	**89.2661**	**0.5053**	**89.7714**	**24.2176**	**0.4734**	**24.6910**	**0.0000**	**120,295.9604**	**120,295.9604**	**7.1248**	**0.0000**	**120,474.0801**

3.2 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.4109	253.4596	33.1733	0.8365	21.2798	0.2346	21.5145	6.1475	0.2244	6.3719	0.0000	79,548.1846	79,548.1846	6.6065	0.0000	79,713.3476
Worker	16.9533	7.7976	100.5154	0.4499	67.9863	0.2707	68.2570	18.0702	0.2490	18.3191	0.0000	40,747.7758	40,747.7758	0.5183	0.0000	40,760.7324
Total	**22.3642**	**261.2571**	**133.6886**	**1.2863**	**89.2661**	**0.5053**	**89.7714**	**24.2176**	**0.4734**	**24.6910**	**0.0000**	**120,295.9604**	**120,295.9604**	**7.1248**	**0.0000**	**120,474.0801**

3.2 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3479**	**344.3479**	**0.0138**	**0.0000**	**344.6933**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3964	253.4317	32.9958	0.8384	21.3616	0.2335	21.5950	6.1711	0.2233	6.3944	0.0000	79,735.0655	79,735.0655	6.5920	0.0000	79,899.8655
Worker	15.5802	7.1811	94.7534	0.4421	68.2467	0.2535	68.5002	18.1394	0.2331	18.3725	0.0000	40,046.0237	40,046.0237	0.4761	0.0000	40,057.9262
Total	**20.9767**	**260.6127**	**127.7492**	**1.2805**	**89.6083**	**0.4869**	**90.0952**	**24.3105**	**0.4564**	**24.7669**	**0.0000**	**119,781.0892**	**119,781.0892**	**7.0681**	**0.0000**	**119,957.7918**

3.2 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3475**	**344.3475**	**0.0138**	**0.0000**	**344.6929**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3964	253.4317	32.9958	0.8384	21.3616	0.2335	21.5950	6.1711	0.2233	6.3944	0.0000	79,735.0655	79,735.0655	6.5920	0.0000	79,899.8655
Worker	15.5802	7.1811	94.7534	0.4421	68.2467	0.2535	68.5002	18.1394	0.2331	18.3725	0.0000	40,046.0237	40,046.0237	0.4761	0.0000	40,057.9262
Total	**20.9767**	**260.6127**	**127.7492**	**1.2805**	**89.6083**	**0.4869**	**90.0952**	**24.3105**	**0.4564**	**24.7669**	**0.0000**	**119,781.0892**	**119,781.0892**	**7.0681**	**0.0000**	**119,957.7918**

3.2 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3307	250.6631	32.5194	0.8312	21.1987	0.2300	21.4287	6.1241	0.2200	6.3441	0.0000	79,048.9103	79,048.9103	6.4873	0.0000	79,211.0917
Worker	14.2296	6.5833	88.7625	0.4305	67.7258	0.2349	67.9607	18.0009	0.2161	18.2170	0.0000	39,001.3721	39,001.3721	0.4349	0.0000	39,012.2445
Total	**19.5602**	**257.2465**	**121.2818**	**1.2617**	**88.9245**	**0.4649**	**89.3894**	**24.1250**	**0.4360**	**24.5610**	**0.0000**	**118,050.2824**	**118,050.2824**	**6.9222**	**0.0000**	**118,223.3362**

3.2 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3307	250.6631	32.5194	0.8312	21.1987	0.2300	21.4287	6.1241	0.2200	6.3441	0.0000	79,048.9103	79,048.9103	6.4873	0.0000	79,211.0917
Worker	14.2296	6.5833	88.7625	0.4305	67.7258	0.2349	67.9607	18.0009	0.2161	18.2170	0.0000	39,001.3721	39,001.3721	0.4349	0.0000	39,012.2445
Total	**19.5602**	**257.2465**	**121.2818**	**1.2617**	**88.9245**	**0.4649**	**89.3894**	**24.1250**	**0.4360**	**24.5610**	**0.0000**	**118,050.2824**	**118,050.2824**	**6.9222**	**0.0000**	**118,223.3362**

3.2 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3097	249.9468	32.3207	0.8308	21.1989	0.2285	21.4273	6.1241	0.2185	6.3426	0.0000	79,006.4381	79,006.4381	6.4484	0.0000	79,167.6481
Worker	13.2493	6.1524	84.0467	0.4234	67.7258	0.2197	67.9454	18.0009	0.2020	18.2030	0.0000	38,363.4424	38,363.4424	0.4019	0.0000	38,373.4904
Total	**18.5590**	**256.0993**	**116.3673**	**1.2541**	**88.9246**	**0.4481**	**89.3728**	**24.1251**	**0.4205**	**24.5456**	**0.0000**	**117,369.8805**	**117,369.8805**	**6.8503**	**0.0000**	**117,541.1385**

3.2 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3097	249.9468	32.3207	0.8308	21.1989	0.2285	21.4273	6.1241	0.2185	6.3426	0.0000	79,006.4381	79,006.4381	6.4484	0.0000	79,167.6481
Worker	13.2493	6.1524	84.0467	0.4234	67.7258	0.2197	67.9454	18.0009	0.2020	18.2030	0.0000	38,363.4424	38,363.4424	0.4019	0.0000	38,373.4904
Total	**18.5590**	**256.0993**	**116.3673**	**1.2541**	**88.9246**	**0.4481**	**89.3728**	**24.1251**	**0.4205**	**24.5456**	**0.0000**	**117,369.8805**	**117,369.8805**	**6.8503**	**0.0000**	**117,541.1385**

3.2 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1000e-004	3.5800e-003	8.0600e-003	2.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	1.3143	1.3143	5.0000e-005	0.0000	1.3155
Total	**6.1000e-004**	**3.5800e-003**	**8.0600e-003**	**2.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**1.3143**	**1.3143**	**5.0000e-005**	**0.0000**	**1.3155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0204	0.9589	0.1237	3.1900e-003	0.0815	8.7000e-004	0.0824	0.0236	8.4000e-004	0.0244	0.0000	303.7787	303.7787	0.0247	0.0000	304.3952
Worker	0.0477	0.0224	0.3080	1.6100e-003	0.2605	7.9000e-004	0.2613	0.0692	7.3000e-004	0.0700	0.0000	145.4597	145.4597	1.4400e-003	0.0000	145.4957
Total	**0.0681**	**0.9813**	**0.4317**	**4.8000e-003**	**0.3420**	**1.6600e-003**	**0.3437**	**0.0928**	**1.5700e-003**	**0.0944**	**0.0000**	**449.2383**	**449.2383**	**0.0261**	**0.0000**	**449.8908**

3.2 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1000e-004	3.5800e-003	8.0600e-003	2.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	1.3143	1.3143	5.0000e-005	0.0000	1.3155
Total	**6.1000e-004**	**3.5800e-003**	**8.0600e-003**	**2.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**1.3143**	**1.3143**	**5.0000e-005**	**0.0000**	**1.3155**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0204	0.9589	0.1237	3.1900e-003	0.0815	8.7000e-004	0.0824	0.0236	8.4000e-004	0.0244	0.0000	303.7787	303.7787	0.0247	0.0000	304.3952
Worker	0.0477	0.0224	0.3080	1.6100e-003	0.2605	7.9000e-004	0.2613	0.0692	7.3000e-004	0.0700	0.0000	145.4597	145.4597	1.4400e-003	0.0000	145.4957
Total	**0.0681**	**0.9813**	**0.4317**	**4.8000e-003**	**0.3420**	**1.6600e-003**	**0.3437**	**0.0928**	**1.5700e-003**	**0.0944**	**0.0000**	**449.2383**	**449.2383**	**0.0261**	**0.0000**	**449.8908**

3.3 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4922	0.0000	0.4922	0.0745	0.0000	0.0745	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**0.4922**	**0.0155**	**0.5077**	**0.0745**	**0.0144**	**0.0889**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0171	0.5888	0.0827	1.8000e-003	0.0389	1.9300e-003	0.0408	0.0107	1.8500e-003	0.0125	0.0000	171.0998	171.0998	0.0148	0.0000	171.4703
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.7000e-004	3.7800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0023	1.0023	2.0000e-005	0.0000	1.0030
Total	**0.0177**	**0.5892**	**0.0865**	**1.8100e-003**	**0.0401**	**1.9400e-003**	**0.0420**	**0.0110**	**1.8600e-003**	**0.0129**	**0.0000**	**172.1021**	**172.1021**	**0.0148**	**0.0000**	**172.4732**

3.3 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2215	0.0000	0.2215	0.0335	0.0000	0.0335	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**0.2215**	**0.0155**	**0.2370**	**0.0335**	**0.0144**	**0.0479**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0171	0.5888	0.0827	1.8000e-003	0.0389	1.9300e-003	0.0408	0.0107	1.8500e-003	0.0125	0.0000	171.0998	171.0998	0.0148	0.0000	171.4703
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.7000e-004	3.7800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0023	1.0023	2.0000e-005	0.0000	1.0030
Total	**0.0177**	**0.5892**	**0.0865**	**1.8100e-003**	**0.0401**	**1.9400e-003**	**0.0420**	**0.0110**	**1.8600e-003**	**0.0129**	**0.0000**	**172.1021**	**172.1021**	**0.0148**	**0.0000**	**172.4732**

3.4 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5872	0.0000	0.5872	0.3228	0.0000	0.3228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1264	1.3162	0.6875	1.2400e-003		0.0664	0.0664		0.0611	0.0611	0.0000	108.6661	108.6661	0.0351	0.0000	109.5447
Total	**0.1264**	**1.3162**	**0.6875**	**1.2400e-003**	**0.5872**	**0.0664**	**0.6536**	**0.3228**	**0.0611**	**0.3839**	**0.0000**	**108.6661**	**108.6661**	**0.0351**	**0.0000**	**109.5447**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3300e-003	1.4300e-003	0.0148	4.0000e-005	4.6800e-003	3.0000e-005	4.7100e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.9091	3.9091	1.0000e-004	0.0000	3.9115
Total	**2.3300e-003**	**1.4300e-003**	**0.0148**	**4.0000e-005**	**4.6800e-003**	**3.0000e-005**	**4.7100e-003**	**1.2400e-003**	**3.0000e-005**	**1.2700e-003**	**0.0000**	**3.9091**	**3.9091**	**1.0000e-004**	**0.0000**	**3.9115**

3.4 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2642	0.0000	0.2642	0.1452	0.0000	0.1452	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1264	1.3162	0.6875	1.2400e-003		0.0664	0.0664		0.0611	0.0611	0.0000	108.6660	108.6660	0.0351	0.0000	109.5446
Total	**0.1264**	**1.3162**	**0.6875**	**1.2400e-003**	**0.2642**	**0.0664**	**0.3307**	**0.1452**	**0.0611**	**0.2064**	**0.0000**	**108.6660**	**108.6660**	**0.0351**	**0.0000**	**109.5446**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3300e-003	1.4300e-003	0.0148	4.0000e-005	4.6800e-003	3.0000e-005	4.7100e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	3.9091	3.9091	1.0000e-004	0.0000	3.9115
Total	**2.3300e-003**	**1.4300e-003**	**0.0148**	**4.0000e-005**	**4.6800e-003**	**3.0000e-005**	**4.7100e-003**	**1.2400e-003**	**3.0000e-005**	**1.2700e-003**	**0.0000**	**3.9091**	**3.9091**	**1.0000e-004**	**0.0000**	**3.9115**

3.5 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9483	0.0000	3.9483	0.5128	0.0000	0.5128	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1362	1.5080	1.0036	2.0200e-003		0.0645	0.0645		0.0594	0.0594	0.0000	177.1087	177.1087	0.0573	0.0000	178.5407
Total	**0.1362**	**1.5080**	**1.0036**	**2.0200e-003**	**3.9483**	**0.0645**	**4.0128**	**0.5128**	**0.0594**	**0.5721**	**0.0000**	**177.1087**	**177.1087**	**0.0573**	**0.0000**	**178.5407**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	1.5800e-003	0.0164	5.0000e-005	5.2000e-003	3.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.3435	4.3435	1.1000e-004	0.0000	4.3462
Total	**2.5900e-003**	**1.5800e-003**	**0.0164**	**5.0000e-005**	**5.2000e-003**	**3.0000e-005**	**5.2300e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.3435**	**4.3435**	**1.1000e-004**	**0.0000**	**4.3462**

3.5 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7767	0.0000	1.7767	0.2308	0.0000	0.2308	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1362	1.5080	1.0036	2.0200e-003		0.0645	0.0645		0.0594	0.0594	0.0000	177.1085	177.1085	0.0573	0.0000	178.5405
Total	**0.1362**	**1.5080**	**1.0036**	**2.0200e-003**	**1.7767**	**0.0645**	**1.8413**	**0.2308**	**0.0594**	**0.2901**	**0.0000**	**177.1085**	**177.1085**	**0.0573**	**0.0000**	**178.5405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	1.5800e-003	0.0164	5.0000e-005	5.2000e-003	3.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.3435	4.3435	1.1000e-004	0.0000	4.3462
Total	**2.5900e-003**	**1.5800e-003**	**0.0164**	**5.0000e-005**	**5.2000e-003**	**3.0000e-005**	**5.2300e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.3435**	**4.3435**	**1.1000e-004**	**0.0000**	**4.3462**

3.6 Underground Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0816	0.8397	0.9525	1.4800e-003		0.0441	0.0441		0.0405	0.0405	0.0000	130.1526	130.1526	0.0421	0.0000	131.2050
Total	**0.0816**	**0.8397**	**0.9525**	**1.4800e-003**		**0.0441**	**0.0441**		**0.0405**	**0.0405**	**0.0000**	**130.1526**	**130.1526**	**0.0421**	**0.0000**	**131.2050**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8900e-003	2.3800e-003	0.0246	7.0000e-005	0.0145	5.0000e-005	0.0146	3.7300e-003	4.0000e-005	3.7700e-003	0.0000	6.5152	6.5152	1.6000e-004	0.0000	6.5192
Total	**3.8900e-003**	**2.3800e-003**	**0.0246**	**7.0000e-005**	**0.0145**	**5.0000e-005**	**0.0146**	**3.7300e-003**	**4.0000e-005**	**3.7700e-003**	**0.0000**	**6.5152**	**6.5152**	**1.6000e-004**	**0.0000**	**6.5192**

3.6 Underground Utilities - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0816	0.8397	0.9525	1.4800e-003		0.0441	0.0441		0.0405	0.0405	0.0000	130.1525	130.1525	0.0421	0.0000	131.2048
Total	**0.0816**	**0.8397**	**0.9525**	**1.4800e-003**		**0.0441**	**0.0441**		**0.0405**	**0.0405**	**0.0000**	**130.1525**	**130.1525**	**0.0421**	**0.0000**	**131.2048**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8900e-003	2.3800e-003	0.0246	7.0000e-005	0.0145	5.0000e-005	0.0146	3.7300e-003	4.0000e-005	3.7700e-003	0.0000	6.5152	6.5152	1.6000e-004	0.0000	6.5192
Total	**3.8900e-003**	**2.3800e-003**	**0.0246**	**7.0000e-005**	**0.0145**	**5.0000e-005**	**0.0146**	**3.7300e-003**	**4.0000e-005**	**3.7700e-003**	**0.0000**	**6.5152**	**6.5152**	**1.6000e-004**	**0.0000**	**6.5192**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1400e-003	0.0323	0.0366	6.0000e-005		1.6900e-003	1.6900e-003		1.5600e-003	1.5600e-003	0.0000	5.0059	5.0059	1.6200e-003	0.0000	5.0464
Paving	0.0778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0810**	**0.0323**	**0.0366**	**6.0000e-005**		**1.6900e-003**	**1.6900e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**5.0059**	**5.0059**	**1.6200e-003**	**0.0000**	**5.0464**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	9.0000e-005	9.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2506	0.2506	1.0000e-005	0.0000	0.2507
Total	**1.5000e-004**	**9.0000e-005**	**9.5000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2506**	**0.2506**	**1.0000e-005**	**0.0000**	**0.2507**

3.7 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1400e-003	0.0323	0.0366	6.0000e-005		1.6900e-003	1.6900e-003		1.5600e-003	1.5600e-003	0.0000	5.0059	5.0059	1.6200e-003	0.0000	5.0463
Paving	0.0778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0810**	**0.0323**	**0.0366**	**6.0000e-005**		**1.6900e-003**	**1.6900e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**5.0059**	**5.0059**	**1.6200e-003**	**0.0000**	**5.0463**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	9.0000e-005	9.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2506	0.2506	1.0000e-005	0.0000	0.2507
Total	**1.5000e-004**	**9.0000e-005**	**9.5000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2506**	**0.2506**	**1.0000e-005**	**0.0000**	**0.2507**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0441	0.4450	0.5832	9.1000e-004		0.0227	0.0227		0.0209	0.0209	0.0000	80.1102	80.1102	0.0259	0.0000	80.7580
Paving	1.2453					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2894**	**0.4450**	**0.5832**	**9.1000e-004**		**0.0227**	**0.0227**		**0.0209**	**0.0209**	**0.0000**	**80.1102**	**80.1102**	**0.0259**	**0.0000**	**80.7580**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2200e-003	1.3000e-003	0.0138	4.0000e-005	4.8000e-003	3.0000e-005	4.8300e-003	1.2700e-003	3.0000e-005	1.3000e-003	0.0000	3.8654	3.8654	9.0000e-005	0.0000	3.8676
Total	**2.2200e-003**	**1.3000e-003**	**0.0138**	**4.0000e-005**	**4.8000e-003**	**3.0000e-005**	**4.8300e-003**	**1.2700e-003**	**3.0000e-005**	**1.3000e-003**	**0.0000**	**3.8654**	**3.8654**	**9.0000e-005**	**0.0000**	**3.8676**

3.7 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0441	0.4450	0.5832	9.1000e-004		0.0227	0.0227		0.0209	0.0209	0.0000	80.1101	80.1101	0.0259	0.0000	80.7579
Paving	1.2453					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2894**	**0.4450**	**0.5832**	**9.1000e-004**		**0.0227**	**0.0227**		**0.0209**	**0.0209**	**0.0000**	**80.1101**	**80.1101**	**0.0259**	**0.0000**	**80.7579**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2200e-003	1.3000e-003	0.0138	4.0000e-005	4.8000e-003	3.0000e-005	4.8300e-003	1.2700e-003	3.0000e-005	1.3000e-003	0.0000	3.8654	3.8654	9.0000e-005	0.0000	3.8676
Total	**2.2200e-003**	**1.3000e-003**	**0.0138**	**4.0000e-005**	**4.8000e-003**	**3.0000e-005**	**4.8300e-003**	**1.2700e-003**	**3.0000e-005**	**1.3000e-003**	**0.0000**	**3.8654**	**3.8654**	**9.0000e-005**	**0.0000**	**3.8676**

3.8 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5945					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**1.5951**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1299	0.0794	0.8217	2.4100e-003	0.2605	1.6200e-003	0.2621	0.0692	1.4900e-003	0.0707	0.0000	217.7251	217.7251	5.3800e-003	0.0000	217.8595
Total	**0.1299**	**0.0794**	**0.8217**	**2.4100e-003**	**0.2605**	**1.6200e-003**	**0.2621**	**0.0692**	**1.4900e-003**	**0.0707**	**0.0000**	**217.7251**	**217.7251**	**5.3800e-003**	**0.0000**	**217.8595**

3.8 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5945					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**1.5951**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1299	0.0794	0.8217	2.4100e-003	0.2605	1.6200e-003	0.2621	0.0692	1.4900e-003	0.0707	0.0000	217.7251	217.7251	5.3800e-003	0.0000	217.8595
Total	**0.1299**	**0.0794**	**0.8217**	**2.4100e-003**	**0.2605**	**1.6200e-003**	**0.2621**	**0.0692**	**1.4900e-003**	**0.0707**	**0.0000**	**217.7251**	**217.7251**	**5.3800e-003**	**0.0000**	**217.8595**

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.1831	0.2358	3.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	33.1923	33.1923	2.1600e-003	0.0000	33.2463
Total	**82.9427**	**0.1831**	**0.2358**	**3.9000e-004**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**33.1923**	**33.1923**	**2.1600e-003**	**0.0000**	**33.2463**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2748	3.6849	38.9521	0.1207	13.5454	0.0819	13.6272	3.6002	0.0754	3.6756	0.0000	10,915.0339	10,915.0339	0.2493	0.0000	10,921.2674
Total	**6.2748**	**3.6849**	**38.9521**	**0.1207**	**13.5454**	**0.0819**	**13.6272**	**3.6002**	**0.0754**	**3.6756**	**0.0000**	**10,915.0339**	**10,915.0339**	**0.2493**	**0.0000**	**10,921.2674**

3.8 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.1831	0.2358	3.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	33.1923	33.1923	2.1600e-003	0.0000	33.2463
Total	**82.9427**	**0.1831**	**0.2358**	**3.9000e-004**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**33.1923**	**33.1923**	**2.1600e-003**	**0.0000**	**33.2463**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2748	3.6849	38.9521	0.1207	13.5454	0.0819	13.6272	3.6002	0.0754	3.6756	0.0000	10,915.0339	10,915.0339	0.2493	0.0000	10,921.2674
Total	**6.2748**	**3.6849**	**38.9521**	**0.1207**	**13.5454**	**0.0819**	**13.6272**	**3.6002**	**0.0754**	**3.6756**	**0.0000**	**10,915.0339**	**10,915.0339**	**0.2493**	**0.0000**	**10,921.2674**

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.1694	0.2355	3.9000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**82.9410**	**0.1694**	**0.2355**	**3.9000e-004**		**9.2100e-003**	**9.2100e-003**		**9.2100e-003**	**9.2100e-003**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8452	3.2976	35.5632	0.1162	13.5454	0.0798	13.6251	3.6002	0.0734	3.6737	0.0000	10,505.7360	10,505.7360	0.2225	0.0000	10,511.2972
Total	**5.8452**	**3.2976**	**35.5632**	**0.1162**	**13.5454**	**0.0798**	**13.6251**	**3.6002**	**0.0734**	**3.6737**	**0.0000**	**10,505.7360**	**10,505.7360**	**0.2225**	**0.0000**	**10,511.2972**

3.8 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.1694	0.2354	3.9000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**82.9410**	**0.1694**	**0.2354**	**3.9000e-004**		**9.2100e-003**	**9.2100e-003**		**9.2100e-003**	**9.2100e-003**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8452	3.2976	35.5632	0.1162	13.5454	0.0798	13.6251	3.6002	0.0734	3.6737	0.0000	10,505.7360	10,505.7360	0.2225	0.0000	10,511.2972
Total	**5.8452**	**3.2976**	**35.5632**	**0.1162**	**13.5454**	**0.0798**	**13.6251**	**3.6002**	**0.0734**	**3.6737**	**0.0000**	**10,505.7360**	**10,505.7360**	**0.2225**	**0.0000**	**10,511.2972**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.5539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**83.5776**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5088	2.9859	32.9556	0.1125	13.6496	0.0784	13.7280	3.6279	0.0722	3.7001	0.0000	10,172.9620	10,172.9620	0.2006	0.0000	10,177.9779
Total	**5.5088**	**2.9859**	**32.9556**	**0.1125**	**13.6496**	**0.0784**	**13.7280**	**3.6279**	**0.0722**	**3.7001**	**0.0000**	**10,172.9620**	**10,172.9620**	**0.2006**	**0.0000**	**10,177.9779**

3.8 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.5539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**83.5776**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5088	2.9859	32.9556	0.1125	13.6496	0.0784	13.7280	3.6279	0.0722	3.7001	0.0000	10,172.9620	10,172.9620	0.2006	0.0000	10,177.9779
Total	**5.5088**	**2.9859**	**32.9556**	**0.1125**	**13.6496**	**0.0784**	**13.7280**	**3.6279**	**0.0722**	**3.7001**	**0.0000**	**10,172.9620**	**10,172.9620**	**0.2006**	**0.0000**	**10,177.9779**

3.8 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3200	33.3200	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3200**	**33.3200**	**1.8200e-003**	**0.0000**	**33.3654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1591	2.6871	30.2492	0.1076	13.5975	0.0766	13.6741	3.6141	0.0705	3.6846	0.0000	9,730.8216	9,730.8216	0.1800	0.0000	9,735.3216
Total	**5.1591**	**2.6871**	**30.2492**	**0.1076**	**13.5975**	**0.0766**	**13.6741**	**3.6141**	**0.0705**	**3.6846**	**0.0000**	**9,730.8216**	**9,730.8216**	**0.1800**	**0.0000**	**9,735.3216**

3.8 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3199	33.3199	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3199**	**33.3199**	**1.8200e-003**	**0.0000**	**33.3654**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1591	2.6871	30.2492	0.1076	13.5975	0.0766	13.6741	3.6141	0.0705	3.6846	0.0000	9,730.8216	9,730.8216	0.1800	0.0000	9,735.3216
Total	**5.1591**	**2.6871**	**30.2492**	**0.1076**	**13.5975**	**0.0766**	**13.6741**	**3.6141**	**0.0705**	**3.6846**	**0.0000**	**9,730.8216**	**9,730.8216**	**0.1800**	**0.0000**	**9,735.3216**

3.8 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3200	33.3200	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3200**	**33.3200**	**1.8200e-003**	**0.0000**	**33.3654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8784	2.4505	28.2751	0.1042	13.5975	0.0753	13.6728	3.6141	0.0693	3.6834	0.0000	9,425.9399	9,425.9399	0.1651	0.0000	9,430.0674
Total	**4.8784**	**2.4505**	**28.2751**	**0.1042**	**13.5975**	**0.0753**	**13.6728**	**3.6141**	**0.0693**	**3.6834**	**0.0000**	**9,425.9399**	**9,425.9399**	**0.1651**	**0.0000**	**9,430.0674**

3.8 Architectural Coating - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3199	33.3199	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3199**	**33.3199**	**1.8200e-003**	**0.0000**	**33.3654**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8784	2.4505	28.2751	0.1042	13.5975	0.0753	13.6728	3.6141	0.0693	3.6834	0.0000	9,425.9399	9,425.9399	0.1651	0.0000	9,430.0674
Total	**4.8784**	**2.4505**	**28.2751**	**0.1042**	**13.5975**	**0.0753**	**13.6728**	**3.6141**	**0.0693**	**3.6834**	**0.0000**	**9,425.9399**	**9,425.9399**	**0.1651**	**0.0000**	**9,430.0674**

3.8 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3200	33.3200	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3200**	**33.3200**	**1.8200e-003**	**0.0000**	**33.3654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6027	2.2350	26.3008	0.1006	13.5975	0.0717	13.6691	3.6141	0.0659	3.6800	0.0000	9,104.4723	9,104.4723	0.1499	0.0000	9,108.2192
Total	**4.6027**	**2.2350**	**26.3008**	**0.1006**	**13.5975**	**0.0717**	**13.6691**	**3.6141**	**0.0659**	**3.6800**	**0.0000**	**9,104.4723**	**9,104.4723**	**0.1499**	**0.0000**	**9,108.2192**

3.8 Architectural Coating - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3199	33.3199	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3199**	**33.3199**	**1.8200e-003**	**0.0000**	**33.3654**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6027	2.2350	26.3008	0.1006	13.5975	0.0717	13.6691	3.6141	0.0659	3.6800	0.0000	9,104.4723	9,104.4723	0.1499	0.0000	9,108.2192
Total	**4.6027**	**2.2350**	**26.3008**	**0.1006**	**13.5975**	**0.0717**	**13.6691**	**3.6141**	**0.0659**	**3.6800**	**0.0000**	**9,104.4723**	**9,104.4723**	**0.1499**	**0.0000**	**9,108.2192**

3.8 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0222	0.1489	0.2352	3.9000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003	0.0000	33.1923	33.1923	1.8100e-003	0.0000	33.2376
Total	**82.9383**	**0.1489**	**0.2352**	**3.9000e-004**		**6.7000e-003**	**6.7000e-003**		**6.7000e-003**	**6.7000e-003**	**0.0000**	**33.1923**	**33.1923**	**1.8100e-003**	**0.0000**	**33.2376**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2981	2.0354	24.4855	0.0971	13.5454	0.0666	13.6119	3.6002	0.0612	3.6615	0.0000	8,785.9685	8,785.9685	0.1363	0.0000	8,789.3758
Total	**4.2981**	**2.0354**	**24.4855**	**0.0971**	**13.5454**	**0.0666**	**13.6119**	**3.6002**	**0.0612**	**3.6615**	**0.0000**	**8,785.9685**	**8,785.9685**	**0.1363**	**0.0000**	**8,789.3758**

3.8 Architectural Coating - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0222	0.1489	0.2352	3.9000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003	0.0000	33.1923	33.1923	1.8100e-003	0.0000	33.2375
Total	**82.9383**	**0.1489**	**0.2352**	**3.9000e-004**		**6.7000e-003**	**6.7000e-003**		**6.7000e-003**	**6.7000e-003**	**0.0000**	**33.1923**	**33.1923**	**1.8100e-003**	**0.0000**	**33.2375**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2981	2.0354	24.4855	0.0971	13.5454	0.0666	13.6119	3.6002	0.0612	3.6615	0.0000	8,785.9685	8,785.9685	0.1363	0.0000	8,789.3758
Total	**4.2981**	**2.0354**	**24.4855**	**0.0971**	**13.5454**	**0.0666**	**13.6119**	**3.6002**	**0.0612**	**3.6615**	**0.0000**	**8,785.9685**	**8,785.9685**	**0.1363**	**0.0000**	**8,789.3758**

3.8 Architectural Coating - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3200	33.3200	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3200**	**33.3200**	**1.8200e-003**	**0.0000**	**33.3654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0107	1.8680	22.9591	0.0946	13.5975	0.0623	13.6597	3.6141	0.0573	3.6714	0.0000	8,567.8284	8,567.8284	0.1246	0.0000	8,570.9445
Total	**4.0107**	**1.8680**	**22.9591**	**0.0946**	**13.5975**	**0.0623**	**13.6597**	**3.6141**	**0.0573**	**3.6714**	**0.0000**	**8,567.8284**	**8,567.8284**	**0.1246**	**0.0000**	**8,570.9445**

3.8 Architectural Coating - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3199	33.3199	1.8200e-003	0.0000	33.3654
Total	**83.2573**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3199**	**33.3199**	**1.8200e-003**	**0.0000**	**33.3654**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0107	1.8680	22.9591	0.0946	13.5975	0.0623	13.6597	3.6141	0.0573	3.6714	0.0000	8,567.8284	8,567.8284	0.1246	0.0000	8,570.9445
Total	**4.0107**	**1.8680**	**22.9591**	**0.0946**	**13.5975**	**0.0623**	**13.6597**	**3.6141**	**0.0573**	**3.6714**	**0.0000**	**8,567.8284**	**8,567.8284**	**0.1246**	**0.0000**	**8,570.9445**

3.8 Architectural Coating - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1117	0.2346	3.9000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	33.3200	33.3200	1.3500e-003	0.0000	33.3537
Total	**83.2520**	**0.1117**	**0.2346**	**3.9000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**	**0.0000**	**33.3200**	**33.3200**	**1.3500e-003**	**0.0000**	**33.3537**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7104	1.7094	21.4989	0.0922	13.5975	0.0581	13.6556	3.6141	0.0534	3.6675	0.0000	8,345.3741	8,345.3741	0.1138	0.0000	8,348.2190
Total	**3.7104**	**1.7094**	**21.4989**	**0.0922**	**13.5975**	**0.0581**	**13.6556**	**3.6141**	**0.0534**	**3.6675**	**0.0000**	**8,345.3741**	**8,345.3741**	**0.1138**	**0.0000**	**8,348.2190**

3.8 Architectural Coating - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1117	0.2346	3.9000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	33.3199	33.3199	1.3500e-003	0.0000	33.3536
Total	**83.2520**	**0.1117**	**0.2346**	**3.9000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**	**0.0000**	**33.3199**	**33.3199**	**1.3500e-003**	**0.0000**	**33.3536**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7104	1.7094	21.4989	0.0922	13.5975	0.0581	13.6556	3.6141	0.0534	3.6675	0.0000	8,345.3741	8,345.3741	0.1138	0.0000	8,348.2190
Total	**3.7104**	**1.7094**	**21.4989**	**0.0922**	**13.5975**	**0.0581**	**13.6556**	**3.6141**	**0.0534**	**3.6675**	**0.0000**	**8,345.3741**	**8,345.3741**	**0.1138**	**0.0000**	**8,348.2190**

3.8 Architectural Coating - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1117	0.2346	3.9000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	33.3200	33.3200	1.3500e-003	0.0000	33.3537
Total	**83.2520**	**0.1117**	**0.2346**	**3.9000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**	**0.0000**	**33.3200**	**33.3200**	**1.3500e-003**	**0.0000**	**33.3537**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3907	1.5595	20.1034	0.0900	13.5975	0.0541	13.6516	3.6141	0.0498	3.6639	0.0000	8,149.6802	8,149.6802	0.1037	0.0000	8,152.2716
Total	**3.3907**	**1.5595**	**20.1034**	**0.0900**	**13.5975**	**0.0541**	**13.6516**	**3.6141**	**0.0498**	**3.6639**	**0.0000**	**8,149.6802**	**8,149.6802**	**0.1037**	**0.0000**	**8,152.2716**

3.8 Architectural Coating - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1117	0.2346	3.9000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	33.3199	33.3199	1.3500e-003	0.0000	33.3536
Total	**83.2520**	**0.1117**	**0.2346**	**3.9000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**	**0.0000**	**33.3199**	**33.3199**	**1.3500e-003**	**0.0000**	**33.3536**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3907	1.5595	20.1034	0.0900	13.5975	0.0541	13.6516	3.6141	0.0498	3.6639	0.0000	8,149.6802	8,149.6802	0.1037	0.0000	8,152.2716
Total	**3.3907**	**1.5595**	**20.1034**	**0.0900**	**13.5975**	**0.0541**	**13.6516**	**3.6141**	**0.0498**	**3.6639**	**0.0000**	**8,149.6802**	**8,149.6802**	**0.1037**	**0.0000**	**8,152.2716**

3.8 Architectural Coating - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.5539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1122	0.2355	3.9000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	33.4476	33.4476	1.3500e-003	0.0000	33.4815
Total	**83.5710**	**0.1122**	**0.2355**	**3.9000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**33.4476**	**33.4476**	**1.3500e-003**	**0.0000**	**33.4815**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1161	1.4362	18.9510	0.0884	13.6496	0.0507	13.7003	3.6279	0.0466	3.6746	0.0000	8,009.3276	8,009.3276	0.0952	0.0000	8,011.7082
Total	**3.1161**	**1.4362**	**18.9510**	**0.0884**	**13.6496**	**0.0507**	**13.7003**	**3.6279**	**0.0466**	**3.6746**	**0.0000**	**8,009.3276**	**8,009.3276**	**0.0952**	**0.0000**	**8,011.7082**

3.8 Architectural Coating - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.5539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1122	0.2355	3.9000e-004		2.6600e-003	2.6600e-003		2.6600e-003	2.6600e-003	0.0000	33.4476	33.4476	1.3500e-003	0.0000	33.4814
Total	**83.5710**	**0.1122**	**0.2355**	**3.9000e-004**		**2.6600e-003**	**2.6600e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**33.4476**	**33.4476**	**1.3500e-003**	**0.0000**	**33.4814**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1161	1.4362	18.9510	0.0884	13.6496	0.0507	13.7003	3.6279	0.0466	3.6746	0.0000	8,009.3276	8,009.3276	0.0952	0.0000	8,011.7082
Total	**3.1161**	**1.4362**	**18.9510**	**0.0884**	**13.6496**	**0.0507**	**13.7003**	**3.6279**	**0.0466**	**3.6746**	**0.0000**	**8,009.3276**	**8,009.3276**	**0.0952**	**0.0000**	**8,011.7082**

3.8 Architectural Coating - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0170	0.1113	0.2337	3.9000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	33.1923	33.1923	1.3400e-003	0.0000	33.2259
Total	**82.9331**	**0.1113**	**0.2337**	**3.9000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**33.1923**	**33.1923**	**1.3400e-003**	**0.0000**	**33.2259**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8460	1.3167	17.7528	0.0861	13.5454	0.0470	13.5923	3.6002	0.0432	3.6435	0.0000	7,800.3941	7,800.3941	0.0870	0.0000	7,802.5686
Total	**2.8460**	**1.3167**	**17.7528**	**0.0861**	**13.5454**	**0.0470**	**13.5923**	**3.6002**	**0.0432**	**3.6435**	**0.0000**	**7,800.3941**	**7,800.3941**	**0.0870**	**0.0000**	**7,802.5686**

3.8 Architectural Coating - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0170	0.1113	0.2337	3.9000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	33.1923	33.1923	1.3400e-003	0.0000	33.2258
Total	**82.9331**	**0.1113**	**0.2337**	**3.9000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**33.1923**	**33.1923**	**1.3400e-003**	**0.0000**	**33.2258**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8460	1.3167	17.7528	0.0861	13.5454	0.0470	13.5923	3.6002	0.0432	3.6435	0.0000	7,800.3941	7,800.3941	0.0870	0.0000	7,802.5686
Total	**2.8460**	**1.3167**	**17.7528**	**0.0861**	**13.5454**	**0.0470**	**13.5923**	**3.6002**	**0.0432**	**3.6435**	**0.0000**	**7,800.3941**	**7,800.3941**	**0.0870**	**0.0000**	**7,802.5686**

3.8 Architectural Coating - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0170	0.1113	0.2337	3.9000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	33.1923	33.1923	1.3400e-003	0.0000	33.2259
Total	**82.9331**	**0.1113**	**0.2337**	**3.9000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**33.1923**	**33.1923**	**1.3400e-003**	**0.0000**	**33.2259**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6499	1.2305	16.8096	0.0847	13.5454	0.0439	13.5893	3.6002	0.0404	3.6407	0.0000	7,672.8062	7,672.8062	0.0804	0.0000	7,674.8159
Total	**2.6499**	**1.2305**	**16.8096**	**0.0847**	**13.5454**	**0.0439**	**13.5893**	**3.6002**	**0.0404**	**3.6407**	**0.0000**	**7,672.8062**	**7,672.8062**	**0.0804**	**0.0000**	**7,674.8159**

3.8 Architectural Coating - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	82.9161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0170	0.1113	0.2337	3.9000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	33.1923	33.1923	1.3400e-003	0.0000	33.2258
Total	**82.9331**	**0.1113**	**0.2337**	**3.9000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**33.1923**	**33.1923**	**1.3400e-003**	**0.0000**	**33.2258**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6499	1.2305	16.8096	0.0847	13.5454	0.0439	13.5893	3.6002	0.0404	3.6407	0.0000	7,672.8062	7,672.8062	0.0804	0.0000	7,674.8159
Total	**2.6499**	**1.2305**	**16.8096**	**0.0847**	**13.5454**	**0.0439**	**13.5893**	**3.6002**	**0.0404**	**3.6407**	**0.0000**	**7,672.8062**	**7,672.8062**	**0.0804**	**0.0000**	**7,674.8159**

3.8 Architectural Coating - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0154	0.0989	0.2342	3.9000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	33.3200	33.3200	1.2300e-003	0.0000	33.3507
Total	**83.2504**	**0.0989**	**0.2342**	**3.9000e-004**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.0000**	**33.3200**	**33.3200**	**1.2300e-003**	**0.0000**	**33.3507**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4923	1.1685	16.0770	0.0838	13.5975	0.0414	13.6388	3.6141	0.0380	3.6521	0.0000	7,593.1101	7,593.1101	0.0752	0.0000	7,594.9897
Total	**2.4923**	**1.1685**	**16.0770**	**0.0838**	**13.5975**	**0.0414**	**13.6388**	**3.6141**	**0.0380**	**3.6521**	**0.0000**	**7,593.1101**	**7,593.1101**	**0.0752**	**0.0000**	**7,594.9897**

3.8 Architectural Coating - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	83.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0154	0.0989	0.2342	3.9000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	33.3199	33.3199	1.2300e-003	0.0000	33.3507
Total	**83.2504**	**0.0989**	**0.2342**	**3.9000e-004**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.0000**	**33.3199**	**33.3199**	**1.2300e-003**	**0.0000**	**33.3507**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4923	1.1685	16.0770	0.0838	13.5975	0.0414	13.6388	3.6141	0.0380	3.6521	0.0000	7,593.1101	7,593.1101	0.0752	0.0000	7,594.9897
Total	**2.4923**	**1.1685**	**16.0770**	**0.0838**	**13.5975**	**0.0414**	**13.6388**	**3.6141**	**0.0380**	**3.6521**	**0.0000**	**7,593.1101**	**7,593.1101**	**0.0752**	**0.0000**	**7,594.9897**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	191.9281	3,044.9622	1,879.5865	16.4121	1,179.9408	6.2605	1,186.2013	317.7573	5.8824	323.6397	0.0000	1,536,405.1288	1,536,405.1288	112.2711	0.0000	1,539,211.9062
Unmitigated	191.9281	3,044.9622	1,879.5865	16.4121	1,179.9408	6.2605	1,186.2013	317.7573	5.8824	323.6397	0.0000	1,536,405.1288	1,536,405.1288	112.2711	0.0000	1,539,211.9062

4.2 Trip Summary Information

Fresno SPWA - Fresno County, Annual

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	7,003.98	7,003.98	7003.98	23,077,610	23,077,610
Apartments Low Rise	24,474.42	24,474.42	24474.42	80,641,452	80,641,452
Apartments Mid Rise	18,739.44	18,739.44	18739.44	61,745,106	61,745,106
Apartments Mid Rise	277.44	277.44	277.44	914,145	914,145
Single Family Housing	12,814.80	12,814.80	12814.80	42,223,843	42,223,843
Single Family Housing	60,633.12	60,633.12	60633.12	199,781,765	199,781,765
Single Family Housing	177,708.00	177,708.00	177708.00	585,535,065	585,535,065
Regional Shopping Center	31,344.25	31,344.25	31344.25	87,379,322	87,379,322
Regional Shopping Center	11,218.80	11,218.80	11218.80	31,274,982	31,274,982
Regional Shopping Center	234,254.18	234,254.18	234254.18	653,037,499	653,037,499
Regional Shopping Center	2,301.29	2,301.29	2301.29	6,415,368	6,415,368
Regional Shopping Center	251,633.28	251,633.28	251633.28	701,485,733	701,485,733
Regional Shopping Center	78,417.62	78,417.62	78417.62	218,607,185	218,607,185
General Light Industry	5,310.15	5,310.15	5310.15	16,619,043	16,619,043
General Office Building	52,380.68	52,380.68	52380.68	153,028,277	153,028,277
Office Park	17,016.53	17,016.53	17016.53	49,713,186	49,713,186
City Park	0.00	0.00	0.00		
Elementary School	22,196.02	22,196.02	22196.02	70,532,737	70,532,737
High School	14,918.80	14,918.80	14918.80	48,936,982	48,936,982
Junior College (2Yr)	0.00	0.00	0.00		
Junior High School	12,504.00	12,504.00	12504.00	40,515,241	40,515,241
Library	0.00	0.00	0.00		
Library	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	3,953.92	3,953.92	3953.92	10,506,359	10,506,359
Total	1,039,100.72	1,039,100.72	1,039,100.72	3,081,970,900	3,081,970,900

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Low Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Mid Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Mid Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	100	0	0
High School	9.50	7.30	7.30	77.80	17.20	5.00	100	0	0
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	100	0	0
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	100	0	0
Library	9.50	7.30	7.30	52.00	43.00	5.00	100	0	0
Library	9.50	7.30	7.30	52.00	43.00	5.00	100	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	100	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Apartments Low Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Apartments Mid Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Single Family Housing	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Regional Shopping Center	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
General Light Industry	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
General Office Building	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Office Park	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
City Park	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Elementary School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
High School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Junior College (2Yr)	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Junior High School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Library	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Other Asphalt Surfaces	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Place of Worship	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	264,133.4203	264,133.4203	11.9434	2.4710	265,168.3736
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	264,133.4203	264,133.4203	11.9434	2.4710	265,168.3736
NaturalGas Mitigated	10.2345	89.8859	55.0159	0.5583		7.0711	7.0711		7.0711	7.0711	0.0000	101,286.6073	101,286.6073	1.9413	1.8569	101,888.5030
NaturalGas Unmitigated	10.2345	89.8859	55.0159	0.5583		7.0711	7.0711		7.0711	7.0711	0.0000	101,286.6073	101,286.6073	1.9413	1.8569	101,888.5030

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.5537e+007	0.1377	1.1767	0.5007	7.5100e-003		0.0951	0.0951		0.0951	0.0951	0.0000	1,362.7501	1,362.7501	0.0261	0.0250	1,370.8482
Apartments Low Rise	6.30203e+007	0.3398	2.9039	1.2357	0.0185		0.2348	0.2348		0.2348	0.2348	0.0000	3,363.0053	3,363.0053	0.0645	0.0617	3,382.9899
Apartments Mid Rise	5.59329e+007	0.3016	2.5773	1.0967	0.0165		0.2084	0.2084		0.2084	0.2084	0.0000	2,984.7931	2,984.7931	0.0572	0.0547	3,002.5303
Apartments Mid Rise	828094	4.4700e-003	0.0382	0.0162	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	44.1903	44.1903	8.5000e-004	8.1000e-004	44.4529
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	3.28139e+007	0.1769	1.6085	1.3512	9.6500e-003		0.1223	0.1223		0.1223	0.1223	0.0000	1,751.0723	1,751.0723	0.0336	0.0321	1,761.4780
General Light Industry	2.97911e+007	0.1606	1.4604	1.2267	8.7600e-003		0.1110	0.1110		0.1110	0.1110	0.0000	1,589.7671	1,589.7671	0.0305	0.0292	1,599.2143
General Office Building	9.35113e+007	0.5042	4.5839	3.8505	0.0275		0.3484	0.3484		0.3484	0.3484	0.0000	4,990.1213	4,990.1213	0.0956	0.0915	5,019.7751
High School	3.26949e+007	0.1763	1.6027	1.3463	9.6200e-003		0.1218	0.1218		0.1218	0.1218	0.0000	1,744.7252	1,744.7252	0.0334	0.0320	1,755.0932
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Junior High School	2.30697e+007	0.1244	1.1309	0.9499	6.7900e-003		0.0860	0.0860		0.0860	0.0860	0.0000	1,231.0858	1,231.0858	0.0236	0.0226	1,238.4015
Library	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	7.44024e+007	0.4012	3.6472	3.0636	0.0219		0.2772	0.2772		0.2772	0.2772	0.0000	3,970.3964	3,970.3964	0.0761	0.0728	3,993.9905
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	1.58385e+007	0.0854	0.7764	0.6522	4.6600e-003		0.0590	0.0590		0.0590	0.0590	0.0000	845.2001	845.2001	0.0162	0.0155	850.2227
Regional Shopping Center	1.97623e+006	0.0107	0.0969	0.0814	5.8000e-004		7.3600e-003	7.3600e-003		7.3600e-003	7.3600e-003	0.0000	105.4589	105.4589	2.0200e-003	1.9300e-003	106.0856
Regional Shopping Center	2.01165e+008	1.0847	9.8610	8.2833	0.0592		0.7494	0.7494		0.7494	0.7494	0.0000	10,734.9469	10,734.9469	0.2058	0.1968	10,798.7393
Regional Shopping Center	2.1609e+008	1.1652	10.5926	8.8978	0.0636		0.8050	0.8050		0.8050	0.8050	0.0000	11,531.3624	11,531.3624	0.2210	0.2114	11,599.8875
Regional Shopping Center	2.69168e+007	0.1451	1.3195	1.1083	7.9200e-003		0.1003	0.1003		0.1003	0.1003	0.0000	1,436.3837	1,436.3837	0.0275	0.0263	1,444.9194
Regional Shopping Center	6.7341e+007	0.3631	3.3010	2.7729	0.0198		0.2509	0.2509		0.2509	0.2509	0.0000	3,593.5708	3,593.5708	0.0689	0.0659	3,614.9256
Regional Shopping Center	9.63412e+006	0.0520	0.4723	0.3967	2.8300e-003		0.0359	0.0359		0.0359	0.0359	0.0000	514.1133	514.1133	9.8500e-003	9.4300e-003	517.1684
Single Family Housing	2.23908e+008	1.2074	10.3173	4.3904	0.0659		0.8342	0.8342		0.8342	0.8342	0.0000	11,948.5748	11,948.5748	0.2290	0.2191	12,019.5792
Single Family Housing	4.73229e+007	0.2552	2.1806	0.9279	0.0139		0.1763	0.1763		0.1763	0.1763	0.0000	2,525.3293	2,525.3293	0.0484	0.0463	2,540.3361

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	6.56246e+008	3.5386	30.2388	12.8676	0.1930		2.4448	2.4448		2.4448	2.4448	0.0000	35,019.7603	35,019.7603	0.6712	0.6420	35,227.8652
Total		**10.2346**	**89.8859**	**55.0159**	**0.5583**		**7.0712**	**7.0712**		**7.0712**	**7.0712**	**0.0000**	**101,286.6074**	**101,286.6074**	**1.9413**	**1.8569**	**101,888.5030**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.5537e+007	0.1377	1.1767	0.5007	7.5100e-003		0.0951	0.0951		0.0951	0.0951	0.0000	1,362.7501	1,362.7501	0.0261	0.0250	1,370.8482
Apartments Low Rise	6.30203e+007	0.3398	2.9039	1.2357	0.0185		0.2348	0.2348		0.2348	0.2348	0.0000	3,363.0053	3,363.0053	0.0645	0.0617	3,382.9899
Apartments Mid Rise	5.59329e+007	0.3016	2.5773	1.0967	0.0165		0.2084	0.2084		0.2084	0.2084	0.0000	2,984.7931	2,984.7931	0.0572	0.0547	3,002.5303
Apartments Mid Rise	828094	4.4700e-003	0.0382	0.0162	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	44.1903	44.1903	8.5000e-004	8.1000e-004	44.4529
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	3.28139e+007	0.1769	1.6085	1.3512	9.6500e-003		0.1223	0.1223		0.1223	0.1223	0.0000	1,751.0723	1,751.0723	0.0336	0.0321	1,761.4780
General Light Industry	2.97911e+007	0.1606	1.4604	1.2267	8.7600e-003		0.1110	0.1110		0.1110	0.1110	0.0000	1,589.7671	1,589.7671	0.0305	0.0292	1,599.2143
General Office Building	9.35113e+007	0.5042	4.5839	3.8505	0.0275		0.3484	0.3484		0.3484	0.3484	0.0000	4,990.1213	4,990.1213	0.0956	0.0915	5,019.7751
High School	3.26949e+007	0.1763	1.6027	1.3463	9.6200e-003		0.1218	0.1218		0.1218	0.1218	0.0000	1,744.7252	1,744.7252	0.0334	0.0320	1,755.0932
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	2.30697e+007	0.1244	1.1309	0.9499	6.7900e-003		0.0860	0.0860		0.0860	0.0860	0.0000	1,231.0858	1,231.0858	0.0236	0.0226	1,238.4015
Library	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	7.44024e+007	0.4012	3.6472	3.0636	0.0219		0.2772	0.2772		0.2772	0.2772	0.0000	3,970.3964	3,970.3964	0.0761	0.0728	3,993.9905
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	1.58385e+007	0.0854	0.7764	0.6522	4.6600e-003		0.0590	0.0590		0.0590	0.0590	0.0000	845.2001	845.2001	0.0162	0.0155	850.2227
Regional Shopping Center	1.97623e+006	0.0107	0.0969	0.0814	5.8000e-004		7.3600e-003	7.3600e-003		7.3600e-003	7.3600e-003	0.0000	105.4589	105.4589	2.0200e-003	1.9300e-003	106.0856
Regional Shopping Center	2.01165e+008	1.0847	9.8610	8.2833	0.0592		0.7494	0.7494		0.7494	0.7494	0.0000	10,734.9469	10,734.9469	0.2058	0.1968	10,798.7393
Regional Shopping Center	2.1609e+008	1.1652	10.5926	8.8978	0.0636		0.8050	0.8050		0.8050	0.8050	0.0000	11,531.3624	11,531.3624	0.2210	0.2114	11,599.8875
Regional Shopping Center	2.69168e+007	0.1451	1.3195	1.1083	7.9200e-003		0.1003	0.1003		0.1003	0.1003	0.0000	1,436.3837	1,436.3837	0.0275	0.0263	1,444.9194
Regional Shopping Center	6.7341e+007	0.3631	3.3010	2.7729	0.0198		0.2509	0.2509		0.2509	0.2509	0.0000	3,593.5708	3,593.5708	0.0689	0.0659	3,614.9256
Regional Shopping Center	9.63412e+006	0.0520	0.4723	0.3967	2.8300e-003		0.0359	0.0359		0.0359	0.0359	0.0000	514.1133	514.1133	9.8500e-003	9.4300e-003	517.1684
Single Family Housing	2.23908e+008	1.2074	10.3173	4.3904	0.0659		0.8342	0.8342		0.8342	0.8342	0.0000	11,948.5748	11,948.5748	0.2290	0.2191	12,019.5792
Single Family Housing	4.73229e+007	0.2552	2.1806	0.9279	0.0139		0.1763	0.1763		0.1763	0.1763	0.0000	2,525.3293	2,525.3293	0.0484	0.0463	2,540.3361
Single Family Housing	6.56246e+008	3.5386	30.2388	12.8676	0.1930		2.4448	2.4448		2.4448	2.4448	0.0000	35,019.7603	35,019.7603	0.6712	0.6420	35,227.8652
Total		**10.2346**	**89.8859**	**55.0159**	**0.5583**		**7.0712**	**7.0712**		**7.0712**	**7.0712**	**0.0000**	**101,286.6074**	**101,286.6074**	**1.9413**	**1.8569**	**101,888.5030**

5.3 Energy by Land Use - Electricity

Unmitigated

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	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	9.42864e+006	2,742.8984	0.1240	0.0257	2,753.6459
Apartments Low Rise	2.08524e+007	6,066.1977	0.2743	0.0568	6,089.9668
Apartments Mid Rise	2.06513e+007	6,007.6931	0.2717	0.0562	6,031.2330
Apartments Mid Rise	305745	88.9447	4.0200e-003	8.3000e-004	89.2932
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	9.17377e+006	2,668.7537	0.1207	0.0250	2,679.2107
General Light Industry	1.25902e+007	3,662.6353	0.1656	0.0343	3,676.9866
General Office Building	6.53505e+007	19,011.1965	0.8596	0.1779	19,085.6881
High School	9.14051e+006	2,659.0803	0.1202	0.0249	2,669.4993
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Junior High School	6.44959e+006	1,876.2588	0.0848	0.0176	1,883.6105
Library	0	0.0000	0.0000	0.0000	0.0000
Office Park	3.80831e+007	11,078.8000	0.5010	0.1037	11,122.2101
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	6.69359e+006	1,947.2410	0.0881	0.0182	1,954.8709
Regional Shopping Center	1.50526e+006	437.8963	0.0198	4.1000e-003	439.6121
Regional Shopping Center	1.53224e+008	44,574.6309	2.0155	0.4170	44,749.2875
Regional Shopping Center	1.64592e+008	47,881.5805	2.1651	0.4479	48,069.1948

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	2.05021e+007	5,964.2839	0.2697	0.0558	5,987.6537
Regional Shopping Center	5.12924e+007	14,921.5544	0.6747	0.1396	14,980.0215
Regional Shopping Center	7.33814e+006	2,134.7484	0.0965	0.0200	2,143.1130
Single Family Housing	1.58569e+007	4,612.9655	0.2086	0.0432	4,631.0405
Single Family Housing	2.19895e+008	63,969.8530	2.8925	0.5985	64,220.5059
Single Family Housing	7.5027e+007	21,826.2080	0.9869	0.2042	21,911.7296
Total		**264,133.4204**	**11.9434**	**2.4711**	**265,168.3736**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	9.42864e+006	2,742.8984	0.1240	0.0257	2,753.6459
Apartments Low Rise	2.08524e+007	6,066.1977	0.2743	0.0568	6,089.9668
Apartments Mid Rise	2.06513e+007	6,007.6931	0.2717	0.0562	6,031.2330
Apartments Mid Rise	305745	88.9447	4.0200e-003	8.3000e-004	89.2932
City Park	0	0.0000	0.0000	0.0000	0.0000

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	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	9.17377e+006	2,668.7537	0.1207	0.0250	2,679.2107
General Light Industry	1.25902e+007	3,662.6353	0.1656	0.0343	3,676.9866
General Office Building	6.53505e+007	19,011.1965	0.8596	0.1779	19,085.6881
High School	9.14051e+006	2,659.0803	0.1202	0.0249	2,669.4993
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Junior High School	6.44959e+006	1,876.2588	0.0848	0.0176	1,883.6105
Library	0	0.0000	0.0000	0.0000	0.0000
Office Park	3.80831e+007	11,078.8000	0.5010	0.1037	11,122.2101
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	6.69359e+006	1,947.2410	0.0881	0.0182	1,954.8709
Regional Shopping Center	1.50526e+006	437.8963	0.0198	4.1000e-003	439.6121
Regional Shopping Center	1.53224e+008	44,574.6309	2.0155	0.4170	44,749.2875
Regional Shopping Center	1.64592e+008	47,881.5805	2.1651	0.4479	48,069.1948
Regional Shopping Center	2.05021e+007	5,964.2839	0.2697	0.0558	5,987.6537
Regional Shopping Center	5.12924e+007	14,921.5544	0.6747	0.1396	14,980.0215
Regional Shopping Center	7.33814e+006	2,134.7484	0.0965	0.0200	2,143.1130
Single Family Housing	1.58569e+007	4,612.9655	0.2086	0.0432	4,631.0405
Single Family Housing	2.19895e+008	63,969.8530	2.8925	0.5985	64,220.5059

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.5027e+007	21,826.2080	0.9869	0.2042	21,911.7296
Total		**264,133.4204**	**11.9434**	**2.4711**	**265,168.3736**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	682.4791	49.7412	365.8045	0.3104		5.6244	5.6244		5.6244	5.6244	0.0000	53,548.8404	53,548.8404	1.5590	0.9713	53,877.2665
Unmitigated	682.4791	49.7412	365.8045	0.3104		5.6244	5.6244		5.6244	5.6244	0.0000	53,548.8404	53,548.8404	1.5590	0.9713	53,877.2665

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	116.5928					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	550.1236					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.3535	45.7477	19.4671	0.2920		3.6988	3.6988		3.6988	3.6988	0.0000	52,980.8312	52,980.8312	1.0155	0.9713	53,295.6698
Landscaping	10.4094	3.9935	346.3373	0.0184		1.9256	1.9256		1.9256	1.9256	0.0000	568.0092	568.0092	0.5435	0.0000	581.5967
Total	**682.4791**	**49.7412**	**365.8045**	**0.3104**		**5.6244**	**5.6244**		**5.6244**	**5.6244**	**0.0000**	**53,548.8404**	**53,548.8404**	**1.5590**	**0.9713**	**53,877.2665**

6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	116.5928					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	550.1236					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.3535	45.7477	19.4671	0.2920		3.6988	3.6988		3.6988	3.6988	0.0000	52,980.8312	52,980.8312	1.0155	0.9713	53,295.6698
Landscaping	10.4094	3.9935	346.3373	0.0184		1.9256	1.9256		1.9256	1.9256	0.0000	568.0092	568.0092	0.5435	0.0000	581.5967
Total	**682.4791**	**49.7412**	**365.8045**	**0.3104**		**5.6244**	**5.6244**		**5.6244**	**5.6244**	**0.0000**	**53,548.8404**	**53,548.8404**	**1.5590**	**0.9713**	**53,877.2665**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	22,933.4321	293.2428	7.0906	32,377.4923
Unmitigated	22,933.4321	293.2428	7.0906	32,377.4923

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	136.628 / 86.135	346.1167	4.4657	0.1080	489.9300
Apartments Low Rise	290.457 / 183.114	735.8075	9.4936	0.2295	1,041.5394
Apartments Mid Rise	303.683 / 191.452	769.3133	9.9259	0.2400	1,088.9671
City Park	0 / 290.281	295.5608	0.0134	2.7700e-003	296.7189
Elementary School	37.8933 / 97.4399	170.8828	1.2419	0.0306	211.0624
General Light Industry	330.1 / 0	624.3434	10.7798	0.2588	970.9734
General Office Building	1273.57 / 780.577	3,203.5797	41.6260	1.0061	4,544.0409
High School	43.2347 / 111.175	194.9702	1.4170	0.0350	240.8134
Junior College (2Yr)	0 / 0	0.0000	0.0000	0.0000	0.0000
Junior High School	18.9454 / 48.7168	85.4359	0.6209	0.0153	105.5244
Library	0 / 0	0.0000	0.0000	0.0000	0.0000
Office Park	580.502 / 355.791	1,460.2097	18.9734	0.4586	2,071.1994
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	23.7455 / 37.1403	82.7275	0.7772	0.0190	107.8102
Regional Shopping Center	3621.41 / 2219.57	9,109.3844	118.3635	2.8608	12,920.9879
Single Family Housing	2311.27 / 1457.11	5,855.1000	75.5445	1.8262	8,287.9248
Total		**22,933.4320**	**293.2428**	**7.0906**	**32,377.4923**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	136.628 / 86.135	346.1167	4.4657	0.1080	489.9300
Apartments Low Rise	290.457 / 183.114	735.8075	9.4936	0.2295	1,041.5394
Apartments Mid Rise	303.683 / 191.452	769.3133	9.9259	0.2400	1,088.9671
City Park	0 / 290.281	295.5608	0.0134	2.7700e-003	296.7189
Elementary School	37.8933 / 97.4399	170.8828	1.2419	0.0306	211.0624
General Light Industry	330.1 / 0	624.3434	10.7798	0.2588	970.9734
General Office Building	1273.57 / 780.577	3,203.5797	41.6260	1.0061	4,544.0409
High School	43.2347 / 111.175	194.9702	1.4170	0.0350	240.8134
Junior College (2Yr)	0 / 0	0.0000	0.0000	0.0000	0.0000
Junior High School	18.9454 / 48.7168	85.4359	0.6209	0.0153	105.5244
Library	0 / 0	0.0000	0.0000	0.0000	0.0000
Office Park	580.502 / 355.791	1,460.2097	18.9734	0.4586	2,071.1994
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	23.7455 / 37.1403	82.7275	0.7772	0.0190	107.8102
Regional Shopping Center	3621.41 / 2219.57	9,109.3844	118.3635	2.8608	12,920.9879
Single Family Housing	2311.27 / 1457.11	5,855.1000	75.5445	1.8262	8,287.9248
Total		**22,933.4320**	**293.2428**	**7.0906**	**32,377.4923**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23,324.9770	1,378.4667	0.0000	57,786.6433
Unmitigated	23,324.9770	1,378.4667	0.0000	57,786.6433

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	964.62	195.8091	11.5720	0.0000	485.1089
Apartments Low Rise	2050.68	416.2695	24.6008	0.0000	1,031.2901
Apartments Mid Rise	2144.06	435.2248	25.7211	0.0000	1,078.2510
City Park	20.95	4.2527	0.2513	0.0000	10.5358
Elementary School	2852.66	579.0642	34.2217	0.0000	1,434.6071
General Light Industry	1770.05	359.3042	21.2343	0.0000	890.1608
General Office Building	6664.03	1,352.7379	79.9445	0.0000	3,351.3508
High School	1791.24	363.6055	21.4885	0.0000	900.8173
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Junior High School	1426.24	289.5138	17.1098	0.0000	717.2583
Library	0	0.0000	0.0000	0.0000	0.0000
Office Park	3037.5	616.5851	36.4391	0.0000	1,527.5634
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	4325.79	878.0963	51.8940	0.0000	2,175.4464
Regional Shopping Center	51334.5	10,420.4396	615.8303	0.0000	25,816.1980
Single Family Housing	36524.2	7,414.0744	438.1592	0.0000	18,368.0555
Total		**23,324.9770**	**1,378.4667**	**0.0000**	**57,786.6433**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	964.62	195.8091	11.5720	0.0000	485.1089
Apartments Low Rise	2050.68	416.2695	24.6008	0.0000	1,031.2901
Apartments Mid Rise	2144.06	435.2248	25.7211	0.0000	1,078.2510
City Park	20.95	4.2527	0.2513	0.0000	10.5358
Elementary School	2852.66	579.0642	34.2217	0.0000	1,434.6071
General Light Industry	1770.05	359.3042	21.2343	0.0000	890.1608
General Office Building	6664.03	1,352.7379	79.9445	0.0000	3,351.3508
High School	1791.24	363.6055	21.4885	0.0000	900.8173
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000
Junior High School	1426.24	289.5138	17.1098	0.0000	717.2583
Library	0	0.0000	0.0000	0.0000	0.0000
Office Park	3037.5	616.5851	36.4391	0.0000	1,527.5634
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	4325.79	878.0963	51.8940	0.0000	2,175.4464
Regional Shopping Center	51334.5	10,420.4396	615.8303	0.0000	25,816.1980
Single Family Housing	36524.2	7,414.0744	438.1592	0.0000	18,368.0555
Total		**23,324.9770**	**1,378.4667**	**0.0000**	**57,786.6433**

9.0 Operational Offroad

-

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fresno SPWA

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1,810.00	Dwelling Unit	517.22	3,258,000.00	5177
Single Family Housing	8,564.00	Dwelling Unit	1,427.41	15,415,200.00	24493
Single Family Housing	25,100.00	Dwelling Unit	2,091.66	45,180,000.00	71786
Apartments Low Rise	4,458.00	Dwelling Unit	278.63	4,458,000.00	12750
Apartments Mid Rise	4,593.00	Dwelling Unit	153.10	4,593,000.00	13136
Apartments High Rise	2,097.00	Dwelling Unit	46.61	2,097,000.00	5997
Regional Shopping Center	2,515.59	1000sqft	57.75	2,515,590.00	0
Regional Shopping Center	900.39	1000sqft	41.34	900,385.00	0
Regional Shopping Center	18,800.50	1000sqft	215.80	18,800,496.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.79	68,000.00	194
General Office Building	7,165.62	1000sqft	82.25	7,165,620.00	0
Office Park	3,266.13	1000sqft	74.98	3,266,129.00	0
Regional Shopping Center	184.69	1000sqft	4.24	184,694.00	0
General Light Industry	1,427.46	1000sqft	32.77	1,427,461.00	0
Regional Shopping Center	20,195.29	1000sqft	309.08	20,195,287.00	0
Regional Shopping Center	6,293.55	1000sqft	96.32	6,293,549.00	0
City Park	243.63	Acre	243.63	10,612,522.80	0
Library	0.00	1000sqft	26.84	0.00	0
Place of Worship	758.91	1000sqft	60.14	758,910.00	0
Junior College (2Yr)	0.00	1000sqft	18.38	0.00	0
Elementary School	15,631.00	Student	91.83	1,306,804.28	0
Junior High School	7,815.00	Student	145.37	918,744.56	0
High School	9,815.00	Student	46.95	1,302,067.49	0
Library	0.00	1000sqft	3.32	0.00	0
Other Asphalt Surfaces	1,010.00	Acre	1,010.00	43,995,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Buildout year = 2035 (note: consistent with traffic report from Kittelson). Assumes construction starts as early as March 1, 2021 (as conservative estimate).

Land Use - Land uses, unit amounts, and acreages are consistent with VMT analysis. Population est. based on 2.97 persons per du (consistent with the City's GP Housing Element). Shopping center uses assumed for mixed use (highest trip gen).

Construction Phase - Construction schedule assumed based on project characteristics. Actual construction schedule will depend on market conditions.

Demolition - Assumption of 1,000,000 sf of building square footage demolished. Actual demolition will depend on market conditions.

Grading - Assume Plan Area is graded.

Vehicle Trips - Operational mobile trip rates as provided by Kittelson & Associates (VMT Analysis).

Trips and VMT - Default values for construction trips and VMT

Woodstoves - No woodstoves per SJVAPCD Rule 4901.

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10,000.00	20.00
tblConstructionPhase	NumDays	15,500.00	65.00
tblConstructionPhase	NumDays	6,000.00	65.00
tblConstructionPhase	NumDays	11,000.00	85.00
tblConstructionPhase	NumDays	155,000.00	3,833.00

tblConstructionPhase	NumDays	11,000.00	3,656.00
tblConstructionPhase	PhaseEndDate	6/27/2059	3/26/2021
tblConstructionPhase	PhaseEndDate	11/24/2141	9/24/2021
tblConstructionPhase	PhaseEndDate	1/23/2184	12/24/2021
tblConstructionPhase	PhaseEndDate	6/26/2082	6/25/2021
tblConstructionPhase	PhaseStartDate	6/27/2082	6/26/2021
tblConstructionPhase	PhaseStartDate	11/25/2141	9/25/2021
tblConstructionPhase	PhaseStartDate	6/28/2059	3/27/2021
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberNoFireplace	943.65	1,153.35
tblFireplaces	NumberNoFireplace	2,006.10	2,451.90
tblFireplaces	NumberNoFireplace	2,097.45	2,563.55
tblFireplaces	NumberNoFireplace	15,963.30	19,510.70
tblGrading	AcresOfGrading	162.50	7,077.00
tblLandUse	LandUseSquareFeet	18,800,500.00	18,800,496.00
tblLandUse	LandUseSquareFeet	3,266,130.00	3,266,129.00
tblLandUse	LandUseSquareFeet	1,427,460.00	1,427,461.00
tblLandUse	LandUseSquareFeet	20,195,300.00	20,195,287.00
tblLandUse	LandUseSquareFeet	6,293,550.00	6,293,549.00
tblLandUse	LotAcreage	587.66	517.22
tblLandUse	LotAcreage	2,780.52	1,427.41
tblLandUse	LotAcreage	8,149.35	2,091.66
tblLandUse	LotAcreage	120.87	153.10
tblLandUse	LotAcreage	33.82	46.61

tblLandUse	LotAcreage	20.67	41.34
tblLandUse	LotAcreage	431.60	215.80
tblLandUse	LotAcreage	164.50	82.25
tblLandUse	LotAcreage	463.62	309.08
tblLandUse	LotAcreage	144.48	96.32
tblLandUse	LotAcreage	17.42	60.14
tblLandUse	LotAcreage	30.00	91.83
tblLandUse	LotAcreage	21.09	145.37
tblLandUse	LotAcreage	29.89	46.95
tblLandUse	LotAcreage	0.00	18.38
tblLandUse	LotAcreage	0.00	26.84
tblLandUse	LotAcreage	0.00	3.32
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	7.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	44.00	0.00

tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
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tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
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tblVehicleTrips	PB_TP	3.00	0.00
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tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	1.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00

tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
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tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	44.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	64.00	100.00
tblVehicleTrips	ST_TR	4.98	3.34
tblVehicleTrips	ST_TR	7.16	5.49
tblVehicleTrips	ST_TR	6.39	4.08
tblVehicleTrips	ST_TR	9.91	7.08
tblVehicleTrips	ST_TR	49.97	12.46
tblVehicleTrips	ST_TR	1.32	3.72
tblVehicleTrips	ST_TR	2.46	7.31
tblVehicleTrips	ST_TR	1.64	5.21
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	0.00	1.42

tblVehicleTrips	ST_TR	0.61	1.52
tblVehicleTrips	ST_TR	11.23	0.00
tblVehicleTrips	ST_TR	0.00	1.60
tblVehicleTrips	ST_TR	46.55	0.00
tblVehicleTrips	ST_TR	10.37	5.21
tblVehicleTrips	SU_TR	3.65	3.34
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tblVehicleTrips	SU_TR	8.62	7.08
tblVehicleTrips	SU_TR	25.24	12.46
tblVehicleTrips	SU_TR	0.68	3.72
tblVehicleTrips	SU_TR	1.05	7.31
tblVehicleTrips	SU_TR	0.76	5.21
tblVehicleTrips	SU_TR	16.74	0.00
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tblVehicleTrips	SU_TR	0.00	1.60
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tblVehicleTrips	SU_TR	36.63	5.21
tblVehicleTrips	WD_TR	4.20	3.34
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tblVehicleTrips	WD_TR	6.65	4.08
tblVehicleTrips	WD_TR	9.52	7.08
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tblVehicleTrips	WD_TR	6.97	3.72
tblVehicleTrips	WD_TR	11.03	7.31

tblVehicleTrips	WD_TR	11.42	5.21
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tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Fresno SPWA - Fresno County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	412.6975	3,192.0816	2,563.0768	12.5728	701.9987	20.4974	722.4961	189.9825	19.4709	209.4534	0.0000	1,288,712.3884	1,288,712.3884	100.9701	0.0000	1,291,236.6410
2021	1,099.9427	2,991.4723	2,708.2576	13.4001	823.6528	13.5586	837.1524	218.4146	12.7633	230.6116	0.0000	1,370,950.6635	1,370,950.6635	99.8070	0.0000	1,373,445.8377
2022	1,068.7477	2,782.7380	2,481.5573	13.1033	809.1928	11.5160	820.7088	218.4161	10.8501	229.2662	0.0000	1,341,286.0044	1,341,286.0044	95.5539	0.0000	1,343,674.8517
2023	992.0280	2,191.8789	2,224.6171	12.6779	809.0715	6.3977	815.4692	218.3841	5.9785	224.3626	0.0000	1,298,291.5309	1,298,291.5309	67.4002	0.0000	1,299,976.5349
2024	970.3711	2,161.3065	2,059.6108	12.3938	809.0744	6.1924	815.2668	218.3851	5.7857	224.1708	0.0000	1,269,867.1110	1,269,867.1110	66.5527	0.0000	1,271,530.9284
2025	951.7322	2,132.1494	1,912.4192	12.1187	809.0778	6.0072	815.0851	218.3864	5.6117	223.9981	0.0000	1,242,327.0667	1,242,327.0667	65.6557	0.0000	1,243,968.4580
2026	935.7807	2,106.0403	1,800.7864	11.9042	809.0808	5.9248	815.0056	218.3874	5.5347	223.9221	0.0000	1,220,812.2302	1,220,812.2302	64.6932	0.0000	1,222,429.5605
2027	920.3108	2,080.7569	1,689.6190	11.6863	809.0837	5.7330	814.8167	218.3885	5.3570	223.7454	0.0000	1,198,988.2439	1,198,988.2439	63.6845	0.0000	1,200,580.3570
2028	904.5874	2,060.9672	1,593.5393	11.4970	809.0866	5.4938	814.5804	218.3895	5.1359	223.5254	0.0000	1,180,044.0446	1,180,044.0446	62.5600	0.0000	1,181,608.0434
2029	888.1456	2,041.8460	1,503.4469	11.3297	809.0889	5.2654	814.3543	218.3903	4.9249	223.3152	0.0000	1,163,307.9709	1,163,307.9709	61.3677	0.0000	1,164,842.1639
2030	871.9026	2,020.1799	1,423.1193	11.1887	809.0909	4.6428	813.7337	218.3911	4.3498	222.7409	0.0000	1,149,157.1724	1,149,157.1724	59.6932	0.0000	1,150,649.5018
2031	854.9621	2,005.2394	1,347.2902	11.0637	809.0926	4.4457	813.5383	218.3917	4.1679	222.5596	0.0000	1,136,681.6773	1,136,681.6773	58.7015	0.0000	1,138,149.2158
2032	839.7662	1,992.4200	1,281.0394	10.9588	809.0943	4.2631	813.3573	218.3923	3.9993	222.3916	0.0000	1,126,228.6323	1,126,228.6323	57.8957	0.0000	1,127,676.0257
2033	826.6257	1,981.6435	1,224.0729	10.8698	809.0957	4.0974	813.1931	218.3928	3.8465	222.2393	0.0000	1,117,375.4378	1,117,375.4378	57.0415	0.0000	1,118,801.4744
2034	815.9120	1,972.7266	1,172.9916	10.7950	809.0970	3.9450	813.0421	218.3933	3.7059	222.0992	0.0000	1,109,951.8234	1,109,951.8234	56.3627	0.0000	1,111,360.8918
2035	806.6812	1,964.4224	1,129.9055	10.7323	809.0983	3.7397	812.8380	218.3937	3.5112	221.9049	0.0000	1,103,729.7711	1,103,729.7711	55.7511	0.0000	1,105,123.5496
Maximum	**1,099.9427**	**3,192.0816**	**2,708.2576**	**13.4001**	**823.6528**	**20.4974**	**837.1524**	**218.4161**	**19.4709**	**230.6116**	**0.0000**	**1,370,950.6635**	**1,370,950.6635**	**100.9701**	**0.0000**	**1,373,445.8377**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

Fresno SPWA - Fresno County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	412.6975	3,192.0816	2,563.0768	12.5728	701.9987	20.4974	722.4961	189.9825	19.4709	209.4534	0.0000	1,288,712.3884	1,288,712.3884	100.9701	0.0000	1,291,236.6409
2021	1,099.9427	2,991.4723	2,708.2576	13.4001	809.1886	13.5586	822.1231	218.4146	12.7633	230.6116	0.0000	1,370,950.6635	1,370,950.6635	99.8070	0.0000	1,373,445.8377
2022	1,068.7477	2,782.7380	2,481.5573	13.1033	809.1928	11.5160	820.7088	218.4161	10.8501	229.2662	0.0000	1,341,286.0044	1,341,286.0044	95.5539	0.0000	1,343,674.8517
2023	992.0280	2,191.8789	2,224.6171	12.6779	809.0715	6.3977	815.4692	218.3841	5.9785	224.3626	0.0000	1,298,291.5309	1,298,291.5309	67.4002	0.0000	1,299,976.5349
2024	970.3711	2,161.3065	2,059.6108	12.3938	809.0744	6.1924	815.2668	218.3851	5.7857	224.1708	0.0000	1,269,867.1110	1,269,867.1110	66.5527	0.0000	1,271,530.9284
2025	951.7322	2,132.1494	1,912.4192	12.1187	809.0778	6.0072	815.0851	218.3864	5.6117	223.9981	0.0000	1,242,327.0667	1,242,327.0667	65.6557	0.0000	1,243,968.4580
2026	935.7807	2,106.0403	1,800.7864	11.9042	809.0808	5.9248	815.0056	218.3874	5.5347	223.9221	0.0000	1,220,812.2302	1,220,812.2302	64.6932	0.0000	1,222,429.5605
2027	920.3108	2,080.7569	1,689.6190	11.6863	809.0837	5.7330	814.8167	218.3885	5.3570	223.7454	0.0000	1,198,988.2439	1,198,988.2439	63.6845	0.0000	1,200,580.3570
2028	904.5874	2,060.9672	1,593.5393	11.4970	809.0866	5.4938	814.5804	218.3895	5.1359	223.5254	0.0000	1,180,044.0446	1,180,044.0446	62.5600	0.0000	1,181,608.0434
2029	888.1456	2,041.8460	1,503.4469	11.3297	809.0889	5.2654	814.3543	218.3903	4.9249	223.3152	0.0000	1,163,307.9709	1,163,307.9709	61.3677	0.0000	1,164,842.1639
2030	871.9026	2,020.1799	1,423.1193	11.1887	809.0909	4.6428	813.7337	218.3911	4.3498	222.7409	0.0000	1,149,157.1724	1,149,157.1724	59.6932	0.0000	1,150,649.5018
2031	854.9621	2,005.2394	1,347.2902	11.0637	809.0926	4.4457	813.5383	218.3917	4.1679	222.5596	0.0000	1,136,681.6773	1,136,681.6773	58.7015	0.0000	1,138,149.2158
2032	839.7662	1,992.4200	1,281.0394	10.9588	809.0943	4.2631	813.3573	218.3923	3.9993	222.3916	0.0000	1,126,228.6323	1,126,228.6323	57.8957	0.0000	1,127,676.0257
2033	826.6257	1,981.6435	1,224.0729	10.8698	809.0957	4.0974	813.1931	218.3928	3.8465	222.2393	0.0000	1,117,375.4378	1,117,375.4378	57.0415	0.0000	1,118,801.4744
2034	815.9120	1,972.7266	1,172.9916	10.7950	809.0970	3.9450	813.0421	218.3933	3.7059	222.0992	0.0000	1,109,951.8234	1,109,951.8234	56.3627	0.0000	1,111,360.8917
2035	806.6812	1,964.4224	1,129.9055	10.7323	809.0983	3.7397	812.8380	218.3937	3.5112	221.9049	0.0000	1,103,729.7711	1,103,729.7711	55.7511	0.0000	1,105,123.5496
Maximum	**1,099.9427**	**3,192.0816**	**2,708.2576**	**13.4001**	**809.1928**	**20.4974**	**822.1231**	**218.4161**	**19.4709**	**230.6116**	**0.0000**	**1,370,950.6635**	**1,370,950.6635**	**100.9701**	**0.0000**	**1,373,445.8377**

Fresno SPWA - Fresno County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244
Energy	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729
Mobile	1,236.8201	16,638.6949	11,294.0658	94.2709	6,655.7054	34.3510	6,690.0564	1,788.2637	32.2749	1,820.5386		9,718,550.8417	9,718,550.8417	651.0888		9,734,828.0614
Total	**5,192.3715**	**18,291.3909**	**15,918.5231**	**104.6560**	**6,655.7054**	**184.7063**	**6,840.4117**	**1,788.2637**	**182.6301**	**1,970.8938**	**0.0000**	**11,761,708.7963**	**11,761,708.7963**	**696.7727**	**37.3304**	**11,790,252.5587**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244
Energy	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729
Mobile	1,236.8201	16,638.6949	11,294.0658	94.2709	6,655.7054	34.3510	6,690.0564	1,788.2637	32.2749	1,820.5386		9,718,550.8417	9,718,550.8417	651.0888		9,734,828.0614
Total	**5,192.3715**	**18,291.3909**	**15,918.5231**	**104.6560**	**6,655.7054**	**184.7063**	**6,840.4117**	**1,788.2637**	**182.6301**	**1,970.8938**	**0.0000**	**11,761,708.7963**	**11,761,708.7963**	**696.7727**	**37.3304**	**11,790,252.5587**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	4/23/2020	1/1/2035	5	3833	
2	Demolition	Demolition	3/1/2021	3/26/2021	5	20	
3	Site Preparation	Site Preparation	3/27/2021	6/25/2021	5	65	
4	Grading	Grading	6/26/2021	9/24/2021	5	65	
5	Underground Utilities	Trenching	9/25/2021	12/24/2021	5	65	
6	Paving	Paving	12/25/2021	4/22/2022	5	85	
7	Architectural Coating	Architectural Coating	12/25/2021	12/31/2035	5	3656	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 7077

Acres of Paving: 1010

Residential Indoor: 152,015,130; Residential Outdoor: 50,671,710; Non-Residential Indoor: 97,553,606; Non-Residential Outdoor: 32,517,869; Striped Parking Area: 2,639,736 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Scrapers	2	8.00	367	0.48
Underground Utilities	Pavers	2	8.00	130	0.42
Underground Utilities	Paving Equipment	2	8.00	132	0.36
Underground Utilities	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Underground Utilities	Pavers	2	8.00	130	0.42
Underground Utilities	Paving Equipment	2	8.00	132	0.36
Underground Utilities	Rollers	2	8.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	4,548.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13,033.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	65,164.00	24,601.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	12	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	90.5121	3,006.6809	450.6505	7.0709	166.6919	16.0296	182.7215	47.9942	15.3350	63.3291		741,066.9105	741,066.9105	85.5914		743,206.6964
Worker	320.0656	166.2147	2,095.5778	5.4749	535.3068	3.3508	538.6576	141.9883	3.0856	145.0740		545,092.4149	545,092.4149	14.7558		545,461.3101
Total	**410.5777**	**3,172.8956**	**2,546.2283**	**12.5459**	**701.9987**	**19.3804**	**721.3791**	**189.9825**	**18.4206**	**208.4031**		**1,286,159.3254**	**1,286,159.3254**	**100.3473**		**1,288,668.0065**

3.2 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	90.5121	3,006.6809	450.6505	7.0709	166.6919	16.0296	182.7215	47.9942	15.3350	63.3291		741,066.9105	741,066.9105	85.5914		743,206.6964
Worker	320.0656	166.2147	2,095.5778	5.4749	535.3068	3.3508	538.6576	141.9883	3.0856	145.0740		545,092.4149	545,092.4149	14.7558		545,461.3101
Total	**410.5777**	**3,172.8956**	**2,546.2283**	**12.5459**	**701.9987**	**19.3804**	**721.3791**	**189.9825**	**18.4206**	**208.4031**		**1,286,159.3254**	**1,286,159.3254**	**100.3473**		**1,288,668.0065**

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	72.9742	2,737.0951	388.5894	7.0040	166.6956	7.3118	174.0074	47.9955	6.9945	54.9899		734,103.5606	734,103.5606	82.6925		736,170.8724
Worker	295.4805	147.9466	1,905.1482	5.2851	535.3068	3.2428	538.5497	141.9883	2.9858	144.9742		526,401.9107	526,401.9107	13.1352		526,730.2909
Total	**368.4546**	**2,885.0417**	**2,293.7376**	**12.2892**	**702.0024**	**10.5547**	**712.5571**	**189.9838**	**9.9803**	**199.9641**		**1,260,505.4713**	**1,260,505.4713**	**95.8277**		**1,262,901.1632**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	72.9742	2,737.0951	388.5894	7.0040	166.6956	7.3118	174.0074	47.9955	6.9945	54.9899		734,103.5606	734,103.5606	82.6925		736,170.8724
Worker	295.4805	147.9466	1,905.1482	5.2851	535.3068	3.2428	538.5497	141.9883	2.9858	144.9742		526,401.9107	526,401.9107	13.1352		526,730.2909
Total	**368.4546**	**2,885.0417**	**2,293.7376**	**12.2892**	**702.0024**	**10.5547**	**712.5571**	**189.9838**	**9.9803**	**199.9641**		**1,260,505.4713**	**1,260,505.4713**	**95.8277**		**1,262,901.1632**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	67.8693	2,595.9935	359.5814	6.9374	166.6998	6.2780	172.9778	47.9970	6.0054	54.0024		727,159.7463	727,159.7463	80.1456		729,163.3852
Worker	274.0443	132.1372	1,740.6770	5.0934	535.3068	3.1489	538.4557	141.9883	2.8989	144.8872		507,470.3707	507,470.3707	11.7178		507,763.3151
Total	**341.9136**	**2,728.1307**	**2,100.2584**	**12.0307**	**702.0066**	**9.4268**	**711.4334**	**189.9853**	**8.9043**	**198.8896**		**1,234,630.1170**	**1,234,630.1170**	**91.8633**		**1,236,926.7003**

3.2 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	67.8693	2,595.9935	359.5814	6.9374	166.6998	6.2780	172.9778	47.9970	6.0054	54.0024		727,159.7463	727,159.7463	80.1456		729,163.3852
Worker	274.0443	132.1372	1,740.6770	5.0934	535.3068	3.1489	538.4557	141.9883	2.8989	144.8872		507,470.3707	507,470.3707	11.7178		507,763.3151
Total	**341.9136**	**2,728.1307**	**2,100.2584**	**12.0307**	**702.0066**	**9.4268**	**711.4334**	**189.9853**	**8.9043**	**198.8896**		**1,234,630.1170**	**1,234,630.1170**	**91.8633**		**1,236,926.7003**

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	46.5543	2,034.2147	295.3826	6.7671	166.7017	1.9454	168.6471	47.9976	1.8603	49.8580		709,354.0593	709,354.0593	54.2315		710,709.8478
Worker	254.9105	118.3133	1,592.6453	4.9007	535.3068	3.0681	538.3749	141.9883	2.8241	144.8125		488,416.0956	488,416.0956	10.4533		488,677.4268
Total	**301.4648**	**2,152.5280**	**1,888.0280**	**11.6678**	**702.0085**	**5.0135**	**707.0220**	**189.9860**	**4.6845**	**194.6704**		**1,197,770.1548**	**1,197,770.1548**	**64.6848**		**1,199,387.2746**

3.2 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	46.5543	2,034.2147	295.3826	6.7671	166.7017	1.9454	168.6471	47.9976	1.8603	49.8580		709,354.0593	709,354.0593	54.2315		710,709.8478
Worker	254.9105	118.3133	1,592.6453	4.9007	535.3068	3.0681	538.3749	141.9883	2.8241	144.8125		488,416.0956	488,416.0956	10.4533		488,677.4268
Total	**301.4648**	**2,152.5280**	**1,888.0280**	**11.6678**	**702.0085**	**5.0135**	**707.0220**	**189.9860**	**4.6845**	**194.6704**		**1,197,770.1548**	**1,197,770.1548**	**64.6848**		**1,199,387.2746**

3.2 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	45.3090	2,019.0071	280.8883	6.7144	166.7046	1.9265	168.6311	47.9987	1.8423	49.8410		703,854.7644	703,854.7644	54.7051		705,222.3924
Worker	237.9942	106.3638	1,467.2842	4.7079	535.3068	2.9931	538.2999	141.9883	2.7546	144.7430		469,311.4660	469,311.4660	9.3561		469,545.3691
Total	**283.3033**	**2,125.3709**	**1,748.1725**	**11.4223**	**702.0114**	**4.9195**	**706.9310**	**189.9870**	**4.5969**	**194.5839**		**1,173,166.2304**	**1,173,166.2304**	**64.0612**		**1,174,767.7616**

3.2 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	45.3090	2,019.0071	280.8883	6.7144	166.7046	1.9265	168.6311	47.9987	1.8423	49.8410		703,854.7644	703,854.7644	54.7051		705,222.3924
Worker	237.9942	106.3638	1,467.2842	4.7079	535.3068	2.9931	538.2999	141.9883	2.7546	144.7430		469,311.4660	469,311.4660	9.3561		469,545.3691
Total	**283.3033**	**2,125.3709**	**1,748.1725**	**11.4223**	**702.0114**	**4.9195**	**706.9310**	**189.9870**	**4.5969**	**194.5839**		**1,173,166.2304**	**1,173,166.2304**	**64.0612**		**1,174,767.7616**

3.2 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	44.2701	2,003.1771	269.8170	6.6657	166.7080	1.9062	168.6142	47.9999	1.8229	49.8228		698,756.8869	698,756.8869	54.9264		700,130.0478
Worker	223.4227	96.1307	1,353.9202	4.5193	535.3068	2.9350	538.2418	141.9883	2.7009	144.6892		450,609.0620	450,609.0620	8.4274		450,819.7472
Total	**267.6928**	**2,099.3078**	**1,623.7372**	**11.1849**	**702.0148**	**4.8412**	**706.8560**	**189.9883**	**4.5238**	**194.5121**		**1,149,365.9489**	**1,149,365.9489**	**63.3539**		**1,150,949.7949**

3.2 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	44.2701	2,003.1771	269.8170	6.6657	166.7080	1.9062	168.6142	47.9999	1.8229	49.8228		698,756.8869	698,756.8869	54.9264		700,130.0478
Worker	223.4227	96.1307	1,353.9202	4.5193	535.3068	2.9350	538.2418	141.9883	2.7009	144.6892		450,609.0620	450,609.0620	8.4274		450,819.7472
Total	**267.6928**	**2,099.3078**	**1,623.7372**	**11.1849**	**702.0148**	**4.8412**	**706.8560**	**189.9883**	**4.5238**	**194.5121**		**1,149,365.9489**	**1,149,365.9489**	**63.3539**		**1,150,949.7949**

3.2 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	43.3599	1,987.1713	260.8448	6.6218	166.7109	1.8837	168.5946	48.0010	1.8014	49.8024		694,173.1137	694,173.1137	54.7919		695,542.9104
Worker	210.8883	87.7113	1,268.3699	4.3770	535.3068	2.8850	538.1919	141.9883	2.6546	144.6429		436,499.8787	436,499.8787	7.7375		436,693.3166
Total	**254.2483**	**2,074.8826**	**1,529.2147**	**10.9988**	**702.0177**	**4.7687**	**706.7865**	**189.9893**	**4.4560**	**194.4453**		**1,130,672.9923**	**1,130,672.9923**	**62.5294**		**1,132,236.2270**

3.2 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	43.3599	1,987.1713	260.8448	6.6218	166.7109	1.8837	168.5946	48.0010	1.8014	49.8024		694,173.1137	694,173.1137	54.7919		695,542.9104
Worker	210.8883	87.7113	1,268.3699	4.3770	535.3068	2.8850	538.1919	141.9883	2.6546	144.6429		436,499.8787	436,499.8787	7.7375		436,693.3166
Total	**254.2483**	**2,074.8826**	**1,529.2147**	**10.9988**	**702.0177**	**4.7687**	**706.7865**	**189.9893**	**4.4560**	**194.4453**		**1,130,672.9923**	**1,130,672.9923**	**62.5294**		**1,132,236.2270**

3.2 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.6029	1,971.1069	253.6597	6.5839	166.7138	1.8596	168.5735	48.0020	1.7784	49.7804		690,203.2777	690,203.2777	54.6347		691,569.1462
Worker	198.6276	80.0288	1,181.7182	4.2271	535.3068	2.7453	538.0521	141.9883	2.5257	144.5140		421,621.4581	421,621.4581	7.0279		421,797.1553
Total	**241.2305**	**2,051.1357**	**1,435.3779**	**10.8109**	**702.0207**	**4.6049**	**706.6256**	**189.9904**	**4.3041**	**194.2944**		**1,111,824.7359**	**1,111,824.7359**	**61.6626**		**1,113,366.3014**

3.2 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.6029	1,971.1069	253.6597	6.5839	166.7138	1.8596	168.5735	48.0020	1.7784	49.7804		690,203.2777	690,203.2777	54.6347		691,569.1462
Worker	198.6276	80.0288	1,181.7182	4.2271	535.3068	2.7453	538.0521	141.9883	2.5257	144.5140		421,621.4581	421,621.4581	7.0279		421,797.1553
Total	**241.2305**	**2,051.1357**	**1,435.3779**	**10.8109**	**702.0207**	**4.6049**	**706.6256**	**189.9904**	**4.3041**	**194.2944**		**1,111,824.7359**	**1,111,824.7359**	**61.6626**		**1,113,366.3014**

3.2 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.0015	1,959.5149	248.1931	6.5538	166.7167	1.8425	168.5593	48.0031	1.7621	49.7651		687,057.5875	687,057.5875	54.2381		688,413.5387
Worker	186.0259	73.1974	1,106.2075	4.0944	535.3068	2.5602	537.8670	141.9883	2.3551	144.3434		408,456.0676	408,456.0676	6.4213		408,616.6006
Total	**228.0275**	**2,032.7123**	**1,354.4006**	**10.6482**	**702.0236**	**4.4027**	**706.4262**	**189.9914**	**4.1171**	**194.1085**		**1,095,513.6551**	**1,095,513.6551**	**60.6594**		**1,097,030.1393**

3.2 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.0015	1,959.5149	248.1931	6.5538	166.7167	1.8425	168.5593	48.0031	1.7621	49.7651		687,057.5875	687,057.5875	54.2381		688,413.5387
Worker	186.0259	73.1974	1,106.2075	4.0944	535.3068	2.5602	537.8670	141.9883	2.3551	144.3434		408,456.0676	408,456.0676	6.4213		408,616.6006
Total	**228.0275**	**2,032.7123**	**1,354.4006**	**10.6482**	**702.0236**	**4.4027**	**706.4262**	**189.9914**	**4.1171**	**194.1085**		**1,095,513.6551**	**1,095,513.6551**	**60.6594**		**1,097,030.1393**

3.2 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	41.4471	1,947.8784	243.2659	6.5273	166.7191	1.8227	168.5418	48.0039	1.7431	49.7470		684,286.7125	684,286.7125	53.7247		685,629.8297
Worker	172.7866	66.9602	1,035.2367	3.9771	535.3068	2.3863	537.6932	141.9883	2.1950	144.1833		396,818.4317	396,818.4317	5.8556		396,964.8216
Total	**214.2336**	**2,014.8386**	**1,278.5026**	**10.5044**	**702.0259**	**4.2090**	**706.2349**	**189.9922**	**3.9381**	**193.9304**		**1,081,105.1442**	**1,081,105.1442**	**59.5803**		**1,082,594.6513**

3.2 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	41.4471	1,947.8784	243.2659	6.5273	166.7191	1.8227	168.5418	48.0039	1.7431	49.7470		684,286.7125	684,286.7125	53.7247		685,629.8297
Worker	172.7866	66.9602	1,035.2367	3.9771	535.3068	2.3863	537.6932	141.9883	2.1950	144.1833		396,818.4317	396,818.4317	5.8556		396,964.8216
Total	**214.2336**	**2,014.8386**	**1,278.5026**	**10.5044**	**702.0259**	**4.2090**	**706.2349**	**189.9922**	**3.9381**	**193.9304**		**1,081,105.1442**	**1,081,105.1442**	**59.5803**		**1,082,594.6513**

3.2 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	41.0003	1,937.8103	239.4643	6.5066	166.7211	1.8035	168.5246	48.0046	1.7248	49.7294		682,115.9350	682,115.9350	53.1421		683,444.4862
Worker	159.7050	61.3155	971.4144	3.8735	535.3068	2.2257	537.5326	141.9883	2.0472	144.0355		386,550.8802	386,550.8802	5.3529		386,684.7026
Total	**200.7053**	**1,999.1258**	**1,210.8787**	**10.3801**	**702.0279**	**4.0292**	**706.0571**	**189.9930**	**3.7719**	**193.7649**		**1,068,666.8152**	**1,068,666.8152**	**58.4950**		**1,070,129.1888**

3.2 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	41.0003	1,937.8103	239.4643	6.5066	166.7211	1.8035	168.5246	48.0046	1.7248	49.7294		682,115.9350	682,115.9350	53.1421		683,444.4862
Worker	159.7050	61.3155	971.4144	3.8735	535.3068	2.2257	537.5326	141.9883	2.0472	144.0355		386,550.8802	386,550.8802	5.3529		386,684.7026
Total	**200.7053**	**1,999.1258**	**1,210.8787**	**10.3801**	**702.0279**	**4.0292**	**706.0571**	**189.9930**	**3.7719**	**193.7649**		**1,068,666.8152**	**1,068,666.8152**	**58.4950**		**1,070,129.1888**

3.2 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.6604	1,929.2619	236.5592	6.4909	166.7228	1.7881	168.5109	48.0053	1.7100	49.7153		680,469.2619	680,469.2619	52.7129		681,787.0854
Worker	145.8713	55.9887	910.6445	3.7824	535.3068	2.0743	537.3811	141.9883	1.9079	143.8962		377,526.8849	377,526.8849	4.8841		377,648.9880
Total	**186.5316**	**1,985.2506**	**1,147.2038**	**10.2733**	**702.0296**	**3.8624**	**705.8920**	**189.9936**	**3.6179**	**193.6115**		**1,057,996.1468**	**1,057,996.1468**	**57.5971**		**1,059,436.0734**

3.2 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.6604	1,929.2619	236.5592	6.4909	166.7228	1.7881	168.5109	48.0053	1.7100	49.7153		680,469.2619	680,469.2619	52.7129		681,787.0854
Worker	145.8713	55.9887	910.6445	3.7824	535.3068	2.0743	537.3811	141.9883	1.9079	143.8962		377,526.8849	377,526.8849	4.8841		377,648.9880
Total	**186.5316**	**1,985.2506**	**1,147.2038**	**10.2733**	**702.0296**	**3.8624**	**705.8920**	**189.9936**	**3.6179**	**193.6115**		**1,057,996.1468**	**1,057,996.1468**	**57.5971**		**1,059,436.0734**

3.2 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.3891	1,921.9416	234.3345	6.4814	166.7244	1.7729	168.4973	48.0059	1.6954	49.7013		679,471.9449	679,471.9449	52.3946		680,781.8106
Worker	133.4341	51.4062	857.2897	3.7029	535.3068	1.9348	537.2416	141.9883	1.7795	143.7679		369,647.1318	369,647.1318	4.4779		369,759.0788
Total	**173.8232**	**1,973.3477**	**1,091.6242**	**10.1842**	**702.0313**	**3.7077**	**705.7389**	**189.9942**	**3.4750**	**193.4692**		**1,049,119.0767**	**1,049,119.0767**	**56.8725**		**1,050,540.8894**

3.2 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.3891	1,921.9416	234.3345	6.4814	166.7244	1.7729	168.4973	48.0059	1.6954	49.7013		679,471.9449	679,471.9449	52.3946		680,781.8106
Worker	133.4341	51.4062	857.2897	3.7029	535.3068	1.9348	537.2416	141.9883	1.7795	143.7679		369,647.1318	369,647.1318	4.4779		369,759.0788
Total	**173.8232**	**1,973.3477**	**1,091.6242**	**10.1842**	**702.0313**	**3.7077**	**705.7389**	**189.9942**	**3.4750**	**193.4692**		**1,049,119.0767**	**1,049,119.0767**	**56.8725**		**1,050,540.8894**

3.2 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.1953	1,915.8264	232.6546	6.4752	166.7259	1.7606	168.4865	48.0064	1.6837	49.6901		678,826.0698	678,826.0698	51.9576		680,125.0109
Worker	122.6452	47.5217	811.2176	3.6338	535.3068	1.8069	537.1138	141.9883	1.6620	143.6503		362,807.7163	362,807.7163	4.1302		362,910.9700
Total	**162.8405**	**1,963.3481**	**1,043.8722**	**10.1091**	**702.0327**	**3.5676**	**705.6003**	**189.9947**	**3.3457**	**193.3404**		**1,041,633.7862**	**1,041,633.7862**	**56.0878**		**1,043,035.9809**

3.2 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.1953	1,915.8264	232.6546	6.4752	166.7259	1.7606	168.4865	48.0064	1.6837	49.6901		678,826.0698	678,826.0698	51.9576		680,125.0109
Worker	122.6452	47.5217	811.2176	3.6338	535.3068	1.8069	537.1138	141.9883	1.6620	143.6503		362,807.7163	362,807.7163	4.1302		362,910.9700
Total	**162.8405**	**1,963.3481**	**1,043.8722**	**10.1091**	**702.0327**	**3.5676**	**705.6003**	**189.9947**	**3.3457**	**193.3404**		**1,041,633.7862**	**1,041,633.7862**	**56.0878**		**1,043,035.9809**

3.2 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.0289	1,910.6177	231.1490	6.4720	166.7272	1.7490	168.4762	48.0068	1.6726	49.6795		678,489.0003	678,489.0003	51.6454		679,780.1340
Worker	113.8558	44.4316	769.9045	3.5742	535.3068	1.6896	536.9965	141.9883	1.5541	143.5424		356,902.2774	356,902.2774	3.8248		356,997.8970
Total	**153.8847**	**1,955.0492**	**1,001.0536**	**10.0462**	**702.0340**	**3.4386**	**705.4727**	**189.9952**	**3.2267**	**193.2218**		**1,035,391.2777**	**1,035,391.2777**	**55.4701**		**1,036,778.0310**

3.2 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	40.0289	1,910.6177	231.1490	6.4720	166.7272	1.7490	168.4762	48.0068	1.6726	49.6795		678,489.0003	678,489.0003	51.6454		679,780.1340
Worker	113.8558	44.4316	769.9045	3.5742	535.3068	1.6896	536.9965	141.9883	1.5541	143.5424		356,902.2774	356,902.2774	3.8248		356,997.8970
Total	**153.8847**	**1,955.0492**	**1,001.0536**	**10.0462**	**702.0340**	**3.4386**	**705.4727**	**189.9952**	**3.2267**	**193.2218**		**1,035,391.2777**	**1,035,391.2777**	**55.4701**		**1,036,778.0310**

3.2 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	**1.2168**	**7.1613**	**16.1178**	**0.0310**		**0.0904**	**0.0904**		**0.0904**	**0.0904**		**2,897.5468**	**2,897.5468**	**0.1079**		**2,900.2448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	39.8827	1,906.0507	229.8885	6.4703	166.7285	1.7384	168.4668	48.0073	1.6624	49.6697		678,310.5556	678,310.5556	51.3480		679,594.2563
Worker	106.3729	42.0437	735.0856	3.5234	535.3068	1.5841	536.8910	141.9883	1.4570	143.4454		351,865.9507	351,865.9507	3.5707		351,955.2169
Total	**146.2557**	**1,948.0945**	**964.9741**	**9.9937**	**702.0353**	**3.3225**	**705.3578**	**189.9956**	**3.1195**	**193.1151**		**1,030,176.5062**	**1,030,176.5062**	**54.9187**		**1,031,549.4732**

3.2 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	**1.2168**	**7.1613**	**16.1178**	**0.0310**		**0.0904**	**0.0904**		**0.0904**	**0.0904**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1079**		**2,900.2448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	39.8827	1,906.0507	229.8885	6.4703	166.7285	1.7384	168.4668	48.0073	1.6624	49.6697		678,310.5556	678,310.5556	51.3480		679,594.2563
Worker	106.3729	42.0437	735.0856	3.5234	535.3068	1.5841	536.8910	141.9883	1.4570	143.4454		351,865.9507	351,865.9507	3.5707		351,955.2169
Total	**146.2557**	**1,948.0945**	**964.9741**	**9.9937**	**702.0353**	**3.3225**	**705.3578**	**189.9956**	**3.1195**	**193.1151**		**1,030,176.5062**	**1,030,176.5062**	**54.9187**		**1,031,549.4732**

3.3 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.2177	0.0000	49.2177	7.4520	0.0000	7.4520			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**49.2177**	**1.5513**	**50.7690**	**7.4520**	**1.4411**	**8.8931**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6853	57.5238	7.8394	0.1813	3.9814	0.1912	4.1726	1.0917	0.1829	1.2746		19,032.7739	19,032.7739	1.5488		19,071.4926
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0341	0.4385	1.2200e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		121.1716	121.1716	3.0200e-003		121.2472
Total	**1.7533**	**57.5579**	**8.2779**	**0.1825**	**4.1046**	**0.1920**	**4.2966**	**1.1244**	**0.1836**	**1.3080**		**19,153.9456**	**19,153.9456**	**1.5518**		**19,192.7398**

3.3 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					22.1480	0.0000	22.1480	3.3534	0.0000	3.3534			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**22.1480**	**1.5513**	**23.6993**	**3.3534**	**1.4411**	**4.7945**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6853	57.5238	7.8394	0.1813	3.9814	0.1912	4.1726	1.0917	0.1829	1.2746		19,032.7739	19,032.7739	1.5488		19,071.4926
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0341	0.4385	1.2200e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		121.1716	121.1716	3.0200e-003		121.2472
Total	**1.7533**	**57.5579**	**8.2779**	**0.1825**	**4.1046**	**0.1920**	**4.2966**	**1.1244**	**0.1836**	**1.3080**		**19,153.9456**	**19,153.9456**	**1.5518**		**19,192.7398**

3.4 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0409	0.5263	1.4600e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		145.4060	145.4060	3.6300e-003		145.4967
Total	**0.0816**	**0.0409**	**0.5263**	**1.4600e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**145.4060**	**145.4060**	**3.6300e-003**		**145.4967**

3.4 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0409	0.5263	1.4600e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		145.4060	145.4060	3.6300e-003		145.4967
Total	**0.0816**	**0.0409**	**0.5263**	**1.4600e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**145.4060**	**145.4060**	**3.6300e-003**		**145.4967**

3.5 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					121.4861	0.0000	121.4861	15.7776	0.0000	15.7776			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**121.4861**	**1.9853**	**123.4714**	**15.7776**	**1.8265**	**17.6041**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0454	0.5847	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		161.5622	161.5622	4.0300e-003		161.6630
Total	**0.0907**	**0.0454**	**0.5847**	**1.6200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**161.5622**	**161.5622**	**4.0300e-003**		**161.6630**

3.5 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					54.6688	0.0000	54.6688	7.0999	0.0000	7.0999			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**54.6688**	**1.9853**	**56.6541**	**7.0999**	**1.8265**	**8.9264**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0454	0.5847	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		161.5622	161.5622	4.0300e-003		161.6630
Total	**0.0907**	**0.0454**	**0.5847**	**1.6200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**161.5622**	**161.5622**	**4.0300e-003**		**161.6630**

3.6 Underground Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5111	25.8382	29.3065	0.0456		1.3555	1.3555		1.2470	1.2470		4,414.4217	4,414.4217	1.4277		4,450.1146
Total	**2.5111**	**25.8382**	**29.3065**	**0.0456**		**1.3555**	**1.3555**		**1.2470**	**1.2470**		**4,414.4217**	**4,414.4217**	**1.4277**		**4,450.1146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1360	0.0681	0.8771	2.4300e-003	0.4606	1.4900e-003	0.4621	0.1179	1.3700e-003	0.1193		242.3433	242.3433	6.0500e-003		242.4945
Total	**0.1360**	**0.0681**	**0.8771**	**2.4300e-003**	**0.4606**	**1.4900e-003**	**0.4621**	**0.1179**	**1.3700e-003**	**0.1193**		**242.3433**	**242.3433**	**6.0500e-003**		**242.4945**

3.6 Underground Utilities - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5111	25.8382	29.3065	0.0456		1.3555	1.3555		1.2470	1.2470	0.0000	4,414.4217	4,414.4217	1.4277		4,450.1146
Total	**2.5111**	**25.8382**	**29.3065**	**0.0456**		**1.3555**	**1.3555**		**1.2470**	**1.2470**	**0.0000**	**4,414.4217**	**4,414.4217**	**1.4277**		**4,450.1146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1360	0.0681	0.8771	2.4300e-003	0.4606	1.4900e-003	0.4621	0.1179	1.3700e-003	0.1193		242.3433	242.3433	6.0500e-003		242.4945
Total	**0.1360**	**0.0681**	**0.8771**	**2.4300e-003**	**0.4606**	**1.4900e-003**	**0.4621**	**0.1179**	**1.3700e-003**	**0.1193**		**242.3433**	**242.3433**	**6.0500e-003**		**242.4945**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.3873**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0341	0.4385	1.2200e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		121.1716	121.1716	3.0200e-003		121.2472
Total	**0.0680**	**0.0341**	**0.4385**	**1.2200e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**121.1716**	**121.1716**	**3.0200e-003**		**121.2472**

3.7 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.3873**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0680	0.0341	0.4385	1.2200e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		121.1716	121.1716	3.0200e-003		121.2472
Total	**0.0680**	**0.0341**	**0.4385**	**1.2200e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**121.1716**	**121.1716**	**3.0200e-003**		**121.2472**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.2346**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.0631**	**0.0304**	**0.4007**	**1.1700e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**116.8138**	**116.8138**	**2.7000e-003**		**116.8813**

3.7 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.2346**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.0631**	**0.0304**	**0.4007**	**1.1700e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**116.8138**	**116.8138**	**2.7000e-003**		**116.8813**

3.8 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**638.0348**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	59.0970	29.5898	381.0355	1.0570	107.0630	0.6486	107.7116	28.3981	0.5972	28.9953		105,281.9978	105,281.9978	2.6271		105,347.6748
Total	**59.0970**	**29.5898**	**381.0355**	**1.0570**	**107.0630**	**0.6486**	**107.7116**	**28.3981**	**0.5972**	**28.9953**		**105,281.9978**	**105,281.9978**	**2.6271**		**105,347.6748**

3.8 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**638.0348**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	59.0970	29.5898	381.0355	1.0570	107.0630	0.6486	107.7116	28.3981	0.5972	28.9953		105,281.9978	105,281.9978	2.6271		105,347.6748
Total	**59.0970**	**29.5898**	**381.0355**	**1.0570**	**107.0630**	**0.6486**	**107.7116**	**28.3981**	**0.5972**	**28.9953**		**105,281.9978**	**105,281.9978**	**2.6271**		**105,347.6748**

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**638.0205**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	54.8097	26.4278	348.1408	1.0187	107.0630	0.6298	107.6928	28.3981	0.5798	28.9779		101,495.6317	101,495.6317	2.3436		101,554.2214
Total	**54.8097**	**26.4278**	**348.1408**	**1.0187**	**107.0630**	**0.6298**	**107.6928**	**28.3981**	**0.5798**	**28.9779**		**101,495.6317**	**101,495.6317**	**2.3436**		**101,554.2214**

3.8 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**638.0205**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	54.8097	26.4278	348.1408	1.0187	107.0630	0.6298	107.6928	28.3981	0.5798	28.9779		101,495.6317	101,495.6317	2.3436		101,554.2214
Total	**54.8097**	**26.4278**	**348.1408**	**1.0187**	**107.0630**	**0.6298**	**107.6928**	**28.3981**	**0.5798**	**28.9779**		**101,495.6317**	**101,495.6317**	**2.3436**		**101,554.2214**

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**638.0076**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	50.9829	23.6630	318.5340	0.9802	107.0630	0.6136	107.6766	28.3981	0.5648	28.9629		97,684.7182	97,684.7182	2.0907		97,736.9852
Total	**50.9829**	**23.6630**	**318.5340**	**0.9802**	**107.0630**	**0.6136**	**107.6766**	**28.3981**	**0.5648**	**28.9629**		**97,684.7182**	**97,684.7182**	**2.0907**		**97,736.9852**

3.8 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**638.0076**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	50.9829	23.6630	318.5340	0.9802	107.0630	0.6136	107.6766	28.3981	0.5648	28.9629		97,684.7182	97,684.7182	2.0907		97,736.9852
Total	**50.9829**	**23.6630**	**318.5340**	**0.9802**	**107.0630**	**0.6136**	**107.6766**	**28.3981**	**0.5648**	**28.9629**		**97,684.7182**	**97,684.7182**	**2.0907**		**97,736.9852**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**637.9967**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	47.5996	21.2731	293.4613	0.9416	107.0630	0.5986	107.6616	28.3981	0.5509	28.9490		93,863.7336	93,863.7336	1.8713		93,910.5150
Total	**47.5996**	**21.2731**	**293.4613**	**0.9416**	**107.0630**	**0.5986**	**107.6616**	**28.3981**	**0.5509**	**28.9490**		**93,863.7336**	**93,863.7336**	**1.8713**		**93,910.5150**

3.8 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**637.9967**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	47.5996	21.2731	293.4613	0.9416	107.0630	0.5986	107.6616	28.3981	0.5509	28.9490		93,863.7336	93,863.7336	1.8713		93,910.5150
Total	**47.5996**	**21.2731**	**293.4613**	**0.9416**	**107.0630**	**0.5986**	**107.6616**	**28.3981**	**0.5509**	**28.9490**		**93,863.7336**	**93,863.7336**	**1.8713**		**93,910.5150**

3.8 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	44.6852	19.2264	270.7882	0.9039	107.0630	0.5870	107.6500	28.3981	0.5402	28.9383		90,123.1954	90,123.1954	1.6855		90,165.3331
Total	**44.6852**	**19.2264**	**270.7882**	**0.9039**	**107.0630**	**0.5870**	**107.6500**	**28.3981**	**0.5402**	**28.9383**		**90,123.1954**	**90,123.1954**	**1.6855**		**90,165.3331**

3.8 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	44.6852	19.2264	270.7882	0.9039	107.0630	0.5870	107.6500	28.3981	0.5402	28.9383		90,123.1954	90,123.1954	1.6855		90,165.3331
Total	**44.6852**	**19.2264**	**270.7882**	**0.9039**	**107.0630**	**0.5870**	**107.6500**	**28.3981**	**0.5402**	**28.9383**		**90,123.1954**	**90,123.1954**	**1.6855**		**90,165.3331**

3.8 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	42.1783	17.5425	253.6779	0.8754	107.0630	0.5770	107.6400	28.3981	0.5309	28.9290		87,301.3154	87,301.3154	1.5475		87,340.0036
Total	**42.1783**	**17.5425**	**253.6779**	**0.8754**	**107.0630**	**0.5770**	**107.6400**	**28.3981**	**0.5309**	**28.9290**		**87,301.3154**	**87,301.3154**	**1.5475**		**87,340.0036**

3.8 Architectural Coating - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	42.1783	17.5425	253.6779	0.8754	107.0630	0.5770	107.6400	28.3981	0.5309	28.9290		87,301.3154	87,301.3154	1.5475		87,340.0036
Total	**42.1783**	**17.5425**	**253.6779**	**0.8754**	**107.0630**	**0.5770**	**107.6400**	**28.3981**	**0.5309**	**28.9290**		**87,301.3154**	**87,301.3154**	**1.5475**		**87,340.0036**

3.8 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	39.7261	16.0060	236.3473	0.8454	107.0630	0.5491	107.6121	28.3981	0.5051	28.9032		84,325.5857	84,325.5857	1.4056		84,360.7256
Total	**39.7261**	**16.0060**	**236.3473**	**0.8454**	**107.0630**	**0.5491**	**107.6121**	**28.3981**	**0.5051**	**28.9032**		**84,325.5857**	**84,325.5857**	**1.4056**		**84,360.7256**

3.8 Architectural Coating - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	39.7261	16.0060	236.3473	0.8454	107.0630	0.5491	107.6121	28.3981	0.5051	28.9032		84,325.5857	84,325.5857	1.4056		84,360.7256
Total	**39.7261**	**16.0060**	**236.3473**	**0.8454**	**107.0630**	**0.5491**	**107.6121**	**28.3981**	**0.5051**	**28.9032**		**84,325.5857**	**84,325.5857**	**1.4056**		**84,360.7256**

3.8 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	37.2058	14.6397	221.2449	0.8189	107.0630	0.5120	107.5751	28.3981	0.4710	28.8691		81,692.4671	81,692.4671	1.2843		81,724.5742
Total	**37.2058**	**14.6397**	**221.2449**	**0.8189**	**107.0630**	**0.5120**	**107.5751**	**28.3981**	**0.4710**	**28.8691**		**81,692.4671**	**81,692.4671**	**1.2843**		**81,724.5742**

3.8 Architectural Coating - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	37.2058	14.6397	221.2449	0.8189	107.0630	0.5120	107.5751	28.3981	0.4710	28.8691		81,692.4671	81,692.4671	1.2843		81,724.5742
Total	**37.2058**	**14.6397**	**221.2449**	**0.8189**	**107.0630**	**0.5120**	**107.5751**	**28.3981**	**0.4710**	**28.8691**		**81,692.4671**	**81,692.4671**	**1.2843**		**81,724.5742**

3.8 Architectural Coating - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	34.5578	13.3922	207.0505	0.7954	107.0630	0.4773	107.5403	28.3981	0.4390	28.8371		79,364.9043	79,364.9043	1.1711		79,394.1827
Total	**34.5578**	**13.3922**	**207.0505**	**0.7954**	**107.0630**	**0.4773**	**107.5403**	**28.3981**	**0.4390**	**28.8371**		**79,364.9043**	**79,364.9043**	**1.1711**		**79,394.1827**

3.8 Architectural Coating - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	34.5578	13.3922	207.0505	0.7954	107.0630	0.4773	107.5403	28.3981	0.4390	28.8371		79,364.9043	79,364.9043	1.1711		79,394.1827
Total	**34.5578**	**13.3922**	**207.0505**	**0.7954**	**107.0630**	**0.4773**	**107.5403**	**28.3981**	**0.4390**	**28.8371**		**79,364.9043**	**79,364.9043**	**1.1711**		**79,394.1827**

3.8 Architectural Coating - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	31.9415	12.2633	194.2859	0.7747	107.0630	0.4452	107.5082	28.3981	0.4094	28.8076		77,311.3624	77,311.3624	1.0706		77,338.1273
Total	**31.9415**	**12.2633**	**194.2859**	**0.7747**	**107.0630**	**0.4452**	**107.5082**	**28.3981**	**0.4094**	**28.8076**		**77,311.3624**	**77,311.3624**	**1.0706**		**77,338.1273**

3.8 Architectural Coating - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	31.9415	12.2633	194.2859	0.7747	107.0630	0.4452	107.5082	28.3981	0.4094	28.8076		77,311.3624	77,311.3624	1.0706		77,338.1273
Total	**31.9415**	**12.2633**	**194.2859**	**0.7747**	**107.0630**	**0.4452**	**107.5082**	**28.3981**	**0.4094**	**28.8076**		**77,311.3624**	**77,311.3624**	**1.0706**		**77,338.1273**

3.8 Architectural Coating - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	29.1747	11.1979	182.1317	0.7565	107.0630	0.4149	107.4779	28.3981	0.3816	28.7797		75,506.5357	75,506.5357	0.9768		75,530.9567
Total	**29.1747**	**11.1979**	**182.1317**	**0.7565**	**107.0630**	**0.4149**	**107.4779**	**28.3981**	**0.3816**	**28.7797**		**75,506.5357**	**75,506.5357**	**0.9768**		**75,530.9567**

3.8 Architectural Coating - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	29.1747	11.1979	182.1317	0.7565	107.0630	0.4149	107.4779	28.3981	0.3816	28.7797		75,506.5357	75,506.5357	0.9768		75,530.9567
Total	**29.1747**	**11.1979**	**182.1317**	**0.7565**	**107.0630**	**0.4149**	**107.4779**	**28.3981**	**0.3816**	**28.7797**		**75,506.5357**	**75,506.5357**	**0.9768**		**75,530.9567**

3.8 Architectural Coating - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	26.6872	10.2814	171.4606	0.7406	107.0630	0.3870	107.4500	28.3981	0.3559	28.7540		73,930.5609	73,930.5609	0.8956		73,952.9506
Total	**26.6872**	**10.2814**	**171.4606**	**0.7406**	**107.0630**	**0.3870**	**107.4500**	**28.3981**	**0.3559**	**28.7540**		**73,930.5609**	**73,930.5609**	**0.8956**		**73,952.9506**

3.8 Architectural Coating - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	26.6872	10.2814	171.4606	0.7406	107.0630	0.3870	107.4500	28.3981	0.3559	28.7540		73,930.5609	73,930.5609	0.8956		73,952.9506
Total	**26.6872**	**10.2814**	**171.4606**	**0.7406**	**107.0630**	**0.3870**	**107.4500**	**28.3981**	**0.3559**	**28.7540**		**73,930.5609**	**73,930.5609**	**0.8956**		**73,952.9506**

3.8 Architectural Coating - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	24.5294	9.5045	162.2460	0.7268	107.0630	0.3614	107.4244	28.3981	0.3324	28.7305		72,562.6568	72,562.6568	0.8260		72,583.3078
Total	**24.5294**	**9.5045**	**162.2460**	**0.7268**	**107.0630**	**0.3614**	**107.4244**	**28.3981**	**0.3324**	**28.7305**		**72,562.6568**	**72,562.6568**	**0.8260**		**72,583.3078**

3.8 Architectural Coating - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	24.5294	9.5045	162.2460	0.7268	107.0630	0.3614	107.4244	28.3981	0.3324	28.7305		72,562.6568	72,562.6568	0.8260		72,583.3078
Total	**24.5294**	**9.5045**	**162.2460**	**0.7268**	**107.0630**	**0.3614**	**107.4244**	**28.3981**	**0.3324**	**28.7305**		**72,562.6568**	**72,562.6568**	**0.8260**		**72,583.3078**

3.8 Architectural Coating - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	22.7715	8.8865	153.9833	0.7149	107.0630	0.3379	107.4009	28.3981	0.3108	28.7089		71,381.5509	71,381.5509	0.7650		71,400.6751
Total	**22.7715**	**8.8865**	**153.9833**	**0.7149**	**107.0630**	**0.3379**	**107.4009**	**28.3981**	**0.3108**	**28.7089**		**71,381.5509**	**71,381.5509**	**0.7650**		**71,400.6751**

3.8 Architectural Coating - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	22.7715	8.8865	153.9833	0.7149	107.0630	0.3379	107.4009	28.3981	0.3108	28.7089		71,381.5509	71,381.5509	0.7650		71,400.6751
Total	**22.7715**	**8.8865**	**153.9833**	**0.7149**	**107.0630**	**0.3379**	**107.4009**	**28.3981**	**0.3108**	**28.7089**		**71,381.5509**	**71,381.5509**	**0.7650**		**71,400.6751**

3.8 Architectural Coating - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	**637.9338**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**		**281.4481**	**281.4481**	**0.0104**		**281.7081**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	21.2749	8.4089	147.0194	0.7047	107.0630	0.3168	107.3798	28.3981	0.2914	28.6895		70,374.2701	70,374.2701	0.7141		70,392.1236
Total	**21.2749**	**8.4089**	**147.0194**	**0.7047**	**107.0630**	**0.3168**	**107.3798**	**28.3981**	**0.2914**	**28.6895**		**70,374.2701**	**70,374.2701**	**0.7141**		**70,392.1236**

3.8 Architectural Coating - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	**637.9338**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0104**		**281.7081**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	21.2749	8.4089	147.0194	0.7047	107.0630	0.3168	107.3798	28.3981	0.2914	28.6895		70,374.2701	70,374.2701	0.7141		70,392.1236
Total	**21.2749**	**8.4089**	**147.0194**	**0.7047**	**107.0630**	**0.3168**	**107.3798**	**28.3981**	**0.2914**	**28.6895**		**70,374.2701**	**70,374.2701**	**0.7141**		**70,392.1236**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1,236.8201	16,638.6949	11,294.0658	94.2709	6,655.7054	34.3510	6,690.0564	1,788.2637	32.2749	1,820.5386		9,718,550.8417	9,718,550.8417	651.0888		9,734,828.0614
Unmitigated	1,236.8201	16,638.6949	11,294.0658	94.2709	6,655.7054	34.3510	6,690.0564	1,788.2637	32.2749	1,820.5386		9,718,550.8417	9,718,550.8417	651.0888		9,734,828.0614

4.2 Trip Summary Information

Fresno SPWA - Fresno County, Summer

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	7,003.98	7,003.98	7003.98	23,077,610	23,077,610
Apartments Low Rise	24,474.42	24,474.42	24474.42	80,641,452	80,641,452
Apartments Mid Rise	18,739.44	18,739.44	18739.44	61,745,106	61,745,106
Apartments Mid Rise	277.44	277.44	277.44	914,145	914,145
Single Family Housing	12,814.80	12,814.80	12814.80	42,223,843	42,223,843
Single Family Housing	60,633.12	60,633.12	60633.12	199,781,765	199,781,765
Single Family Housing	177,708.00	177,708.00	177708.00	585,535,065	585,535,065
Regional Shopping Center	31,344.25	31,344.25	31344.25	87,379,322	87,379,322
Regional Shopping Center	11,218.80	11,218.80	11218.80	31,274,982	31,274,982
Regional Shopping Center	234,254.18	234,254.18	234254.18	653,037,499	653,037,499
Regional Shopping Center	2,301.29	2,301.29	2301.29	6,415,368	6,415,368
Regional Shopping Center	251,633.28	251,633.28	251633.28	701,485,733	701,485,733
Regional Shopping Center	78,417.62	78,417.62	78417.62	218,607,185	218,607,185
General Light Industry	5,310.15	5,310.15	5310.15	16,619,043	16,619,043
General Office Building	52,380.68	52,380.68	52380.68	153,028,277	153,028,277
Office Park	17,016.53	17,016.53	17016.53	49,713,186	49,713,186
City Park	0.00	0.00	0.00		
Elementary School	22,196.02	22,196.02	22196.02	70,532,737	70,532,737
High School	14,918.80	14,918.80	14918.80	48,936,982	48,936,982
Junior College (2Yr)	0.00	0.00	0.00		
Junior High School	12,504.00	12,504.00	12504.00	40,515,241	40,515,241
Library	0.00	0.00	0.00		
Library	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	3,953.92	3,953.92	3953.92	10,506,359	10,506,359
Total	1,039,100.72	1,039,100.72	1,039,100.72	3,081,970,900	3,081,970,900

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Low Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Mid Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Mid Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	100	0	0
High School	9.50	7.30	7.30	77.80	17.20	5.00	100	0	0
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	100	0	0
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	100	0	0
Library	9.50	7.30	7.30	52.00	43.00	5.00	100	0	0
Library	9.50	7.30	7.30	52.00	43.00	5.00	100	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	100	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Apartments Low Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Apartments Mid Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Single Family Housing	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Regional Shopping Center	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
General Light Industry	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
General Office Building	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Office Park	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
City Park	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Elementary School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
High School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Junior College (2Yr)	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Junior High School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Library	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Other Asphalt Surfaces	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Place of Worship	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729
NaturalGas Unmitigated	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	69964.3	0.7545	6.4477	2.7437	0.0412		0.5213	0.5213		0.5213	0.5213		8,231.0951	8,231.0951	0.1578	0.1509	8,280.0083
Apartments Low Rise	172658	1.8620	15.9117	6.7709	0.1016		1.2865	1.2865		1.2865	1.2865		20,312.7603	20,312.7603	0.3893	0.3724	20,433.4688
Apartments Mid Rise	153241	1.6526	14.1222	6.0095	0.0901		1.1418	1.1418		1.1418	1.1418		18,028.3355	18,028.3355	0.3455	0.3305	18,135.4689
Apartments Mid Rise	2268.75	0.0245	0.2091	0.0890	1.3300e-003		0.0169	0.0169		0.0169	0.0169		266.9120	266.9120	5.1200e-003	4.8900e-003	268.4981
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	89901	0.9695	8.8138	7.4036	0.0529		0.6699	0.6699		0.6699	0.6699		10,576.5852	10,576.5852	0.2027	0.1939	10,639.4365

Fresno SPWA - Fresno County, Summer

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	81619.5	0.8802	8.0019	6.7216	0.0480		0.6082	0.6082		0.6082	0.6082		9,602.2921	9,602.2921	0.1840	0.1760	9,659.3537
General Office Building	256195	2.7629	25.1172	21.0985	0.1507		1.9089	1.9089		1.9089	1.9089		30,140.6417	30,140.6417	0.5777	0.5526	30,319.7525
High School	89575.1	0.9660	8.7819	7.3768	0.0527		0.6674	0.6674		0.6674	0.6674		10,538.2481	10,538.2481	0.2020	0.1932	10,600.8716
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Junior High School	63204.6	0.6816	6.1965	5.2051	0.0372		0.4709	0.4709		0.4709	0.4709		7,435.8343	7,435.8343	0.1425	0.1363	7,480.0217
Library	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	203842	2.1983	19.9845	16.7870	0.1199		1.5188	1.5188		1.5188	1.5188		23,981.4403	23,981.4403	0.4596	0.4397	24,123.9500
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	43393	0.4680	4.2542	3.5735	0.0255		0.3233	0.3233		0.3233	0.3233		5,105.0610	5,105.0610	0.0979	0.0936	5,135.3978
Regional Shopping Center	184496	1.9897	18.0878	15.1938	0.1085		1.3747	1.3747		1.3747	1.3747		21,705.3906	21,705.3906	0.4160	0.3979	21,834.3749
Regional Shopping Center	26394.8	0.2847	2.5877	2.1737	0.0155		0.1967	0.1967		0.1967	0.1967		3,105.2762	3,105.2762	0.0595	0.0569	3,123.7293
Regional Shopping Center	5414.32	0.0584	0.5308	0.4459	3.1800e-003		0.0403	0.0403		0.0403	0.0403		636.9785	636.9785	0.0122	0.0117	640.7638
Regional Shopping Center	551138	5.9436	54.0331	45.3878	0.3242		4.1065	4.1065		4.1065	4.1065		64,839.7445	64,839.7445	1.2428	1.1887	65,225.0547
Regional Shopping Center	592026	6.3846	58.0418	48.7551	0.3483		4.4112	4.4112		4.4112	4.4112		69,650.1437	69,650.1437	1.3350	1.2769	70,064.0397
Regional Shopping Center	73744.7	0.7953	7.2299	6.0731	0.0434		0.5495	0.5495		0.5495	0.5495		8,675.8463	8,675.8463	0.1663	0.1591	8,727.4025
Single Family Housing	1.79793e+006	19.3895	165.6919	70.5072	1.0576		13.3964	13.3964		13.3964	13.3964		211,521.5226	211,521.5226	4.0542	3.8779	212,778.4893
Single Family Housing	129652	1.3982	11.9483	5.0844	0.0763		0.9660	0.9660		0.9660	0.9660		15,253.1457	15,253.1457	0.2924	0.2796	15,343.7875
Single Family Housing	613446	6.6156	56.5333	24.0567	0.3609		4.5708	4.5708		4.5708	4.5708		72,170.1323	72,170.1323	1.3833	1.3231	72,599.0033

Total		**56.0796**	**492.5253**	**301.4567**	**3.0589**		**38.7459**	**38.7459**		**38.7459**	**38.7459**		**611,777.3858**	**611,777.3858**	**11.7257**	**11.2159**	**615,412.8729**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	69.9643	0.7545	6.4477	2.7437	0.0412		0.5213	0.5213		0.5213	0.5213		8,231.0951	8,231.0951	0.1578	0.1509	8,280.0083
Apartments Low Rise	172.658	1.8620	15.9117	6.7709	0.1016		1.2865	1.2865		1.2865	1.2865		20,312.7603	20,312.7603	0.3893	0.3724	20,433.4688
Apartments Mid Rise	153.241	1.6526	14.1222	6.0095	0.0901		1.1418	1.1418		1.1418	1.1418		18,028.3355	18,028.3355	0.3455	0.3305	18,135.4689
Apartments Mid Rise	2.26875	0.0245	0.2091	0.0890	1.3300e-003		0.0169	0.0169		0.0169	0.0169		266.9120	266.9120	5.1200e-003	4.8900e-003	268.4981
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	89.901	0.9695	8.8138	7.4036	0.0529		0.6699	0.6699		0.6699	0.6699		10,576.5852	10,576.5852	0.2027	0.1939	10,639.4365
General Light Industry	81.6195	0.8802	8.0019	6.7216	0.0480		0.6082	0.6082		0.6082	0.6082		9,602.2921	9,602.2921	0.1840	0.1760	9,659.3537
General Office Building	256.195	2.7629	25.1172	21.0985	0.1507		1.9089	1.9089		1.9089	1.9089		30,140.6417	30,140.6417	0.5777	0.5526	30,319.7525
High School	89.5751	0.9660	8.7819	7.3768	0.0527		0.6674	0.6674		0.6674	0.6674		10,538.2481	10,538.2481	0.2020	0.1932	10,600.8716
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Junior High School	63.2046	0.6816	6.1965	5.2051	0.0372		0.4709	0.4709		0.4709	0.4709		7,435.8343	7,435.8343	0.1425	0.1363	7,480.0217
Library	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	203.842	2.1983	19.9845	16.7870	0.1199		1.5188	1.5188		1.5188	1.5188		23,981.4403	23,981.4403	0.4596	0.4397	24,123.9500

Fresno SPWA - Fresno County, Summer

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	43.393	0.4680	4.2542	3.5735	0.0255		0.3233	0.3233		0.3233	0.3233		5,105.0610	5,105.0610	0.0979	0.0936	5,135.3978
Regional Shopping Center	184.496	1.9897	18.0878	15.1938	0.1085		1.3747	1.3747		1.3747	1.3747		21,705.3906	21,705.3906	0.4160	0.3979	21,834.3749
Regional Shopping Center	26.3948	0.2847	2.5877	2.1737	0.0155		0.1967	0.1967		0.1967	0.1967		3,105.2762	3,105.2762	0.0595	0.0569	3,123.7293
Regional Shopping Center	5.41432	0.0584	0.5308	0.4459	3.1800e-003		0.0403	0.0403		0.0403	0.0403		636.9785	636.9785	0.0122	0.0117	640.7638
Regional Shopping Center	551.138	5.9436	54.0331	45.3878	0.3242		4.1065	4.1065		4.1065	4.1065		64,839.7445	64,839.7445	1.2428	1.1887	65,225.0547
Regional Shopping Center	592.026	6.3846	58.0418	48.7551	0.3483		4.4112	4.4112		4.4112	4.4112		69,650.1437	69,650.1437	1.3350	1.2769	70,064.0397
Regional Shopping Center	73.7447	0.7953	7.2299	6.0731	0.0434		0.5495	0.5495		0.5495	0.5495		8,675.8463	8,675.8463	0.1663	0.1591	8,727.4025
Single Family Housing	129.652	1.3982	11.9483	5.0844	0.0763		0.9660	0.9660		0.9660	0.9660		15,253.1457	15,253.1457	0.2924	0.2796	15,343.7875
Single Family Housing	1797.93	19.3895	165.6919	70.5072	1.0576		13.3964	13.3964		13.3964	13.3964		211,521.5226	211,521.5226	4.0542	3.8779	212,778.4893
Single Family Housing	613.446	6.6156	56.5333	24.0567	0.3609		4.5708	4.5708		4.5708	4.5708		72,170.1323	72,170.1323	1.3833	1.3231	72,599.0033
Total		**56.0796**	**492.5253**	**301.4567**	**3.0589**		**38.7459**	**38.7459**		**38.7459**	**38.7459**		**611,777.3858**	**611,777.3858**	**11.7257**	**11.2159**	**615,412.8729**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244
Unmitigated	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	638.8644					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3,014.3757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	130.5722	1,115.7985	474.8079	7.1221		90.2135	90.2135		90.2135	90.2135	0.0000	1,424,423.6471	1,424,423.6471	27.3015	26.1144	1,432,888.2846
Landscaping	115.6596	44.3722	3,848.1927	0.2041		21.3959	21.3959		21.3959	21.3959		6,956.9217	6,956.9217	6.6567		7,123.3398
Total	**3,899.4719**	**1,160.1707**	**4,323.0006**	**7.3263**		**111.6094**	**111.6094**		**111.6094**	**111.6094**	**0.0000**	**1,431,380.5688**	**1,431,380.5688**	**33.9582**	**26.1144**	**1,440,011.6244**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	638.8644					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3,014.3757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	130.5722	1,115.7985	474.8079	7.1221		90.2135	90.2135		90.2135	90.2135	0.0000	1,424,423.6471	1,424,423.6471	27.3015	26.1144	1,432,888.2846
Landscaping	115.6596	44.3722	3,848.1927	0.2041		21.3959	21.3959		21.3959	21.3959		6,956.9217	6,956.9217	6.6567		7,123.3398
Total	**3,899.4719**	**1,160.1707**	**4,323.0006**	**7.3263**		**111.6094**	**111.6094**		**111.6094**	**111.6094**	**0.0000**	**1,431,380.5688**	**1,431,380.5688**	**33.9582**	**26.1144**	**1,440,011.6244**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fresno SPWA

Fresno County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1,810.00	Dwelling Unit	517.22	3,258,000.00	5177
Single Family Housing	8,564.00	Dwelling Unit	1,427.41	15,415,200.00	24493
Single Family Housing	25,100.00	Dwelling Unit	2,091.66	45,180,000.00	71786
Apartments Low Rise	4,458.00	Dwelling Unit	278.63	4,458,000.00	12750
Apartments Mid Rise	4,593.00	Dwelling Unit	153.10	4,593,000.00	13136
Apartments High Rise	2,097.00	Dwelling Unit	46.61	2,097,000.00	5997
Regional Shopping Center	2,515.59	1000sqft	57.75	2,515,590.00	0
Regional Shopping Center	900.39	1000sqft	41.34	900,385.00	0
Regional Shopping Center	18,800.50	1000sqft	215.80	18,800,496.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.79	68,000.00	194
General Office Building	7,165.62	1000sqft	82.25	7,165,620.00	0
Office Park	3,266.13	1000sqft	74.98	3,266,129.00	0
Regional Shopping Center	184.69	1000sqft	4.24	184,694.00	0
General Light Industry	1,427.46	1000sqft	32.77	1,427,461.00	0
Regional Shopping Center	20,195.29	1000sqft	309.08	20,195,287.00	0
Regional Shopping Center	6,293.55	1000sqft	96.32	6,293,549.00	0
City Park	243.63	Acre	243.63	10,612,522.80	0
Library	0.00	1000sqft	26.84	0.00	0
Place of Worship	758.91	1000sqft	60.14	758,910.00	0
Junior College (2Yr)	0.00	1000sqft	18.38	0.00	0
Elementary School	15,631.00	Student	91.83	1,306,804.28	0
Junior High School	7,815.00	Student	145.37	918,744.56	0
High School	9,815.00	Student	46.95	1,302,067.49	0
Library	0.00	1000sqft	3.32	0.00	0
Other Asphalt Surfaces	1,010.00	Acre	1,010.00	43,995,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Buildout year = 2035 (note: consistent with traffic report from Kittelson). Assumes construction starts as early as March 1, 2021 (as conservative estimate).

Land Use - Land uses, unit amounts, and acreages are consistent with VMT analysis. Population est. based on 2.97 persons per du (consistent with the City's GP Housing Element). Shopping center uses assumed for mixed use (highest trip gen).

Construction Phase - Construction schedule assumed based on project characteristics. Actual construction schedule will depend on market conditions.

Demolition - Assumption of 1,000,000 sf of building square footage demolished. Actual demolition will depend on market conditions.

Grading - Assume Plan Area is graded.

Vehicle Trips - Operational mobile trip rates as provided by Kittelson & Associates (VMT Analysis).

Trips and VMT - Default values for construction trips and VMT

Woodstoves - No woodstoves per SJVAPCD Rule 4901.

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10,000.00	20.00
tblConstructionPhase	NumDays	15,500.00	65.00
tblConstructionPhase	NumDays	6,000.00	65.00
tblConstructionPhase	NumDays	11,000.00	85.00
tblConstructionPhase	NumDays	155,000.00	3,833.00

tblConstructionPhase	NumDays	11,000.00	3,656.00
tblConstructionPhase	PhaseEndDate	6/27/2059	3/26/2021
tblConstructionPhase	PhaseEndDate	11/24/2141	9/24/2021
tblConstructionPhase	PhaseEndDate	1/23/2184	12/24/2021
tblConstructionPhase	PhaseEndDate	6/26/2082	6/25/2021
tblConstructionPhase	PhaseStartDate	6/27/2082	6/26/2021
tblConstructionPhase	PhaseStartDate	11/25/2141	9/25/2021
tblConstructionPhase	PhaseStartDate	6/28/2059	3/27/2021
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberNoFireplace	943.65	1,153.35
tblFireplaces	NumberNoFireplace	2,006.10	2,451.90
tblFireplaces	NumberNoFireplace	2,097.45	2,563.55
tblFireplaces	NumberNoFireplace	15,963.30	19,510.70
tblGrading	AcresOfGrading	162.50	7,077.00
tblLandUse	LandUseSquareFeet	18,800,500.00	18,800,496.00
tblLandUse	LandUseSquareFeet	3,266,130.00	3,266,129.00
tblLandUse	LandUseSquareFeet	1,427,460.00	1,427,461.00
tblLandUse	LandUseSquareFeet	20,195,300.00	20,195,287.00
tblLandUse	LandUseSquareFeet	6,293,550.00	6,293,549.00
tblLandUse	LotAcreage	587.66	517.22
tblLandUse	LotAcreage	2,780.52	1,427.41
tblLandUse	LotAcreage	8,149.35	2,091.66
tblLandUse	LotAcreage	120.87	153.10
tblLandUse	LotAcreage	33.82	46.61

tblLandUse	LotAcreage	20.67	41.34
tblLandUse	LotAcreage	431.60	215.80
tblLandUse	LotAcreage	164.50	82.25
tblLandUse	LotAcreage	463.62	309.08
tblLandUse	LotAcreage	144.48	96.32
tblLandUse	LotAcreage	17.42	60.14
tblLandUse	LotAcreage	30.00	91.83
tblLandUse	LotAcreage	21.09	145.37
tblLandUse	LotAcreage	29.89	46.95
tblLandUse	LotAcreage	0.00	18.38
tblLandUse	LotAcreage	0.00	26.84
tblLandUse	LotAcreage	0.00	3.32
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	7.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	44.00	0.00

tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	1.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00

tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	75.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	44.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	64.00	100.00
tblVehicleTrips	ST_TR	4.98	3.34
tblVehicleTrips	ST_TR	7.16	5.49
tblVehicleTrips	ST_TR	6.39	4.08
tblVehicleTrips	ST_TR	9.91	7.08
tblVehicleTrips	ST_TR	49.97	12.46
tblVehicleTrips	ST_TR	1.32	3.72
tblVehicleTrips	ST_TR	2.46	7.31
tblVehicleTrips	ST_TR	1.64	5.21
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	0.00	1.42

tblVehicleTrips	ST_TR	0.61	1.52
tblVehicleTrips	ST_TR	11.23	0.00
tblVehicleTrips	ST_TR	0.00	1.60
tblVehicleTrips	ST_TR	46.55	0.00
tblVehicleTrips	ST_TR	10.37	5.21
tblVehicleTrips	SU_TR	3.65	3.34
tblVehicleTrips	SU_TR	6.07	5.49
tblVehicleTrips	SU_TR	5.86	4.08
tblVehicleTrips	SU_TR	8.62	7.08
tblVehicleTrips	SU_TR	25.24	12.46
tblVehicleTrips	SU_TR	0.68	3.72
tblVehicleTrips	SU_TR	1.05	7.31
tblVehicleTrips	SU_TR	0.76	5.21
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	0.00	1.42
tblVehicleTrips	SU_TR	0.25	1.52
tblVehicleTrips	SU_TR	1.21	0.00
tblVehicleTrips	SU_TR	0.00	1.60
tblVehicleTrips	SU_TR	25.49	0.00
tblVehicleTrips	SU_TR	36.63	5.21
tblVehicleTrips	WD_TR	4.20	3.34
tblVehicleTrips	WD_TR	6.59	5.49
tblVehicleTrips	WD_TR	6.65	4.08
tblVehicleTrips	WD_TR	9.52	7.08
tblVehicleTrips	WD_TR	42.70	12.46
tblVehicleTrips	WD_TR	6.97	3.72
tblVehicleTrips	WD_TR	11.03	7.31

tblVehicleTrips	WD_TR	11.42	5.21
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	1.29	1.42
tblVehicleTrips	WD_TR	1.71	1.52
tblVehicleTrips	WD_TR	27.49	0.00
tblVehicleTrips	WD_TR	1.62	1.60
tblVehicleTrips	WD_TR	56.24	0.00
tblVehicleTrips	WD_TR	9.11	5.21
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Fresno SPWA - Fresno County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	393.5771	3,255.9596	2,337.2917	11.6751	701.9987	20.8374	722.8361	189.9825	19.7962	209.7787	0.0000	1,198,169.0364	1,198,169.0364	110.5936	0.0000	1,200,933.8749
2021	1,078.3455	3,042.0025	2,439.6764	12.3967	823.6528	13.8496	837.4434	218.4146	13.0417	230.8900	0.0000	1,269,889.2392	1,269,889.2392	109.0877	0.0000	1,272,616.4318
2022	1,049.4088	2,828.7227	2,229.8426	12.1292	809.1928	11.7884	820.9813	218.4161	11.1108	229.5269	0.0000	1,243,135.3455	1,243,135.3455	104.8291	0.0000	1,245,756.0723
2023	973.9095	2,224.7590	1,971.0673	11.7391	809.0715	6.4439	815.5154	218.3841	6.0227	224.4068	0.0000	1,203,671.9682	1,203,671.9682	73.2798	0.0000	1,205,503.9640
2024	954.4443	2,191.2286	1,822.2435	11.4877	809.0744	6.2343	815.3088	218.3851	5.8258	224.2110	0.0000	1,178,519.0479	1,178,519.0479	72.6705	0.0000	1,180,335.8108
2025	937.6046	2,159.4528	1,691.3214	11.2444	809.0778	6.0455	815.1233	218.3864	5.6483	224.0347	0.0000	1,154,152.2013	1,154,152.2013	71.9492	0.0000	1,155,950.9309
2026	923.3788	2,131.0611	1,589.7808	11.0537	809.0808	5.9598	815.0405	218.3874	5.5682	223.9556	0.0000	1,135,026.0983	1,135,026.0983	71.0661	0.0000	1,136,802.7501
2027	909.5067	2,103.5250	1,491.3941	10.8603	809.0837	5.7652	814.8488	218.3885	5.3877	223.7762	0.0000	1,115,642.0351	1,115,642.0351	70.1453	0.0000	1,117,395.6663
2028	895.0116	2,081.9506	1,406.6277	10.6924	809.0866	5.5235	814.6101	218.3895	5.1644	223.5539	0.0000	1,098,831.9897	1,098,831.9897	69.0576	0.0000	1,100,558.4302
2029	879.7381	2,061.1082	1,326.9602	10.5437	809.0889	5.2929	814.3818	218.3903	4.9512	223.3416	0.0000	1,083,956.5901	1,083,956.5901	67.8775	0.0000	1,085,653.5276
2030	864.6087	2,037.8286	1,255.9805	10.4187	809.0909	4.6680	813.7589	218.3911	4.3739	222.7650	0.0000	1,071,395.1191	1,071,395.1191	66.1937	0.0000	1,073,049.9629
2031	848.6672	2,021.3478	1,188.8143	10.3073	809.0926	4.4692	813.5619	218.3917	4.1904	222.5821	0.0000	1,060,272.9369	1,060,272.9369	65.2079	0.0000	1,061,903.1357
2032	834.4160	2,007.1210	1,130.2994	10.2137	809.0943	4.2851	813.3794	218.3923	4.0204	222.4127	0.0000	1,050,944.4400	1,050,944.4400	64.4146	0.0000	1,052,554.8058
2033	822.1781	1,995.0822	1,080.0763	10.1341	809.0957	4.1184	813.2141	218.3928	3.8666	222.2594	0.0000	1,043,029.4693	1,043,029.4693	63.5464	0.0000	1,044,618.1282
2034	812.5227	1,985.0686	1,035.1662	10.0673	809.0970	3.9652	813.0622	218.3933	3.7252	222.1185	0.0000	1,036,385.7149	1,036,385.7149	62.8656	0.0000	1,037,957.3561
2035	804.1910	1,975.8598	997.3237	10.0112	809.0983	3.7591	812.8574	218.3937	3.5298	221.9235	0.0000	1,030,817.9298	1,030,817.9298	62.2470	0.0000	1,032,374.1033
Maximum	**1,078.3455**	**3,255.9596**	**2,439.6764**	**12.3967**	**823.6528**	**20.8374**	**837.4434**	**218.4161**	**19.7962**	**230.8900**	**0.0000**	**1,269,889.2392**	**1,269,889.2392**	**110.5936**	**0.0000**	**1,272,616.4318**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

Fresno SPWA - Fresno County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	393.5771	3,255.9596	2,337.2917	11.6751	701.9987	20.8374	722.8361	189.9825	19.7962	209.7787	0.0000	1,198,169.0364	1,198,169.0364	110.5936	0.0000	1,200,933.8749
2021	1,078.3455	3,042.0025	2,439.6764	12.3967	809.1886	13.8496	822.4141	218.4146	13.0417	230.8900	0.0000	1,269,889.2392	1,269,889.2392	109.0877	0.0000	1,272,616.4318
2022	1,049.4088	2,828.7227	2,229.8426	12.1292	809.1928	11.7884	820.9813	218.4161	11.1108	229.5269	0.0000	1,243,135.3455	1,243,135.3455	104.8291	0.0000	1,245,756.0723
2023	973.9095	2,224.7590	1,971.0673	11.7391	809.0715	6.4439	815.5154	218.3841	6.0227	224.4068	0.0000	1,203,671.9682	1,203,671.9682	73.2798	0.0000	1,205,503.9640
2024	954.4443	2,191.2286	1,822.2435	11.4877	809.0744	6.2343	815.3088	218.3851	5.8258	224.2110	0.0000	1,178,519.0479	1,178,519.0479	72.6705	0.0000	1,180,335.8108
2025	937.6046	2,159.4528	1,691.3214	11.2444	809.0778	6.0455	815.1233	218.3864	5.6483	224.0347	0.0000	1,154,152.2013	1,154,152.2013	71.9492	0.0000	1,155,950.9309
2026	923.3788	2,131.0611	1,589.7808	11.0537	809.0808	5.9598	815.0405	218.3874	5.5682	223.9556	0.0000	1,135,026.0983	1,135,026.0983	71.0661	0.0000	1,136,802.7501
2027	909.5067	2,103.5250	1,491.3941	10.8603	809.0837	5.7652	814.8488	218.3885	5.3877	223.7762	0.0000	1,115,642.0351	1,115,642.0351	70.1453	0.0000	1,117,395.6663
2028	895.0116	2,081.9506	1,406.6277	10.6924	809.0866	5.5235	814.6101	218.3895	5.1644	223.5539	0.0000	1,098,831.9897	1,098,831.9897	69.0576	0.0000	1,100,558.4302
2029	879.7381	2,061.1082	1,326.9602	10.5437	809.0889	5.2929	814.3818	218.3903	4.9512	223.3416	0.0000	1,083,956.5901	1,083,956.5901	67.8775	0.0000	1,085,653.5276
2030	864.6087	2,037.8286	1,255.9805	10.4187	809.0909	4.6680	813.7589	218.3911	4.3739	222.7650	0.0000	1,071,395.1191	1,071,395.1191	66.1937	0.0000	1,073,049.9629
2031	848.6672	2,021.3478	1,188.8143	10.3073	809.0926	4.4692	813.5619	218.3917	4.1904	222.5821	0.0000	1,060,272.9369	1,060,272.9369	65.2079	0.0000	1,061,903.1357
2032	834.4160	2,007.1210	1,130.2994	10.2137	809.0943	4.2851	813.3794	218.3923	4.0204	222.4127	0.0000	1,050,944.4400	1,050,944.4400	64.4146	0.0000	1,052,554.8058
2033	822.1781	1,995.0822	1,080.0763	10.1341	809.0957	4.1184	813.2141	218.3928	3.8666	222.2594	0.0000	1,043,029.4693	1,043,029.4693	63.5464	0.0000	1,044,618.1282
2034	812.5227	1,985.0686	1,035.1662	10.0673	809.0970	3.9652	813.0622	218.3933	3.7252	222.1185	0.0000	1,036,385.7149	1,036,385.7149	62.8656	0.0000	1,037,957.3561
2035	804.1910	1,975.8598	997.3237	10.0112	809.0983	3.7591	812.8574	218.3937	3.5298	221.9235	0.0000	1,030,817.9298	1,030,817.9298	62.2470	0.0000	1,032,374.1033
Maximum	**1,078.3455**	**3,255.9596**	**2,439.6764**	**12.3967**	**809.1928**	**20.8374**	**822.4141**	**218.4161**	**19.7962**	**230.8900**	**0.0000**	**1,269,889.2392**	**1,269,889.2392**	**110.5936**	**0.0000**	**1,272,616.4318**

Fresno SPWA - Fresno County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244
Energy	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729
Mobile	998.9121	16,690.3657	10,500.4190	87.8300	6,655.7054	34.5610	6,690.2664	1,788.2637	32.4758	1,820.7395		9,064,851.4107	9,064,851.4107	725.9589		9,083,000.3829
Total	**4,954.4636**	**18,343.0617**	**15,124.8763**	**98.2151**	**6,655.7054**	**184.9163**	**6,840.6217**	**1,788.2637**	**182.8311**	**1,971.0948**	**0.0000**	**11,108,009.3653**	**11,108,009.3653**	**771.6428**	**37.3304**	**11,138,424.8802**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244
Energy	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729
Mobile	998.9121	16,690.3657	10,500.4190	87.8300	6,655.7054	34.5610	6,690.2664	1,788.2637	32.4758	1,820.7395		9,064,851.4107	9,064,851.4107	725.9589		9,083,000.3829
Total	**4,954.4636**	**18,343.0617**	**15,124.8763**	**98.2151**	**6,655.7054**	**184.9163**	**6,840.6217**	**1,788.2637**	**182.8311**	**1,971.0948**	**0.0000**	**11,108,009.3653**	**11,108,009.3653**	**771.6428**	**37.3304**	**11,138,424.8802**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	4/23/2020	1/1/2035	5	3833	
2	Demolition	Demolition	3/1/2021	3/26/2021	5	20	
3	Site Preparation	Site Preparation	3/27/2021	6/25/2021	5	65	
4	Grading	Grading	6/26/2021	9/24/2021	5	65	
5	Underground Utilities	Trenching	9/25/2021	12/24/2021	5	65	
6	Paving	Paving	12/25/2021	4/22/2022	5	85	
7	Architectural Coating	Architectural Coating	12/25/2021	12/31/2035	5	3656	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 7077

Acres of Paving: 1010

Residential Indoor: 152,015,130; Residential Outdoor: 50,671,710; Non-Residential Indoor: 97,553,606; Non-Residential Outdoor: 32,517,869; Striped Parking Area: 2,639,736 (Architectural Coating – sqft)

OffRoad Equipment

Fresno SPWA - Fresno County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Scrapers	2	8.00	367	0.48
Underground Utilities	Pavers	2	8.00	130	0.42
Underground Utilities	Paving Equipment	2	8.00	132	0.36
Underground Utilities	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Underground Utilities	Pavers	2	8.00	130	0.42
Underground Utilities	Paving Equipment	2	8.00	132	0.36
Underground Utilities	Rollers	2	8.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	4,548.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13,033.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	65,164.00	24,601.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	12	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	94.5606	3,041.3566	535.6267	6.8506	166.6919	16.3696	183.0615	47.9942	15.6602	63.6544		717,895.1939	717,895.1939	96.9726		720,319.5087
Worker	296.8967	195.4170	1,784.8165	4.7976	535.3068	3.3508	538.6576	141.9883	3.0856	145.0740		477,720.7794	477,720.7794	12.9981		478,045.7318
Total	**391.4573**	**3,236.7736**	**2,320.4432**	**11.6482**	**701.9987**	**19.7203**	**721.7190**	**189.9825**	**18.7458**	**208.7283**		**1,195,615.9733**	**1,195,615.9733**	**109.9707**		**1,198,365.2405**

3.2 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	94.5606	3,041.3566	535.6267	6.8506	166.6919	16.3696	183.0615	47.9942	15.6602	63.6544		717,895.1939	717,895.1939	96.9726		720,319.5087
Worker	296.8967	195.4170	1,784.8165	4.7976	535.3068	3.3508	538.6576	141.9883	3.0856	145.0740		477,720.7794	477,720.7794	12.9981		478,045.7318
Total	**391.4573**	**3,236.7736**	**2,320.4432**	**11.6482**	**701.9987**	**19.7203**	**721.7190**	**189.9825**	**18.7458**	**208.7283**		**1,195,615.9733**	**1,195,615.9733**	**109.9707**		**1,198,365.2405**

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	76.7696	2,760.2421	466.7454	6.7854	166.6956	7.6028	174.2984	47.9955	7.2729	55.2683		711,114.1715	711,114.1715	93.8751		713,461.0490
Worker	274.3241	173.8291	1,616.2567	4.6313	535.3068	3.2428	538.5497	141.9883	2.9858	144.9742		461,354.5253	461,354.5253	11.5506		461,643.2905
Total	**351.0937**	**2,934.0712**	**2,083.0021**	**11.4167**	**702.0024**	**10.8457**	**712.8481**	**189.9838**	**10.2587**	**200.2425**		**1,172,468.6968**	**1,172,468.6968**	**105.4257**		**1,175,104.3395**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	76.7696	2,760.2421	466.7454	6.7854	166.6956	7.6028	174.2984	47.9955	7.2729	55.2683		711,114.1715	711,114.1715	93.8751		713,461.0490
Worker	274.3241	173.8291	1,616.2567	4.6313	535.3068	3.2428	538.5497	141.9883	2.9858	144.9742		461,354.5253	461,354.5253	11.5506		461,643.2905
Total	**351.0937**	**2,934.0712**	**2,083.0021**	**11.4167**	**702.0024**	**10.8457**	**712.8481**	**189.9838**	**10.2587**	**200.2425**		**1,172,468.6968**	**1,172,468.6968**	**105.4257**		**1,175,104.3395**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	71.4499	2,614.3614	432.4472	6.7193	166.6998	6.5504	173.2502	47.9970	6.2661	54.2631		704,237.4400	704,237.4400	91.1397		706,515.9331
Worker	254.9485	155.1468	1,470.2458	4.4635	535.3068	3.1489	538.4557	141.9883	2.8989	144.8872		444,792.2603	444,792.2603	10.2856		445,049.3995
Total	**326.3983**	**2,769.5081**	**1,902.6930**	**11.1828**	**702.0066**	**9.6993**	**711.7059**	**189.9853**	**9.1650**	**199.1503**		**1,149,029.7003**	**1,149,029.7003**	**101.4253**		**1,151,565.3325**

3.2 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	71.4499	2,614.3614	432.4472	6.7193	166.6998	6.5504	173.2502	47.9970	6.2661	54.2631		704,237.4400	704,237.4400	91.1397		706,515.9331
Worker	254.9485	155.1468	1,470.2458	4.4635	535.3068	3.1489	538.4557	141.9883	2.8989	144.8872		444,792.2603	444,792.2603	10.2856		445,049.3995
Total	**326.3983**	**2,769.5081**	**1,902.6930**	**11.1828**	**702.0066**	**9.6993**	**711.7059**	**189.9853**	**9.1650**	**199.1503**		**1,149,029.7003**	**1,149,029.7003**	**101.4253**		**1,151,565.3325**

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	48.9953	2,042.5091	345.9296	6.5553	166.7017	1.9916	168.6933	47.9976	1.9045	49.9022		687,086.1675	687,086.1675	61.6641		688,627.7701
Worker	237.7777	138.8013	1,339.2321	4.2949	535.3068	3.0681	538.3749	141.9883	2.8241	144.8125		428,123.1906	428,123.1906	9.1592		428,352.1702
Total	**286.7730**	**2,181.3105**	**1,685.1617**	**10.8502**	**702.0085**	**5.0597**	**707.0682**	**189.9860**	**4.7287**	**194.7147**		**1,115,209.3581**	**1,115,209.3581**	**70.8233**		**1,116,979.9402**

3.2 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	48.9953	2,042.5091	345.9296	6.5553	166.7017	1.9916	168.6933	47.9976	1.9045	49.9022		687,086.1675	687,086.1675	61.6641		688,627.7701
Worker	237.7777	138.8013	1,339.2321	4.2949	535.3068	3.0681	538.3749	141.9883	2.8241	144.8125		428,123.1906	428,123.1906	9.1592		428,352.1702
Total	**286.7730**	**2,181.3105**	**1,685.1617**	**10.8502**	**702.0085**	**5.0597**	**707.0682**	**189.9860**	**4.7287**	**194.7147**		**1,115,209.3581**	**1,115,209.3581**	**70.8233**		**1,116,979.9402**

3.2 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	47.6656	2,026.9398	329.0801	6.5064	166.7046	1.9684	168.6730	47.9987	1.8824	49.8811		681,992.4542	681,992.4542	62.2285		683,548.1672
Worker	222.7581	124.6882	1,229.3189	4.1262	535.3068	2.9931	538.2999	141.9883	2.7546	144.7430		411,406.8201	411,406.8201	8.1848		411,611.4403
Total	**270.4237**	**2,151.6280**	**1,558.3990**	**10.6326**	**702.0114**	**4.9615**	**706.9729**	**189.9870**	**4.6371**	**194.6241**		**1,093,399.2742**	**1,093,399.2742**	**70.4133**		**1,095,159.6075**

3.2 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	47.6656	2,026.9398	329.0801	6.5064	166.7046	1.9684	168.6730	47.9987	1.8824	49.8811		681,992.4542	681,992.4542	62.2285		683,548.1672
Worker	222.7581	124.6882	1,229.3189	4.1262	535.3068	2.9931	538.2999	141.9883	2.7546	144.7430		411,406.8201	411,406.8201	8.1848		411,611.4403
Total	**270.4237**	**2,151.6280**	**1,558.3990**	**10.6326**	**702.0114**	**4.9615**	**706.9729**	**189.9870**	**4.6371**	**194.6241**		**1,093,399.2742**	**1,093,399.2742**	**70.4133**		**1,095,159.6075**

3.2 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	46.5581	2,010.7044	316.1608	6.4611	166.7080	1.9444	168.6524	47.9999	1.8595	49.8594		677,260.3316	677,260.3316	62.4999		678,822.8295
Worker	209.7431	112.6108	1,131.0528	3.9612	535.3068	2.9350	538.2418	141.9883	2.7009	144.6892		395,043.9457	395,043.9457	7.3608		395,227.9654
Total	**256.3012**	**2,123.3151**	**1,447.2135**	**10.4222**	**702.0148**	**4.8794**	**706.8943**	**189.9883**	**4.5604**	**194.5486**		**1,072,304.2773**	**1,072,304.2773**	**69.8607**		**1,074,050.7949**

3.2 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	46.5581	2,010.7044	316.1608	6.4611	166.7080	1.9444	168.6524	47.9999	1.8595	49.8594		677,260.3316	677,260.3316	62.4999		678,822.8295
Worker	209.7431	112.6108	1,131.0528	3.9612	535.3068	2.9350	538.2418	141.9883	2.7009	144.6892		395,043.9457	395,043.9457	7.3608		395,227.9654
Total	**256.3012**	**2,123.3151**	**1,447.2135**	**10.4222**	**702.0148**	**4.8794**	**706.8943**	**189.9883**	**4.5604**	**194.5486**		**1,072,304.2773**	**1,072,304.2773**	**69.8607**		**1,074,050.7949**

3.2 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	45.5922	1,994.2382	305.7086	6.4203	166.7109	1.9187	168.6296	48.0010	1.8349	49.8358		673,000.2224	673,000.2224	62.3621		674,559.2748
Worker	198.6932	102.6728	1,055.1459	3.8362	535.3068	2.8850	538.1919	141.9883	2.6546	144.6429		382,655.6492	382,655.6492	6.7397		382,824.1420
Total	**244.2854**	**2,096.9110**	**1,360.8546**	**10.2565**	**702.0177**	**4.8037**	**706.8214**	**189.9893**	**4.4895**	**194.4788**		**1,055,655.8716**	**1,055,655.8716**	**69.1018**		**1,057,383.4168**

3.2 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	45.5922	1,994.2382	305.7086	6.4203	166.7109	1.9187	168.6296	48.0010	1.8349	49.8358		673,000.2224	673,000.2224	62.3621		674,559.2748
Worker	198.6932	102.6728	1,055.1459	3.8362	535.3068	2.8850	538.1919	141.9883	2.6546	144.6429		382,655.6492	382,655.6492	6.7397		382,824.1420
Total	**244.2854**	**2,096.9110**	**1,360.8546**	**10.2565**	**702.0177**	**4.8037**	**706.8214**	**189.9893**	**4.4895**	**194.4788**		**1,055,655.8716**	**1,055,655.8716**	**69.1018**		**1,057,383.4168**

3.2 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	44.7934	1,977.5637	297.4101	6.3847	166.7138	1.8918	168.6056	48.0020	1.8092	49.8112		669,280.5280	669,280.5280	62.1956		670,835.4185
Worker	187.7988	93.6216	980.0727	3.7047	535.3068	2.7453	538.0521	141.9883	2.5257	144.5140		369,602.0419	369,602.0419	6.1111		369,754.8192
Total	**232.5922**	**2,071.1852**	**1,277.4828**	**10.0894**	**702.0207**	**4.6370**	**706.6577**	**189.9904**	**4.3348**	**194.3252**		**1,038,882.5700**	**1,038,882.5700**	**68.3067**		**1,040,590.2377**

3.2 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	44.7934	1,977.5637	297.4101	6.3847	166.7138	1.8918	168.6056	48.0020	1.8092	49.8112		669,280.5280	669,280.5280	62.1956		670,835.4185
Worker	187.7988	93.6216	980.0727	3.7047	535.3068	2.7453	538.0521	141.9883	2.5257	144.5140		369,602.0419	369,602.0419	6.1111		369,754.8192
Total	**232.5922**	**2,071.1852**	**1,277.4828**	**10.0894**	**702.0207**	**4.6370**	**706.6577**	**189.9904**	**4.3348**	**194.3252**		**1,038,882.5700**	**1,038,882.5700**	**68.3067**		**1,040,590.2377**

3.2 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	44.1555	1,965.6470	291.0639	6.3567	166.7167	1.8723	168.5890	48.0031	1.7905	49.7936		666,349.5364	666,349.5364	61.7536		667,893.3754
Worker	176.2512	85.5735	914.7226	3.5881	535.3068	2.5602	537.8670	141.9883	2.3551	144.3434		358,036.1934	358,036.1934	5.5731		358,175.5213
Total	**220.4067**	**2,051.2205**	**1,205.7866**	**9.9448**	**702.0236**	**4.4324**	**706.4560**	**189.9914**	**4.1456**	**194.1370**		**1,024,385.7298**	**1,024,385.7298**	**67.3267**		**1,026,068.8967**

3.2 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	44.1555	1,965.6470	291.0639	6.3567	166.7167	1.8723	168.5890	48.0031	1.7905	49.7936		666,349.5364	666,349.5364	61.7536		667,893.3754
Worker	176.2512	85.5735	914.7226	3.5881	535.3068	2.5602	537.8670	141.9883	2.3551	144.3434		358,036.1934	358,036.1934	5.5731		358,175.5213
Total	**220.4067**	**2,051.2205**	**1,205.7866**	**9.9448**	**702.0236**	**4.4324**	**706.4560**	**189.9914**	**4.1456**	**194.1370**		**1,024,385.7298**	**1,024,385.7298**	**67.3267**		**1,026,068.8967**

3.2 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	43.5704	1,953.6385	285.3806	6.3320	166.7191	1.8502	168.5693	48.0039	1.7694	49.7733		663,761.0587	663,761.0587	61.1761		665,290.4603
Worker	164.0109	78.2118	853.0694	3.4849	535.3068	2.3863	537.6932	141.9883	2.1950	144.1833		347,797.1179	347,797.1179	5.0709		347,923.8913
Total	**207.5812**	**2,031.8504**	**1,138.4499**	**9.8168**	**702.0259**	**4.2366**	**706.2624**	**189.9922**	**3.9644**	**193.9567**		**1,011,558.1766**	**1,011,558.1766**	**66.2470**		**1,013,214.3516**

3.2 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	43.5704	1,953.6385	285.3806	6.3320	166.7191	1.8502	168.5693	48.0039	1.7694	49.7733		663,761.0587	663,761.0587	61.1761		665,290.4603
Worker	164.0109	78.2118	853.0694	3.4849	535.3068	2.3863	537.6932	141.9883	2.1950	144.1833		347,797.1179	347,797.1179	5.0709		347,923.8913
Total	**207.5812**	**2,031.8504**	**1,138.4499**	**9.8168**	**702.0259**	**4.2366**	**706.2624**	**189.9922**	**3.9644**	**193.9567**		**1,011,558.1766**	**1,011,558.1766**	**66.2470**		**1,013,214.3516**

3.2 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	43.1010	1,943.1819	281.0291	6.3124	166.7211	1.8287	168.5498	48.0046	1.7488	49.7535		661,711.8213	661,711.8213	60.5177		663,224.7630
Worker	151.8762	71.5463	797.4952	3.3937	535.3068	2.2257	537.5326	141.9883	2.0472	144.0355		338,752.7195	338,752.7195	4.6237		338,868.3118
Total	**194.9772**	**2,014.7282**	**1,078.5243**	**9.7060**	**702.0279**	**4.0544**	**706.0823**	**189.9930**	**3.7960**	**193.7890**		**1,000,464.5408**	**1,000,464.5408**	**65.1414**		**1,002,093.0748**

3.2 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	43.1010	1,943.1819	281.0291	6.3124	166.7211	1.8287	168.5498	48.0046	1.7488	49.7535		661,711.8213	661,711.8213	60.5177		663,224.7630
Worker	151.8762	71.5463	797.4952	3.3937	535.3068	2.2257	537.5326	141.9883	2.0472	144.0355		338,752.7195	338,752.7195	4.6237		338,868.3118
Total	**194.9772**	**2,014.7282**	**1,078.5243**	**9.7060**	**702.0279**	**4.0544**	**706.0823**	**189.9930**	**3.7960**	**193.7890**		**1,000,464.5408**	**1,000,464.5408**	**65.1414**		**1,002,093.0748**

3.2 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.7464	1,934.2633	277.7299	6.2974	166.7228	1.8117	168.5345	48.0053	1.7325	49.7378		660,141.3920	660,141.3920	60.0338		661,642.2375
Worker	138.8872	65.2444	744.2728	3.3133	535.3068	2.0743	537.3811	141.9883	1.9079	143.8962		330,792.9457	330,792.9457	4.2054		330,898.0807
Total	**181.6335**	**1,999.5078**	**1,022.0027**	**9.6107**	**702.0296**	**3.8859**	**705.9156**	**189.9936**	**3.6404**	**193.6340**		**990,934.3377**	**990,934.3377**	**64.2392**		**992,540.3183**

3.2 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.7464	1,934.2633	277.7299	6.2974	166.7228	1.8117	168.5345	48.0053	1.7325	49.7378		660,141.3920	660,141.3920	60.0338		661,642.2375
Worker	138.8872	65.2444	744.2728	3.3133	535.3068	2.0743	537.3811	141.9883	1.9079	143.8962		330,792.9457	330,792.9457	4.2054		330,898.0807
Total	**181.6335**	**1,999.5078**	**1,022.0027**	**9.6107**	**702.0296**	**3.8859**	**705.9156**	**189.9936**	**3.6404**	**193.6340**		**990,934.3377**	**990,934.3377**	**64.2392**		**992,540.3183**

3.2 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.4674	1,926.5320	275.2755	6.2880	166.7244	1.7950	168.5194	48.0059	1.7166	49.7224		659,156.5111	659,156.5111	59.6759		660,648.4087
Worker	127.2437	59.8316	697.5559	3.2431	535.3068	1.9348	537.2416	141.9883	1.7795	143.7679		323,839.9502	323,839.9502	3.8426		323,936.0143
Total	**169.7111**	**1,986.3636**	**972.8314**	**9.5311**	**702.0313**	**3.7297**	**705.7610**	**189.9942**	**3.4961**	**193.4903**		**982,996.4613**	**982,996.4613**	**63.5185**		**984,584.4230**

3.2 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.4674	1,926.5320	275.2755	6.2880	166.7244	1.7950	168.5194	48.0059	1.7166	49.7224		659,156.5111	659,156.5111	59.6759		660,648.4087
Worker	127.2437	59.8316	697.5559	3.2431	535.3068	1.9348	537.2416	141.9883	1.7795	143.7679		323,839.9502	323,839.9502	3.8426		323,936.0143
Total	**169.7111**	**1,986.3636**	**972.8314**	**9.5311**	**702.0313**	**3.7297**	**705.7610**	**189.9942**	**3.4961**	**193.4903**		**982,996.4613**	**982,996.4613**	**63.5185**		**984,584.4230**

3.2 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.2723	1,919.9886	273.4883	6.2816	166.7259	1.7816	168.5075	48.0064	1.7038	49.7102		658,483.9935	658,483.9935	59.1809		659,963.5165
Worker	117.2080	55.2521	657.1927	3.1822	535.3068	1.8069	537.1138	141.9883	1.6620	143.6503		317,804.5880	317,804.5880	3.5315		317,892.8753
Total	**159.4803**	**1,975.2407**	**930.6810**	**9.4638**	**702.0327**	**3.5886**	**705.6212**	**189.9947**	**3.3657**	**193.3604**		**976,288.5815**	**976,288.5815**	**62.7124**		**977,856.3918**

3.2 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.2723	1,919.9886	273.4883	6.2816	166.7259	1.7816	168.5075	48.0064	1.7038	49.7102		658,483.9935	658,483.9935	59.1809		659,963.5165
Worker	117.2080	55.2521	657.1927	3.1822	535.3068	1.8069	537.1138	141.9883	1.6620	143.6503		317,804.5880	317,804.5880	3.5315		317,892.8753
Total	**159.4803**	**1,975.2407**	**930.6810**	**9.4638**	**702.0327**	**3.5886**	**705.6212**	**189.9947**	**3.3657**	**193.3604**		**976,288.5815**	**976,288.5815**	**62.7124**		**977,856.3918**

3.2 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**		**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.1075	1,914.3329	271.9331	6.2778	166.7272	1.7692	168.4964	48.0068	1.6919	49.6987		658,092.0129	658,092.0129	58.8280		659,562.7129
Worker	109.2992	51.6206	621.0638	3.1296	535.3068	1.6896	536.9965	141.9883	1.5541	143.5424		312,594.7899	312,594.7899	3.2583		312,676.2482
Total	**151.4068**	**1,965.9535**	**892.9969**	**9.4074**	**702.0340**	**3.4588**	**705.4928**	**189.9952**	**3.2459**	**193.2411**		**970,686.8027**	**970,686.8027**	**62.0863**		**972,238.9611**

3.2 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	**1.3091**	**7.9346**	**16.1570**	**0.0310**		**0.1481**	**0.1481**		**0.1481**	**0.1481**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1162**		**2,900.4529**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	42.1075	1,914.3329	271.9331	6.2778	166.7272	1.7692	168.4964	48.0068	1.6919	49.6987		658,092.0129	658,092.0129	58.8280		659,562.7129
Worker	109.2992	51.6206	621.0638	3.1296	535.3068	1.6896	536.9965	141.9883	1.5541	143.5424		312,594.7899	312,594.7899	3.2583		312,676.2482
Total	**151.4068**	**1,965.9535**	**892.9969**	**9.4074**	**702.0340**	**3.4588**	**705.4928**	**189.9952**	**3.2459**	**193.2411**		**970,686.8027**	**970,686.8027**	**62.0863**		**972,238.9611**

3.2 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	**1.2168**	**7.1613**	**16.1178**	**0.0310**		**0.0904**	**0.0904**		**0.0904**	**0.0904**		**2,897.5468**	**2,897.5468**	**0.1079**		**2,900.2448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	41.9630	1,909.3575	270.6511	6.2756	166.7285	1.7578	168.4863	48.0073	1.6810	49.6883		657,854.3409	657,854.3409	58.4917		659,316.6324
Worker	102.5642	48.8193	590.6323	3.0847	535.3068	1.5841	536.8910	141.9883	1.4570	143.4454		308,153.0402	308,153.0402	3.0308		308,228.8101
Total	**144.5273**	**1,958.1767**	**861.2834**	**9.3603**	**702.0353**	**3.3419**	**705.3772**	**189.9956**	**3.1380**	**193.1337**		**966,007.3811**	**966,007.3811**	**61.5225**		**967,545.4425**

3.2 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	**1.2168**	**7.1613**	**16.1178**	**0.0310**		**0.0904**	**0.0904**		**0.0904**	**0.0904**	**0.0000**	**2,897.5468**	**2,897.5468**	**0.1079**		**2,900.2448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	41.9630	1,909.3575	270.6511	6.2756	166.7285	1.7578	168.4863	48.0073	1.6810	49.6883		657,854.3409	657,854.3409	58.4917		659,316.6324
Worker	102.5642	48.8193	590.6323	3.0847	535.3068	1.5841	536.8910	141.9883	1.4570	143.4454		308,153.0402	308,153.0402	3.0308		308,228.8101
Total	**144.5273**	**1,958.1767**	**861.2834**	**9.3603**	**702.0353**	**3.3419**	**705.3772**	**189.9956**	**3.1380**	**193.1337**		**966,007.3811**	**966,007.3811**	**61.5225**		**967,545.4425**

3.3 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.2177	0.0000	49.2177	7.4520	0.0000	7.4520			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**49.2177**	**1.5513**	**50.7690**	**7.4520**	**1.4411**	**8.8931**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7413	59.0185	8.8630	0.1774	3.9814	0.1952	4.1765	1.0917	0.1867	1.2784		18,622.6509	18,622.6509	1.7503		18,666.4074
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0632	0.0400	0.3720	1.0700e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		106.1985	106.1985	2.6600e-003		106.2650
Total	**1.8044**	**59.0586**	**9.2350**	**0.1785**	**4.1046**	**0.1959**	**4.3005**	**1.1244**	**0.1874**	**1.3118**		**18,728.8493**	**18,728.8493**	**1.7529**		**18,772.6723**

3.3 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					22.1480	0.0000	22.1480	3.3534	0.0000	3.3534			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**22.1480**	**1.5513**	**23.6993**	**3.3534**	**1.4411**	**4.7945**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7413	59.0185	8.8630	0.1774	3.9814	0.1952	4.1765	1.0917	0.1867	1.2784		18,622.6509	18,622.6509	1.7503		18,666.4074
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0632	0.0400	0.3720	1.0700e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		106.1985	106.1985	2.6600e-003		106.2650
Total	**1.8044**	**59.0586**	**9.2350**	**0.1785**	**4.1046**	**0.1959**	**4.3005**	**1.1244**	**0.1874**	**1.3118**		**18,728.8493**	**18,728.8493**	**1.7529**		**18,772.6723**

3.4 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0758	0.0480	0.4465	1.2800e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		127.4382	127.4382	3.1900e-003		127.5179
Total	**0.0758**	**0.0480**	**0.4465**	**1.2800e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**127.4382**	**127.4382**	**3.1900e-003**		**127.5179**

3.4 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0758	0.0480	0.4465	1.2800e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		127.4382	127.4382	3.1900e-003		127.5179
Total	**0.0758**	**0.0480**	**0.4465**	**1.2800e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**127.4382**	**127.4382**	**3.1900e-003**		**127.5179**

3.5 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					121.4861	0.0000	121.4861	15.7776	0.0000	15.7776			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**121.4861**	**1.9853**	**123.4714**	**15.7776**	**1.8265**	**17.6041**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0534	0.4961	1.4200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		141.5980	141.5980	3.5500e-003		141.6866
Total	**0.0842**	**0.0534**	**0.4961**	**1.4200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**141.5980**	**141.5980**	**3.5500e-003**		**141.6866**

3.5 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					54.6688	0.0000	54.6688	7.0999	0.0000	7.0999			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**54.6688**	**1.9853**	**56.6541**	**7.0999**	**1.8265**	**8.9264**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0842	0.0534	0.4961	1.4200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		141.5980	141.5980	3.5500e-003		141.6866
Total	**0.0842**	**0.0534**	**0.4961**	**1.4200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**141.5980**	**141.5980**	**3.5500e-003**		**141.6866**

3.6 Underground Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5111	25.8382	29.3065	0.0456		1.3555	1.3555		1.2470	1.2470		4,414.4217	4,414.4217	1.4277		4,450.1146
Total	**2.5111**	**25.8382**	**29.3065**	**0.0456**		**1.3555**	**1.3555**		**1.2470**	**1.2470**		**4,414.4217**	**4,414.4217**	**1.4277**		**4,450.1146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1263	0.0800	0.7441	2.1300e-003	0.4606	1.4900e-003	0.4621	0.1179	1.3700e-003	0.1193		212.3970	212.3970	5.3200e-003		212.5299
Total	**0.1263**	**0.0800**	**0.7441**	**2.1300e-003**	**0.4606**	**1.4900e-003**	**0.4621**	**0.1179**	**1.3700e-003**	**0.1193**		**212.3970**	**212.3970**	**5.3200e-003**		**212.5299**

3.6 Underground Utilities - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5111	25.8382	29.3065	0.0456		1.3555	1.3555		1.2470	1.2470	0.0000	4,414.4217	4,414.4217	1.4277		4,450.1146
Total	**2.5111**	**25.8382**	**29.3065**	**0.0456**		**1.3555**	**1.3555**		**1.2470**	**1.2470**	**0.0000**	**4,414.4217**	**4,414.4217**	**1.4277**		**4,450.1146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1263	0.0800	0.7441	2.1300e-003	0.4606	1.4900e-003	0.4621	0.1179	1.3700e-003	0.1193		212.3970	212.3970	5.3200e-003		212.5299
Total	**0.1263**	**0.0800**	**0.7441**	**2.1300e-003**	**0.4606**	**1.4900e-003**	**0.4621**	**0.1179**	**1.3700e-003**	**0.1193**		**212.3970**	**212.3970**	**5.3200e-003**		**212.5299**

3.7 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.3873**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0632	0.0400	0.3720	1.0700e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		106.1985	106.1985	2.6600e-003		106.2650
Total	**0.0632**	**0.0400**	**0.3720**	**1.0700e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**106.1985**	**106.1985**	**2.6600e-003**		**106.2650**

3.7 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.3873**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0632	0.0400	0.3720	1.0700e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		106.1985	106.1985	2.6600e-003		106.2650
Total	**0.0632**	**0.0400**	**0.3720**	**1.0700e-003**	**0.1232**	**7.5000e-004**	**0.1240**	**0.0327**	**6.9000e-004**	**0.0334**		**106.1985**	**106.1985**	**2.6600e-003**		**106.2650**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.2346**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0357	0.3384	1.0300e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		102.3860	102.3860	2.3700e-003		102.4452
Total	**0.0587**	**0.0357**	**0.3384**	**1.0300e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**102.3860**	**102.3860**	**2.3700e-003**		**102.4452**

3.7 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	31.1318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**32.2346**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0357	0.3384	1.0300e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		102.3860	102.3860	2.3700e-003		102.4452
Total	**0.0587**	**0.0357**	**0.3384**	**1.0300e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**102.3860**	**102.3860**	**2.3700e-003**		**102.4452**

3.8 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**638.0348**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	54.8657	34.7664	323.2563	0.9263	107.0630	0.6486	107.7116	28.3981	0.5972	28.9953		92,272.3211	92,272.3211	2.3102		92,330.0750
Total	**54.8657**	**34.7664**	**323.2563**	**0.9263**	**107.0630**	**0.6486**	**107.7116**	**28.3981**	**0.5972**	**28.9953**		**92,272.3211**	**92,272.3211**	**2.3102**		**92,330.0750**

3.8 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**638.0348**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	54.8657	34.7664	323.2563	0.9263	107.0630	0.6486	107.7116	28.3981	0.5972	28.9953		92,272.3211	92,272.3211	2.3102		92,330.0750
Total	**54.8657**	**34.7664**	**323.2563**	**0.9263**	**107.0630**	**0.6486**	**107.7116**	**28.3981**	**0.5972**	**28.9953**		**92,272.3211**	**92,272.3211**	**2.3102**		**92,330.0750**

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**638.0205**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	50.9905	31.0298	294.0537	0.8927	107.0630	0.6298	107.6928	28.3981	0.5798	28.9779		88,959.8172	88,959.8172	2.0571		89,011.2458
Total	**50.9905**	**31.0298**	**294.0537**	**0.8927**	**107.0630**	**0.6298**	**107.6928**	**28.3981**	**0.5798**	**28.9779**		**88,959.8172**	**88,959.8172**	**2.0571**		**89,011.2458**

3.8 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**638.0205**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	50.9905	31.0298	294.0537	0.8927	107.0630	0.6298	107.6928	28.3981	0.5798	28.9779		88,959.8172	88,959.8172	2.0571		89,011.2458
Total	**50.9905**	**31.0298**	**294.0537**	**0.8927**	**107.0630**	**0.6298**	**107.6928**	**28.3981**	**0.5798**	**28.9779**		**88,959.8172**	**88,959.8172**	**2.0571**		**89,011.2458**

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**638.0076**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	47.5563	27.7607	267.8505	0.8590	107.0630	0.6136	107.6766	28.3981	0.5648	28.9629		85,625.9521	85,625.9521	1.8319		85,671.7487
Total	**47.5563**	**27.7607**	**267.8505**	**0.8590**	**107.0630**	**0.6136**	**107.6766**	**28.3981**	**0.5648**	**28.9629**		**85,625.9521**	**85,625.9521**	**1.8319**		**85,671.7487**

3.8 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**638.0076**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	47.5563	27.7607	267.8505	0.8590	107.0630	0.6136	107.6766	28.3981	0.5648	28.9629		85,625.9521	85,625.9521	1.8319		85,671.7487
Total	**47.5563**	**27.7607**	**267.8505**	**0.8590**	**107.0630**	**0.6136**	**107.6766**	**28.3981**	**0.5648**	**28.9629**		**85,625.9521**	**85,625.9521**	**1.8319**		**85,671.7487**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**637.9967**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	44.5523	24.9380	245.8676	0.8252	107.0630	0.5986	107.6616	28.3981	0.5509	28.9490		82,282.6267	82,282.6267	1.6370		82,323.5514
Total	**44.5523**	**24.9380**	**245.8676**	**0.8252**	**107.0630**	**0.5986**	**107.6616**	**28.3981**	**0.5509**	**28.9490**		**82,282.6267**	**82,282.6267**	**1.6370**		**82,323.5514**

3.8 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**637.9967**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	44.5523	24.9380	245.8676	0.8252	107.0630	0.5986	107.6616	28.3981	0.5509	28.9490		82,282.6267	82,282.6267	1.6370		82,323.5514
Total	**44.5523**	**24.9380**	**245.8676**	**0.8252**	**107.0630**	**0.5986**	**107.6616**	**28.3981**	**0.5509**	**28.9490**		**82,282.6267**	**82,282.6267**	**1.6370**		**82,323.5514**

3.8 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	41.9493	22.5225	226.2140	0.7922	107.0630	0.5870	107.6500	28.3981	0.5402	28.9383		79,010.0016	79,010.0016	1.4722		79,046.8061
Total	**41.9493**	**22.5225**	**226.2140**	**0.7922**	**107.0630**	**0.5870**	**107.6500**	**28.3981**	**0.5402**	**28.9383**		**79,010.0016**	**79,010.0016**	**1.4722**		**79,046.8061**

3.8 Architectural Coating - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	41.9493	22.5225	226.2140	0.7922	107.0630	0.5870	107.6500	28.3981	0.5402	28.9383		79,010.0016	79,010.0016	1.4722		79,046.8061
Total	**41.9493**	**22.5225**	**226.2140**	**0.7922**	**107.0630**	**0.5870**	**107.6500**	**28.3981**	**0.5402**	**28.9383**		**79,010.0016**	**79,010.0016**	**1.4722**		**79,046.8061**

3.8 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	39.7392	20.5349	211.0324	0.7673	107.0630	0.5770	107.6400	28.3981	0.5309	28.9290		76,532.3043	76,532.3043	1.3480		76,566.0034
Total	**39.7392**	**20.5349**	**211.0324**	**0.7673**	**107.0630**	**0.5770**	**107.6400**	**28.3981**	**0.5309**	**28.9290**		**76,532.3043**	**76,532.3043**	**1.3480**		**76,566.0034**

3.8 Architectural Coating - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	39.7392	20.5349	211.0324	0.7673	107.0630	0.5770	107.6400	28.3981	0.5309	28.9290		76,532.3043	76,532.3043	1.3480		76,566.0034
Total	**39.7392**	**20.5349**	**211.0324**	**0.7673**	**107.0630**	**0.5770**	**107.6400**	**28.3981**	**0.5309**	**28.9290**		**76,532.3043**	**76,532.3043**	**1.3480**		**76,566.0034**

3.8 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	37.5603	18.7246	196.0176	0.7409	107.0630	0.5491	107.6121	28.3981	0.5051	28.9032		73,921.5428	73,921.5428	1.2222		73,952.0987
Total	**37.5603**	**18.7246**	**196.0176**	**0.7409**	**107.0630**	**0.5491**	**107.6121**	**28.3981**	**0.5051**	**28.9032**		**73,921.5428**	**73,921.5428**	**1.2222**		**73,952.0987**

3.8 Architectural Coating - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	37.5603	18.7246	196.0176	0.7409	107.0630	0.5491	107.6121	28.3981	0.5051	28.9032		73,921.5428	73,921.5428	1.2222		73,952.0987
Total	**37.5603**	**18.7246**	**196.0176**	**0.7409**	**107.0630**	**0.5491**	**107.6121**	**28.3981**	**0.5051**	**28.9032**		**73,921.5428**	**73,921.5428**	**1.2222**		**73,952.0987**

3.8 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	35.2508	17.1150	182.9473	0.7176	107.0630	0.5120	107.5751	28.3981	0.4710	28.8691		71,608.3376	71,608.3376	1.1146		71,636.2036
Total	**35.2508**	**17.1150**	**182.9473**	**0.7176**	**107.0630**	**0.5120**	**107.5751**	**28.3981**	**0.4710**	**28.8691**		**71,608.3376**	**71,608.3376**	**1.1146**		**71,636.2036**

3.8 Architectural Coating - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	35.2508	17.1150	182.9473	0.7176	107.0630	0.5120	107.5751	28.3981	0.4710	28.8691		71,608.3376	71,608.3376	1.1146		71,636.2036
Total	**35.2508**	**17.1150**	**182.9473**	**0.7176**	**107.0630**	**0.5120**	**107.5751**	**28.3981**	**0.4710**	**28.8691**		**71,608.3376**	**71,608.3376**	**1.1146**		**71,636.2036**

3.8 Architectural Coating - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	32.8027	15.6426	170.6165	0.6970	107.0630	0.4773	107.5403	28.3981	0.4390	28.8371		69,560.4910	69,560.4910	1.0142		69,585.8461
Total	**32.8027**	**15.6426**	**170.6165**	**0.6970**	**107.0630**	**0.4773**	**107.5403**	**28.3981**	**0.4390**	**28.8371**		**69,560.4910**	**69,560.4910**	**1.0142**		**69,585.8461**

3.8 Architectural Coating - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**637.9868**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	32.8027	15.6426	170.6165	0.6970	107.0630	0.4773	107.5403	28.3981	0.4390	28.8371		69,560.4910	69,560.4910	1.0142		69,585.8461
Total	**32.8027**	**15.6426**	**170.6165**	**0.6970**	**107.0630**	**0.4773**	**107.5403**	**28.3981**	**0.4390**	**28.8371**		**69,560.4910**	**69,560.4910**	**1.0142**		**69,585.8461**

3.8 Architectural Coating - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	30.3757	14.3095	159.5015	0.6787	107.0630	0.4452	107.5082	28.3981	0.4094	28.8076		67,751.5836	67,751.5836	0.9248		67,774.7024
Total	**30.3757**	**14.3095**	**159.5015**	**0.6787**	**107.0630**	**0.4452**	**107.5082**	**28.3981**	**0.4094**	**28.8076**		**67,751.5836**	**67,751.5836**	**0.9248**		**67,774.7024**

3.8 Architectural Coating - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	30.3757	14.3095	159.5015	0.6787	107.0630	0.4452	107.5082	28.3981	0.4094	28.8076		67,751.5836	67,751.5836	0.9248		67,774.7024
Total	**30.3757**	**14.3095**	**159.5015**	**0.6787**	**107.0630**	**0.4452**	**107.5082**	**28.3981**	**0.4094**	**28.8076**		**67,751.5836**	**67,751.5836**	**0.9248**		**67,774.7024**

3.8 Architectural Coating - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	27.7779	13.0491	148.8568	0.6627	107.0630	0.4149	107.4779	28.3981	0.3816	28.7797		66,159.6044	66,159.6044	0.8411		66,180.6317
Total	**27.7779**	**13.0491**	**148.8568**	**0.6627**	**107.0630**	**0.4149**	**107.4779**	**28.3981**	**0.3816**	**28.7797**		**66,159.6044**	**66,159.6044**	**0.8411**		**66,180.6317**

3.8 Architectural Coating - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	27.7779	13.0491	148.8568	0.6627	107.0630	0.4149	107.4779	28.3981	0.3816	28.7797		66,159.6044	66,159.6044	0.8411		66,180.6317
Total	**27.7779**	**13.0491**	**148.8568**	**0.6627**	**107.0630**	**0.4149**	**107.4779**	**28.3981**	**0.3816**	**28.7797**		**66,159.6044**	**66,159.6044**	**0.8411**		**66,180.6317**

3.8 Architectural Coating - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	25.4491	11.9665	139.5133	0.6486	107.0630	0.3870	107.4500	28.3981	0.3559	28.7540		64,768.9840	64,768.9840	0.7685		64,788.1971
Total	**25.4491**	**11.9665**	**139.5133**	**0.6486**	**107.0630**	**0.3870**	**107.4500**	**28.3981**	**0.3559**	**28.7540**		**64,768.9840**	**64,768.9840**	**0.7685**		**64,788.1971**

3.8 Architectural Coating - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	25.4491	11.9665	139.5133	0.6486	107.0630	0.3870	107.4500	28.3981	0.3559	28.7540		64,768.9840	64,768.9840	0.7685		64,788.1971
Total	**25.4491**	**11.9665**	**139.5133**	**0.6486**	**107.0630**	**0.3870**	**107.4500**	**28.3981**	**0.3559**	**28.7540**		**64,768.9840**	**64,768.9840**	**0.7685**		**64,788.1971**

3.8 Architectural Coating - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	23.4420	11.0506	131.4406	0.6365	107.0630	0.3614	107.4244	28.3981	0.3324	28.7305		63,561.8930	63,561.8930	0.7063		63,579.5507
Total	**23.4420**	**11.0506**	**131.4406**	**0.6365**	**107.0630**	**0.3614**	**107.4244**	**28.3981**	**0.3324**	**28.7305**		**63,561.8930**	**63,561.8930**	**0.7063**		**63,579.5507**

3.8 Architectural Coating - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	23.4420	11.0506	131.4406	0.6365	107.0630	0.3614	107.4244	28.3981	0.3324	28.7305		63,561.8930	63,561.8930	0.7063		63,579.5507
Total	**23.4420**	**11.0506**	**131.4406**	**0.6365**	**107.0630**	**0.3614**	**107.4244**	**28.3981**	**0.3324**	**28.7305**		**63,561.8930**	**63,561.8930**	**0.7063**		**63,579.5507**

3.8 Architectural Coating - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	21.8602	10.3243	124.2147	0.6259	107.0630	0.3379	107.4009	28.3981	0.3108	28.7089		62,519.9174	62,519.9174	0.6517		62,536.2093
Total	**21.8602**	**10.3243**	**124.2147**	**0.6259**	**107.0630**	**0.3379**	**107.4009**	**28.3981**	**0.3108**	**28.7089**		**62,519.9174**	**62,519.9174**	**0.6517**		**62,536.2093**

3.8 Architectural Coating - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**637.9467**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	21.8602	10.3243	124.2147	0.6259	107.0630	0.3379	107.4009	28.3981	0.3108	28.7089		62,519.9174	62,519.9174	0.6517		62,536.2093
Total	**21.8602**	**10.3243**	**124.2147**	**0.6259**	**107.0630**	**0.3379**	**107.4009**	**28.3981**	**0.3108**	**28.7089**		**62,519.9174**	**62,519.9174**	**0.6517**		**62,536.2093**

3.8 Architectural Coating - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	**637.9338**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**		**281.4481**	**281.4481**	**0.0104**		**281.7081**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	20.5132	9.7640	118.1283	0.6170	107.0630	0.3168	107.3798	28.3981	0.2914	28.6895		61,631.5538	61,631.5538	0.6062		61,646.7080
Total	**20.5132**	**9.7640**	**118.1283**	**0.6170**	**107.0630**	**0.3168**	**107.3798**	**28.3981**	**0.2914**	**28.6895**		**61,631.5538**	**61,631.5538**	**0.6062**		**61,646.7080**

3.8 Architectural Coating - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	637.8159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	**637.9338**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0104**		**281.7081**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	20.5132	9.7640	118.1283	0.6170	107.0630	0.3168	107.3798	28.3981	0.2914	28.6895		61,631.5538	61,631.5538	0.6062		61,646.7080
Total	**20.5132**	**9.7640**	**118.1283**	**0.6170**	**107.0630**	**0.3168**	**107.3798**	**28.3981**	**0.2914**	**28.6895**		**61,631.5538**	**61,631.5538**	**0.6062**		**61,646.7080**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	998.9121	16,690.3657	10,500.4190	87.8300	6,655.7054	34.5610	6,690.2664	1,788.2637	32.4758	1,820.7395		9,064,851.4107	9,064,851.4107	725.9589		9,083,000.3829
Unmitigated	998.9121	16,690.3657	10,500.4190	87.8300	6,655.7054	34.5610	6,690.2664	1,788.2637	32.4758	1,820.7395		9,064,851.4107	9,064,851.4107	725.9589		9,083,000.3829

4.2 Trip Summary Information

Fresno SPWA - Fresno County, Winter

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	7,003.98	7,003.98	7003.98	23,077,610	23,077,610
Apartments Low Rise	24,474.42	24,474.42	24474.42	80,641,452	80,641,452
Apartments Mid Rise	18,739.44	18,739.44	18739.44	61,745,106	61,745,106
Apartments Mid Rise	277.44	277.44	277.44	914,145	914,145
Single Family Housing	12,814.80	12,814.80	12814.80	42,223,843	42,223,843
Single Family Housing	60,633.12	60,633.12	60633.12	199,781,765	199,781,765
Single Family Housing	177,708.00	177,708.00	177708.00	585,535,065	585,535,065
Regional Shopping Center	31,344.25	31,344.25	31344.25	87,379,322	87,379,322
Regional Shopping Center	11,218.80	11,218.80	11218.80	31,274,982	31,274,982
Regional Shopping Center	234,254.18	234,254.18	234254.18	653,037,499	653,037,499
Regional Shopping Center	2,301.29	2,301.29	2301.29	6,415,368	6,415,368
Regional Shopping Center	251,633.28	251,633.28	251633.28	701,485,733	701,485,733
Regional Shopping Center	78,417.62	78,417.62	78417.62	218,607,185	218,607,185
General Light Industry	5,310.15	5,310.15	5310.15	16,619,043	16,619,043
General Office Building	52,380.68	52,380.68	52380.68	153,028,277	153,028,277
Office Park	17,016.53	17,016.53	17016.53	49,713,186	49,713,186
City Park	0.00	0.00	0.00		
Elementary School	22,196.02	22,196.02	22196.02	70,532,737	70,532,737
High School	14,918.80	14,918.80	14918.80	48,936,982	48,936,982
Junior College (2Yr)	0.00	0.00	0.00		
Junior High School	12,504.00	12,504.00	12504.00	40,515,241	40,515,241
Library	0.00	0.00	0.00		
Library	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	3,953.92	3,953.92	3953.92	10,506,359	10,506,359
Total	1,039,100.72	1,039,100.72	1,039,100.72	3,081,970,900	3,081,970,900

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Low Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Mid Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Apartments Mid Rise	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	100	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	100	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	100	0	0
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	100	0	0
High School	9.50	7.30	7.30	77.80	17.20	5.00	100	0	0
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	100	0	0
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	100	0	0
Library	9.50	7.30	7.30	52.00	43.00	5.00	100	0	0
Library	9.50	7.30	7.30	52.00	43.00	5.00	100	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	100	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Apartments Low Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Apartments Mid Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Single Family Housing	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Regional Shopping Center	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
General Light Industry	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
General Office Building	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Office Park	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
City Park	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Elementary School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
High School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Junior College (2Yr)	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Junior High School	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Library	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Other Asphalt Surfaces	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Place of Worship	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729
NaturalGas Unmitigated	56.0796	492.5253	301.4567	3.0589		38.7459	38.7459		38.7459	38.7459		611,777.3858	611,777.3858	11.7257	11.2159	615,412.8729

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	69964.3	0.7545	6.4477	2.7437	0.0412		0.5213	0.5213		0.5213	0.5213		8,231.0951	8,231.0951	0.1578	0.1509	8,280.0083
Apartments Low Rise	172658	1.8620	15.9117	6.7709	0.1016		1.2865	1.2865		1.2865	1.2865		20,312.7603	20,312.7603	0.3893	0.3724	20,433.4688
Apartments Mid Rise	153241	1.6526	14.1222	6.0095	0.0901		1.1418	1.1418		1.1418	1.1418		18,028.3355	18,028.3355	0.3455	0.3305	18,135.4689
Apartments Mid Rise	2268.75	0.0245	0.2091	0.0890	1.3300e-003		0.0169	0.0169		0.0169	0.0169		266.9120	266.9120	5.1200e-003	4.8900e-003	268.4981
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	89901	0.9695	8.8138	7.4036	0.0529		0.6699	0.6699		0.6699	0.6699		10,576.5852	10,576.5852	0.2027	0.1939	10,639.4365

Fresno SPWA - Fresno County, Winter

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	81619.5	0.8802	8.0019	6.7216	0.0480		0.6082	0.6082		0.6082	0.6082		9,602.2921	9,602.2921	0.1840	0.1760	9,659.3537
General Office Building	256195	2.7629	25.1172	21.0985	0.1507		1.9089	1.9089		1.9089	1.9089		30,140.6417	30,140.6417	0.5777	0.5526	30,319.7525
High School	89575.1	0.9660	8.7819	7.3768	0.0527		0.6674	0.6674		0.6674	0.6674		10,538.2481	10,538.2481	0.2020	0.1932	10,600.8716
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Junior High School	63204.6	0.6816	6.1965	5.2051	0.0372		0.4709	0.4709		0.4709	0.4709		7,435.8343	7,435.8343	0.1425	0.1363	7,480.0217
Library	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	203842	2.1983	19.9845	16.7870	0.1199		1.5188	1.5188		1.5188	1.5188		23,981.4403	23,981.4403	0.4596	0.4397	24,123.9500
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	43393	0.4680	4.2542	3.5735	0.0255		0.3233	0.3233		0.3233	0.3233		5,105.0610	5,105.0610	0.0979	0.0936	5,135.3978
Regional Shopping Center	184496	1.9897	18.0878	15.1938	0.1085		1.3747	1.3747		1.3747	1.3747		21,705.3906	21,705.3906	0.4160	0.3979	21,834.3749
Regional Shopping Center	26394.8	0.2847	2.5877	2.1737	0.0155		0.1967	0.1967		0.1967	0.1967		3,105.2762	3,105.2762	0.0595	0.0569	3,123.7293
Regional Shopping Center	5414.32	0.0584	0.5308	0.4459	3.1800e-003		0.0403	0.0403		0.0403	0.0403		636.9785	636.9785	0.0122	0.0117	640.7638
Regional Shopping Center	551138	5.9436	54.0331	45.3878	0.3242		4.1065	4.1065		4.1065	4.1065		64,839.7445	64,839.7445	1.2428	1.1887	65,225.0547
Regional Shopping Center	592026	6.3846	58.0418	48.7551	0.3483		4.4112	4.4112		4.4112	4.4112		69,650.1437	69,650.1437	1.3350	1.2769	70,064.0397
Regional Shopping Center	73744.7	0.7953	7.2299	6.0731	0.0434		0.5495	0.5495		0.5495	0.5495		8,675.8463	8,675.8463	0.1663	0.1591	8,727.4025
Single Family Housing	1.79793e+006	19.3895	165.6919	70.5072	1.0576		13.3964	13.3964		13.3964	13.3964		211,521.5226	211,521.5226	4.0542	3.8779	212,778.4893
Single Family Housing	129652	1.3982	11.9483	5.0844	0.0763		0.9660	0.9660		0.9660	0.9660		15,253.1457	15,253.1457	0.2924	0.2796	15,343.7875
Single Family Housing	613446	6.6156	56.5333	24.0567	0.3609		4.5708	4.5708		4.5708	4.5708		72,170.1323	72,170.1323	1.3833	1.3231	72,599.0033

Total		**56.0796**	**492.5253**	**301.4567**	**3.0589**		**38.7459**	**38.7459**		**38.7459**	**38.7459**		**611,777.3858**	**611,777.3858**	**11.7257**	**11.2159**	**615,412.8729**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	69.9643	0.7545	6.4477	2.7437	0.0412		0.5213	0.5213		0.5213	0.5213		8,231.0951	8,231.0951	0.1578	0.1509	8,280.0083
Apartments Low Rise	172.658	1.8620	15.9117	6.7709	0.1016		1.2865	1.2865		1.2865	1.2865		20,312.7603	20,312.7603	0.3893	0.3724	20,433.4688
Apartments Mid Rise	153.241	1.6526	14.1222	6.0095	0.0901		1.1418	1.1418		1.1418	1.1418		18,028.3355	18,028.3355	0.3455	0.3305	18,135.4689
Apartments Mid Rise	2.26875	0.0245	0.2091	0.0890	1.3300e-003		0.0169	0.0169		0.0169	0.0169		266.9120	266.9120	5.1200e-003	4.8900e-003	268.4981
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	89.901	0.9695	8.8138	7.4036	0.0529		0.6699	0.6699		0.6699	0.6699		10,576.5852	10,576.5852	0.2027	0.1939	10,639.4365
General Light Industry	81.6195	0.8802	8.0019	6.7216	0.0480		0.6082	0.6082		0.6082	0.6082		9,602.2921	9,602.2921	0.1840	0.1760	9,659.3537
General Office Building	256.195	2.7629	25.1172	21.0985	0.1507		1.9089	1.9089		1.9089	1.9089		30,140.6417	30,140.6417	0.5777	0.5526	30,319.7525
High School	89.5751	0.9660	8.7819	7.3768	0.0527		0.6674	0.6674		0.6674	0.6674		10,538.2481	10,538.2481	0.2020	0.1932	10,600.8716
Junior College (2Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Junior High School	63.2046	0.6816	6.1965	5.2051	0.0372		0.4709	0.4709		0.4709	0.4709		7,435.8343	7,435.8343	0.1425	0.1363	7,480.0217
Library	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	203.842	2.1983	19.9845	16.7870	0.1199		1.5188	1.5188		1.5188	1.5188		23,981.4403	23,981.4403	0.4596	0.4397	24,123.9500

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	43.393	0.4680	4.2542	3.5735	0.0255		0.3233	0.3233		0.3233	0.3233		5,105.0610	5,105.0610	0.0979	0.0936	5,135.3978
Regional Shopping Center	184.496	1.9897	18.0878	15.1938	0.1085		1.3747	1.3747		1.3747	1.3747		21,705.3906	21,705.3906	0.4160	0.3979	21,834.3749
Regional Shopping Center	26.3948	0.2847	2.5877	2.1737	0.0155		0.1967	0.1967		0.1967	0.1967		3,105.2762	3,105.2762	0.0595	0.0569	3,123.7293
Regional Shopping Center	5.41432	0.0584	0.5308	0.4459	3.1800e-003		0.0403	0.0403		0.0403	0.0403		636.9785	636.9785	0.0122	0.0117	640.7638
Regional Shopping Center	551.138	5.9436	54.0331	45.3878	0.3242		4.1065	4.1065		4.1065	4.1065		64,839.7445	64,839.7445	1.2428	1.1887	65,225.0547
Regional Shopping Center	592.026	6.3846	58.0418	48.7551	0.3483		4.4112	4.4112		4.4112	4.4112		69,650.1437	69,650.1437	1.3350	1.2769	70,064.0397
Regional Shopping Center	73.7447	0.7953	7.2299	6.0731	0.0434		0.5495	0.5495		0.5495	0.5495		8,675.8463	8,675.8463	0.1663	0.1591	8,727.4025
Single Family Housing	129.652	1.3982	11.9483	5.0844	0.0763		0.9660	0.9660		0.9660	0.9660		15,253.1457	15,253.1457	0.2924	0.2796	15,343.7875
Single Family Housing	1797.93	19.3895	165.6919	70.5072	1.0576		13.3964	13.3964		13.3964	13.3964		211,521.5226	211,521.5226	4.0542	3.8779	212,778.4893
Single Family Housing	613.446	6.6156	56.5333	24.0567	0.3609		4.5708	4.5708		4.5708	4.5708		72,170.1323	72,170.1323	1.3833	1.3231	72,599.0033
Total		**56.0796**	**492.5253**	**301.4567**	**3.0589**		**38.7459**	**38.7459**		**38.7459**	**38.7459**		**611,777.3858**	**611,777.3858**	**11.7257**	**11.2159**	**615,412.8729**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244
Unmitigated	3,899.4719	1,160.1707	4,323.0006	7.3263		111.6094	111.6094		111.6094	111.6094	0.0000	1,431,380.5688	1,431,380.5688	33.9582	26.1144	1,440,011.6244

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	638.8644					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3,014.3757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	130.5722	1,115.7985	474.8079	7.1221		90.2135	90.2135		90.2135	90.2135	0.0000	1,424,423.6471	1,424,423.6471	27.3015	26.1144	1,432,888.2846
Landscaping	115.6596	44.3722	3,848.1927	0.2041		21.3959	21.3959		21.3959	21.3959		6,956.9217	6,956.9217	6.6567		7,123.3398
Total	**3,899.4719**	**1,160.1707**	**4,323.0006**	**7.3263**		**111.6094**	**111.6094**		**111.6094**	**111.6094**	**0.0000**	**1,431,380.5688**	**1,431,380.5688**	**33.9582**	**26.1144**	**1,440,011.6244**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	638.8644					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3,014.3757					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	130.5722	1,115.7985	474.8079	7.1221		90.2135	90.2135		90.2135	90.2135	0.0000	1,424,423.6471	1,424,423.6471	27.3015	26.1144	1,432,888.2846
Landscaping	115.6596	44.3722	3,848.1927	0.2041		21.3959	21.3959		21.3959	21.3959		6,956.9217	6,956.9217	6.6567		7,123.3398
Total	**3,899.4719**	**1,160.1707**	**4,323.0006**	**7.3263**		**111.6094**	**111.6094**		**111.6094**	**111.6094**	**0.0000**	**1,431,380.5688**	**1,431,380.5688**	**33.9582**	**26.1144**	**1,440,011.6244**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B.2

Energy Outputs

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: County
Region: FRESNO
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	MPG	
FRESNO	2021	All Other Buses	Aggregated	Aggregated	DSL	163.3759123	9551.723599	1372.357664	1.066679031	**8.95463708**	
FRESNO	2021	LDA	Aggregated	Aggregated	GAS	360187.0142	13826269.44	1691918.992	450.5829573	**30.6852916**	
FRESNO	2021	LDA	Aggregated	Aggregated	DSL	2734.668836	113419.567	13041.16806	2.240176367	**50.6297489**	
FRESNO	2021	LDA	Aggregated	Aggregated	ELEC	5771.621263	228949.6144	28804.39941	0	**#DIV/0!**	
FRESNO	2021	LDT1	Aggregated	Aggregated	GAS	39099.95365	1354856.639	175754.8755	52.1252267	**25.9923405**	
FRESNO	2021	LDT1	Aggregated	Aggregated	DSL	29.87393939	419.4733253	93.9839647	0.01653543	**25.3681542**	
FRESNO	2021	LDT1	Aggregated	Aggregated	ELEC	129.7655311	5482.677129	660.2390481	0	**#DIV/0!**	
FRESNO	2021	LDT2	Aggregated	Aggregated	GAS	129640.0253	4712300.458	596970.0264	198.0045045	**23.7989558**	
FRESNO	2021	LDT2	Aggregated	Aggregated	DSL	548.3314518	23832.76525	2687.423482	0.640468806	**37.211438**	
FRESNO	2021	LDT2	Aggregated	Aggregated	ELEC	713.4992138	23801.29738	3620.137061	0	**#DIV/0!**	
FRESNO	2021	LHD1	Aggregated	Aggregated	GAS	10624.69394	355805.1831	158292.1089	42.963626	**8.28154456**	
FRESNO	2021	LHD1	Aggregated	Aggregated	DSL	10656.82718	371708.625	134049.4796	21.02038574	**17.6832447**	
FRESNO	2021	LHD2	Aggregated	Aggregated	GAS	1825.478029	59952.66741	27196.90267	8.323817429	**7.20254474**	
FRESNO	2021	LHD2	Aggregated	Aggregated	DSL	3628.561563	128355.2011	45642.73974	8.141716014	**15.7651287**	
FRESNO	2021	MCY	Aggregated	Aggregated	GAS	18423.29031	148923.4391	36846.58062	3.935963267	**37.8365927**	
FRESNO	2021	MDV	Aggregated	Aggregated	GAS	124848.6639	4140987.568	564003.9311	215.1808357	**19.244221**	
FRESNO	2021	MDV	Aggregated	Aggregated	DSL	2105.941898	86518.70538	10153.68686	3.196155058	**27.0696208**	
FRESNO	2021	MDV	Aggregated	Aggregated	ELEC	312.4966737	10759.61149	1601.534031	0	**#DIV/0!**	
FRESNO	2021	MH	Aggregated	Aggregated	GAS	1759.975585	15220.55632	176.0679576	3.213623157	**4.73626047**	
FRESNO	2021	MH	Aggregated	Aggregated	DSL	722.7873095	6309.523058	72.27873095	0.651750843	**9.68088209**	
FRESNO	2021	Motor Coach	Aggregated	Aggregated	DSL	59.76869668	7770.733598	872.6229715	1.242306715	**6.2550846**	
FRESNO	2021	OBUS	Aggregated	Aggregated	GAS	343.9261828	17738.4867	6881.275066	3.81183852	**4.65352522**	
FRESNO	2021	PTO	Aggregated	Aggregated	DSL	0	14761.34913	0	3.009193327	**4.90541734**	
FRESNO	2021	SBUS	Aggregated	Aggregated	GAS	86.90521149	4894.756624	347.6208459	0.534550326	**9.15677419**	
FRESNO	2021	SBUS	Aggregated	Aggregated	DSL	1106.638049	34721.91042	12770.44966	4.371790876	**7.94226243**	**MHD**
FRESNO	2021	T6 Ag	Aggregated	Aggregated	DSL	70.58470331	986.5981425	310.5726946	0.109064383	**9.04601588**	**8.984019**
FRESNO	2021	T6 CAIRP heavy	Aggregated	Aggregated	DSL	149.4455623	29407.45814	2181.90521	2.667127291	**11.0258923**	
FRESNO	2021	T6 CAIRP small	Aggregated	Aggregated	DSL	78.24582375	4095.853786	1142.389027	0.394920925	**10.3713263**	
FRESNO	2021	T6 instate construction heavy	Aggregated	Aggregated	DSL	517.3970346	35207.97972	2339.131877	4.381177142	**8.03619178**	
FRESNO	2021	T6 instate construction small	Aggregated	Aggregated	DSL	2198.030381	113731.8796	9937.209892	14.05918199	**8.08950902**	
FRESNO	2021	T6 instate heavy	Aggregated	Aggregated	DSL	1868.81872	241522.0626	21565.90893	24.86084134	**9.71495933**	
FRESNO	2021	T6 instate small	Aggregated	Aggregated	DSL	4091.470089	205725.3141	47214.99757	21.86108511	**9.41057194**	
FRESNO	2021	T6 OOS heavy	Aggregated	Aggregated	DSL	84.99599301	16840.98131	1240.941498	1.526099078	**11.0353132**	
FRESNO	2021	T6 OOS small	Aggregated	Aggregated	DSL	45.86234765	2383.189166	669.5902756	0.229891569	**10.3665793**	
FRESNO	2021	T6 Public	Aggregated	Aggregated	DSL	521.5352965	7851.259054	1581.990398	1.125424582	**6.97626405**	
FRESNO	2021	T6 utility	Aggregated	Aggregated	DSL	110.1189523	1853.1229	1266.367952	0.205809786	**9.0040563**	
FRESNO	2021	T6TS	Aggregated	Aggregated	GAS	926.1474538	51879.6628	18530.35826	10.96463468	**4.73154504**	**HHD**
FRESNO	2021	T7 Ag	Aggregated	Aggregated	DSL	54.1137815	830.8241065	238.1006386	0.145510213	**5.70973055**	**5.379501**
FRESNO	2021	T7 CAIRP	Aggregated	Aggregated	DSL	2654.271667	471356.3512	38752.36633	70.76853275	**6.66053587**	
FRESNO	2021	T7 CAIRP construction	Aggregated	Aggregated	DSL	139.9590605	25290.19768	632.7494708	4.396813342	**5.75193798**	
FRESNO	2021	T7 NNOOS	Aggregated	Aggregated	DSL	2864.474226	574611.4909	41821.3237	83.04795011	**6.9190328**	
FRESNO	2021	T7 NOOS	Aggregated	Aggregated	DSL	1042.19486	185193.7786	15216.04496	28.45751002	**6.50772954**	
FRESNO	2021	T7 other port	Aggregated	Aggregated	DSL	53.96604641	8643.165324	410.1419527	1.580636182	**5.46815606**	
FRESNO	2021	T7 POAK	Aggregated	Aggregated	DSL	284.8967002	32755.92016	2165.214922	6.263997875	**5.22923552**	
FRESNO	2021	T7 POLA	Aggregated	Aggregated	DSL	266.0142577	33509.94953	2021.708358	6.437710689	**5.20525869**	
FRESNO	2021	T7 Public	Aggregated	Aggregated	DSL	770.5682866	15575.68186	2337.390467	2.845323791	**5.47413335**	
FRESNO	2021	T7 Single	Aggregated	Aggregated	DSL	1037.685109	74341.10476	11974.74229	12.02959418	**6.17985143**	
FRESNO	2021	T7 single construction	Aggregated	Aggregated	DSL	892.2981086	62740.3288	4034.045056	11.80656174	**5.314022**	
FRESNO	2021	T7 SWCV	Aggregated	Aggregated	DSL	431.0296171	17588.1497	1681.015507	7.245638552	**2.42741196**	
FRESNO	2021	T7 SWCV	Aggregated	Aggregated	NG	63.8381311	2604.304657	248.9687113	1.140120734	**2.28423585**	
FRESNO	2021	T7 tractor	Aggregated	Aggregated	DSL	5014.592123	685159.73	63685.31996	95.1828025	**7.19835634**	
FRESNO	2021	T7 tractor construction	Aggregated	Aggregated	DSL	745.1217937	51755.24755	3368.666659	9.809894294	**5.27582113**	
FRESNO	2021	T7 utility	Aggregated	Aggregated	DSL	35.58888675	722.0536174	409.2721977	0.12285306	**5.87737594**	
FRESNO	2021	T7IS	Aggregated	Aggregated	GAS	3.57827957	472.6745653	71.59421764	0.119101015	**3.9686863**	
FRESNO	2021	UBUS	Aggregated	Aggregated	GAS	78.45019703	6763.939254	313.8007881	1.515811011	**4.46225763**	
FRESNO	2021	UBUS	Aggregated	Aggregated	DSL	20.05814875	2067.837991	80.23259498	0.269484577	**7.67330737**	
FRESNO	2021	UBUS	Aggregated	Aggregated	NG	119.5188953	13413.33	478.075581	3.087400739	**4.34453805**	

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: County
Region: FRESNO
Calendar Year: 2035
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	MPG	
FRESNO	2035	All Other Buses	Aggregated	Aggregated	DSL	260.2307667	14317.39	2185.93844	1.27483802	**11.23075373**	
FRESNO	2035	LDA	Aggregated	Aggregated	GAS	493913.7993	16670157	2309399.37	404.8228832	**41.17889023**	
FRESNO	2035	LDA	Aggregated	Aggregated	DSL	5827.359994	202680.4	27541.3535	3.110273543	**65.16482526**	
FRESNO	2035	LDA	Aggregated	Aggregated	ELEC	27591.32946	997405.1	132204.242	0	**#DIV/0!**	
FRESNO	2035	LDT1	Aggregated	Aggregated	GAS	51674.25227	1661711	236389.918	47.57234249	**34.93018646**	
FRESNO	2035	LDT1	Aggregated	Aggregated	DSL	6.237866971	213.8223	29.3145386	0.006214707	**34.40585396**	
FRESNO	2035	LDT1	Aggregated	Aggregated	ELEC	1524.63097	55806.35	7336.32143	0	**#DIV/0!**	
FRESNO	2035	LDT2	Aggregated	Aggregated	GAS	161220.6123	5242951	741154.75	150.513615	**34.83373485**	
FRESNO	2035	LDT2	Aggregated	Aggregated	DSL	1491.989477	51364.85	7033.64488	1.05635654	**48.6245347**	
FRESNO	2035	LDT2	Aggregated	Aggregated	ELEC	5798.483974	145721.9	27823.8106	0	**#DIV/0!**	
FRESNO	2035	LHD1	Aggregated	Aggregated	GAS	9311.148344	300877.2	138722.237	30.51142444	**9.861132806**	
FRESNO	2035	LHD1	Aggregated	Aggregated	DSL	9481.188739	297019.9	119261.427	13.90652709	**21.3583103**	
FRESNO	2035	LHD2	Aggregated	Aggregated	GAS	1441.297599	44618.08	21473.1867	5.245527004	**8.50592929**	
FRESNO	2035	LHD2	Aggregated	Aggregated	DSL	3755.301612	114947	47236.9701	6.067006597	**18.94624082**	
FRESNO	2035	MCY	Aggregated	Aggregated	GAS	20071.83675	140811.2	40143.6735	3.717301802	**37.87995875**	
FRESNO	2035	MDV	Aggregated	Aggregated	GAS	112074.5647	3381137	505531.712	119.8799043	**28.20436936**	
FRESNO	2035	MDV	Aggregated	Aggregated	DSL	3627.930111	117280.5	16840.6096	3.208550477	**36.55247816**	
FRESNO	2035	MDV	Aggregated	Aggregated	ELEC	4126.535194	104730	19869.256	0	**#DIV/0!**	
FRESNO	2035	MH	Aggregated	Aggregated	GAS	1370.582641	12987.15	137.113087	2.243633334	**5.788444951**	
FRESNO	2035	MH	Aggregated	Aggregated	DSL	749.5520707	6063.058	74.9552071	0.536143115	**11.30865522**	
FRESNO	2035	Motor Coach	Aggregated	Aggregated	DSL	78.91186401	9430.679	1152.11321	1.224355833	**7.702564174**	
FRESNO	2035	OBUS	Aggregated	Aggregated	GAS	282.4845462	12618.23	5651.9508	2.21246803	**5.703235352**	
FRESNO	2035	PTO	Aggregated	Aggregated	DSL	0	17983.12	0	2.999492583	**5.995388364**	
FRESNO	2035	SBUS	Aggregated	Aggregated	GAS	156.7343254	7814.303	626.937302	0.733898751	**10.64765784**	
FRESNO	2035	SBUS	Aggregated	Aggregated	DSL	967.5174127	30161.36	11165.0168	3.323463326	**9.075279811**	**MHD**
FRESNO	2035	T6 Ag	Aggregated	Aggregated	DSL	45.70128822	139.2407	201.085668	0.017459029	**7.975281591**	**11.06356**
FRESNO	2035	T6 CAIRP heavy	Aggregated	Aggregated	DSL	208.4807457	35678.9	3043.81889	2.440189833	**14.62136412**	
FRESNO	2035	T6 CAIRP small	Aggregated	Aggregated	DSL	112.5273223	4979.393	1642.89891	0.381179183	**13.06312855**	
FRESNO	2035	T6 instate construction heavy	Aggregated	Aggregated	DSL	729.431844	46076.68	3297.73301	4.958158545	**9.293103872**	
FRESNO	2035	T6 instate construction small	Aggregated	Aggregated	DSL	2993.998037	148840.9	13535.7487	14.58287996	**10.20655104**	
FRESNO	2035	T6 instate heavy	Aggregated	Aggregated	DSL	2586.929246	243998.5	29852.8048	20.28856453	**12.02640288**	
FRESNO	2035	T6 instate small	Aggregated	Aggregated	DSL	5992.142637	276115.3	69148.4952	23.01603994	**11.99664782**	
FRESNO	2035	T6 OOS heavy	Aggregated	Aggregated	DSL	118.5217241	20419.88	1730.41717	1.394876615	**14.63920335**	
FRESNO	2035	T6 OOS small	Aggregated	Aggregated	DSL	66.5743768	2929.257	971.985901	0.224480773	**13.04903084**	
FRESNO	2035	T6 Public	Aggregated	Aggregated	DSL	367.3514172	5601.17	1114.2993	0.648159822	**8.641649728**	
FRESNO	2035	T6 utility	Aggregated	Aggregated	DSL	123.9642675	2067.982	1425.58908	0.180666625	**11.44639599**	
FRESNO	2035	T6TS	Aggregated	Aggregated	GAS	1040.436799	58504.28	20817.0595	10.08004198	**5.80397147**	**HHD**
FRESNO	2035	T7 Ag	Aggregated	Aggregated	DSL	87.90283113	967.1513	386.772457	0.149836207	**6.454723552**	**7.186775**
FRESNO	2035	T7 CAIRP	Aggregated	Aggregated	DSL	2700.839925	571661.1	39432.2629	60.38837133	**9.466409648**	
FRESNO	2035	T7 CAIRP construction	Aggregated	Aggregated	DSL	180.8160535	33097.28	817.462348	4.33447019	**7.635830852**	
FRESNO	2035	T7 NNOOS	Aggregated	Aggregated	DSL	4052.029805	696833.2	59159.6352	75.94864084	**9.175058231**	
FRESNO	2035	T7 NOOS	Aggregated	Aggregated	DSL	1074.662955	224620.9	15690.0791	24.32282277	**9.234986915**	
FRESNO	2035	T7 other port	Aggregated	Aggregated	DSL	70.96911993	11710.04	539.365311	1.41473788	**8.277181059**	
FRESNO	2035	T7 POAK	Aggregated	Aggregated	DSL	388.1436874	61324.36	2949.89202	7.610397843	**8.057970503**	
FRESNO	2035	T7 POLA	Aggregated	Aggregated	DSL	306.2072059	59379.65	2327.17477	7.981010658	**7.440116231**	
FRESNO	2035	T7 Public	Aggregated	Aggregated	DSL	1303.189364	26385.69	3953.00773	3.742132212	**7.050977133**	
FRESNO	2035	T7 Single	Aggregated	Aggregated	DSL	1166.053923	90566.6	13456.1006	11.75063391	**7.707380068**	
FRESNO	2035	T7 single construction	Aggregated	Aggregated	DSL	1102.466066	82108.27	4984.20622	12.36227506	**6.641841138**	
FRESNO	2035	T7 SWCV	Aggregated	Aggregated	DSL	344.8042141	14063.32	1344.73643	4.59394473	**3.061272502**	
FRESNO	2035	T7 SWCV	Aggregated	Aggregated	NG	57.27627472	2335.883	223.377471	0.848537751	**2.752833573**	
FRESNO	2035	T7 tractor	Aggregated	Aggregated	DSL	7054.508476	855086.6	89592.2576	87.6312783	**9.757778137**	
FRESNO	2035	T7 tractor construction	Aggregated	Aggregated	DSL	915.3455844	67732.09	4138.2418	10.08321537	**6.717310795**	
FRESNO	2035	T7 utility	Aggregated	Aggregated	DSL	39.74790079	805.6322	457.100859	0.108356783	**7.43499587**	
FRESNO	2035	T7IS	Aggregated	Aggregated	GAS	4.056587089	545.8966	81.1641945	0.102834257	**5.308509236**	
FRESNO	2035	UBUS	Aggregated	Aggregated	GAS	93.07837613	8025.174	372.313505	1.436846062	**5.585270559**	
FRESNO	2035	UBUS	Aggregated	Aggregated	DSL	32.93245691	3652.699	131.729828	0.487387176	**7.494449904**	
FRESNO	2035	UBUS	Aggregated	Aggregated	NG	132.670755	14715.16	530.68302	3.355986499	**4.384748845**	

On-road Mobile (Operational) Energy Usage

Unmitigated:

Step 1:

Therefore:

Average Daily VMT:

3,081,970,900	Source: CalEEMod

Step 2: Given:

Fleet Mix (CalEEMod Output)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
57.7209%	2.4156%	21.4776%	10.3225%	0.9844%	0.3830%	2.1383%	3.0701%	0.4268%	0.1869%	0.7043%	0.1207%	0.0491%

And:

Gasoline MPG Factors for each Vehicle Class - Year 2035 (EMFAC2017 Output)

LDA	LDT1	LDT2	MDV	MCY	MH
41.17889023	34.93019	34.83373	28.20436936	37.87995875	5.788444951

Diesel MPG Factors for each Vehicle Class - Year 2035 (EMFAC2017 Output)

LHD1	LHD2	MHD	HHD	OBUS	UBUS	SBUS
9.861132806	18.94624	11.06356	7.186775026	5.703235352	7.494449904	9.07528

Therefore:

Weighted Average MPG Factors

Gasoline: **38.1** Diesel: **8.7**

Step 3: **Therefore:**

75,063,072	**daily gallons of gasoline**	**25,808,784**	**daily gallons of diesel**

or

27,398,021,200	**annual gallons of gasoline**	**9,420,206,008**	**annual gallons of diesel**

Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source. Demolition, Site preparation and grading off-road mobile vehicle on-site gallons of fuel are calculated below.

Given Factor:	**322.3**	**metric tons**	**CO2**	**(provided in CalEEMod Output File)**	
Conversion Factor:	2204.6262	pounds	per metric ton		
Intermediate Result:	**710,607**	**pounds**	**CO2**		
Conversion Factor:	22.38	pounds	CO2 per 1 gallon of diesel fuel		Source: U.S. EIA, 2016
Final Result:	**31,751.88**	**gallons**	**diesel fuel**		http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11

Mitigated Onsite Scenario	Total CO2 (MT/yr) (provided in CalEEMod Output File)
Demolition	34.24

On-road Mobile (Construction) Energy Usage - Demolition

Step 1: **Total Daily Worker Trips (CalEEMod output)**

15

Worker Trip Length (miles) (CalEEMod output)

10.8

Therefore:

Average Worker Daily VMT:

162

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEE

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class - Year 2021 (EMFAC2017 output)

LDA	LDT1	LDT2
41.17889	34.93019	34.83373

Therefore:

Weighted Average Worker MPG Factor

38.030425

Step 3: **Therefore:**

4.3 **Worker daily gallons of gasoline (all workers)**

Step 4: 21 **# of Days (CalEEMod ouput)**

Therefore:

Result: **89** **Total gallons of gasoline (all workers)**

On-road Mobile (Construction) Energy Usage - Site Preparation

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

18

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

194

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2021

LDA	LDT1	LDT2
30.685292	25.99234	23.798956

Therefore:

Weighted Average Worker MPG Factor

27.8

Step 3: **Therefore:**

7.0 **Worker daily gallons of gasoline**

Step 4: 65 **# of Days (CalEEMod Output)**

Therefore:

Result: **455** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Grading

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

20

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

216

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LDA	LDT1	LDT2
30.685292	25.99234	23.798956

Therefore:

Weighted Average Worker MPG Factor

27.8

Step 3: **Therefore:**

7.8 **Worker daily gallons of gasoline**

Step 4: 65 **# of Days (CalEEMod Output)**

Therefore:

Result: **505** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Underground Utilities

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

30

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

324

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LDA	LDT1	LDT2
30.685292	25.99234	23.798956

Therefore:

Weighted Average Worker MPG Factor

27.8

Step 3: **Therefore:**

11.7 Worker daily gallons of gasoline

Step 4: 45 **# of Days (CalEEMod Output)**

Therefore:

Result: **525** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Paving

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

15

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

162

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LDA	LDT1	LDT2
30.685292	25.99234	23.798956

Therefore:

Weighted Average Worker MPG Factor

27.8

Step 3: **Therefore:**

5.8 **Worker daily gallons of gasoline**

Step 4: 85 **# of Days (CalEEMod Output)**

Therefore:

Result: **495** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Building Construction

Step 1:

Total Daily Worker Trips (CalEEMod Output)			Total Daily Vendor Trips (CalEEMod Output)		
65,164	5%	**3258**	24,601	5%	**1230**

Note: Assumes 5% of Plan Area under construction at given point in time (on average) until buildout.

Worker Trip Length (miles) (CalEEMod Output)	Vendor Trip Length (miles) (CalEEMod Output)
10.8	7.3

Therefore:

Average Worker Daily VMT:	Average Vendor Daily VMT:
35,189	**8,979**

Step 2:

Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

Assumed Fleet Mix for Vendors

Fleet Mix for Workers (CalEEMod Output)

MHD	HHD
0%	100%

And:

MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

Gasoline:			**Diesel:**	
LDA	**LDT1**	**LDT2**	**MHD**	**HHD**
30.68529162	25.99234	23.798956	8.984018698	5.3795007

Therefore:

Weighted Average Worker (Gasoline) MPG Factor	Weighted Average Vendor (Diesel) MPG Factor
27.8	**5.4**

Step 3:

Therefore:		Therefore:	
1,266	**Worker daily gallons of gasoline**	**1,669**	**Vendor daily gallons of diesel**

Step 4:

3833 **# of Days (CalEEMod Output)**

Therefore:		Therefore:	
4,853,381	**Total gallons of gasoline**	**6,397,974**	**Total gallons of diesel**

On-road Mobile (Construction) Energy Usage - Architectural Coating

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

13033	5%	652

Note: Assumes 5% of Plan Area under construction at given point in time (on average) until buildout.

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

7,038

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2017 Output) - Year 2040

LDA	LDT1	LDT2
30.685292	25.99234	23.798956

Therefore:

Weighted Average Worker MPG Factor

27.8

Step 3: **Therefore:**

253.2 **Worker daily gallons of gasoline**

Step 4: 3,656 **# of Days (CalEEMod Output)**

Therefore:

Result: **925,867** **Total gallons of gasoline**

APPENDIX B.3

Analysis of Models and Tools to Correlate Project-Generated Pollutants to Health End Points

APPENDIX B

Appendix B of the Draft EIR includes additional information regarding models and tools for correlating project-generated criteria pollutant emissions to health end points. The following table is an addition to Appendix B.

ANALYSIS OF MODELS AND TOOLS TO CORRELATE PROJECT-GENERATED CRITERIA POLLUTANT EMISSIONS TO HEALTH END POINTS

TOOL	CREATED BY	DESCRIPTION	RESOLUTION	POLLUTANTS ANALYZED	PROJECT-LEVEL CEQA APPLICABILITY
AERMOD Modeling System[1,2]	AERMIC	A steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The modeling system incorporates air dispersion based on a planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}, NH_3	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
AirCounts[3]	Abt Assoc.	Online tool that helps large and medium-sized cities quickly estimate the health benefits of $PM_{2.5}$ emission reductions and economic value of those benefits. The tool estimates the number of deaths (mortality) avoided and economic value related to user-specified regional, annual $PM_{2.5}$ emissions reduction.	City-level	Primary $PM_{2.5}$	This tool is only illustrative, as it is limited to certain cities and does not target specific sectors. The tool is not sector specific, and includes limited California data. It cannot provide results at a project-level. Therefore, the tool is not recommended for project-level CEQA analysis.
Air Pollution Emission Experiments and Policy analysis (APEEP) model[4]	Mueller and Mendelsohn2006, 2009	The Air Pollution Emission Experiments and Policy (APEEP) analysis model (Muller and Mendelsohn 2006, 2009) is a traditional integrated assessment model. Like other integrated assessment models, APEEP connects emissions of air pollution through air-quality modeling to exposures, physical effects, and monetary damages. Making these links requires the use of findings reported in the peer-reviewed literature across several scientific disciplines. The air-quality models in APEEP use the emission data provided by EPA to estimate corresponding ambient concentrations in each county in the coterminous states.	National or county-level	SO_2, ROG, NO_x, Ozone, $PM_{2.5}$, PM_{10}	The model operates at the national scale but may be applied at the county-level (although it is not clear how this adjustment should be made). It cannot provide results at a project-level. The tool is also not commercially available. Therefore, the tool is not recommended for project-level CEQA analysis.

[1] See: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

[2] Note: May require additional software to estimate the level of each specific pollutant at the modeled receptors.

[3] See: https://www.abtassociates.com/tools

[4] See: https://public.tepper.cmu.edu/nmuller/APModel.aspx

Tool	Created by	Description	Resolution	Pollutants Analyzed	Project-level CEQA Applicability
CALINE3/ CAL3QHC/ CAL3QHCR[1, 2]	USEPA	A steady-state Gaussian dispersion model designed to determine air pollution concentrations at receptor locations downwind of highways located in relatively uncomplicated terrain. CALINE3 is incorporated into the more refined CAL3QHC and CAL3QHCR models. CAL3QHCR is a more refined version based on CAL3QHC that requires local meteorological data.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
Complex Terrain Dispersion Model Plus Algorithms for Unstable Situations (CTDMPLUS)[1, 2]	USEPA	A refined point source gaussian air quality model for use in all stability conditions for complex terrain. The purpose of the model is to provide a practical, refined plum model for elevated point sources near complex terrain.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
Co-Benefits Risk Assessment (COBRA)[5]	USEPA	Preliminary screening tool that contains baseline emission estimates of a variety of air pollutants for a single year. COBRA is targeted to state and local governments as a screening assessment for clean energy policies. EPA's CO–Benefits Risk Assessment (COBRA) screening model is a free tool that helps state and local governments: • Explore how changes in air pollution from clean energy policies and programs; • Estimate the economic value of the health benefits associated with clean energy policies and programs to compare against program costs; • Map and visually represent the air quality, human health, and health-related economic benefits from reductions in emissions of particulate matter ($PM_{2.5}$), sulfur dioxide ($S0_2$), nitrogen oxides (NO_X), ammonia (NH_3), and volatile organic compounds (VOCs) that result from clean energy policies and programs.	National, regional, state, or county-levels	$PM_{2.5}$, SO_2, NO_x, NH_3, and ROG	COBRA is a preliminary screening tool only and cannot be used at sub-county resolution. It cannot provide results at a project-level. It also does not account for secondary emission changes resulting from market responses. Accordingly, the tool is not recommended for project-level CEQA analysis.

[5] See: https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool

Tool	Created by	Description	Resolution	Pollutants Analyzed	Project-level CEQA Applicability
Environmental Benefits and Mapping Program-Community Edition (BenMAP-CE)[6]	USEPA	The USEPA's detailed model for estimating the health impacts from air pollution. It relies on input concentrations and applies concentration-response (C-R) health impact functions, which relate a change in the concentration of a pollutant with a change in the incidence of a health endpoint, including premature mortality, heart attacks, chronic respiratory illnesses, asthma exacerbation and other adverse health effects. Detailed inputs are required for air quality changes (concentrations from AERMOD), population, baseline incidence rates, and effect estimates.	National, County, City, and sub-regional levels	Ozone, PM, NO_2, SO_2, CO	This tool is not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Although this tool is under consideration by some California air districts for use towards project-level analysis, no air district in California has promulgated a methodology (using this tool or any other) that would correlate the expected air quality emissions of projects to the likely health consequences of the increased emissions. Accordingly, the tool is not recommended.
Fast Scenario Screening Tool (TM5-FASST)[7]	Joint Research Centre (Italy)	A tool that allows users to evaluate how air pollutant emissions affect large scale pollutant concentrations and their impact on human health (mortality and years of life lost) and crop yield from national to regional air quality policies, such as climate policies. The target policy domains are national to regional air quality policies, or air pollutant scenarios linked to other policy domains (e.g. climate policy). The tool is web-based and does not require coding or modelling. Users must gain access through publishers.	Global and national-levels	$PM_{2.5}$, Ozone, NO_x, NH_3, CO, ROG, CH_4, SO_2	This tool is applicable at national to global scales. It cannot provide results a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.
Long-range Energy Alternatives Planning System-Integrated Benefits Calculator (LEAP-IBC)[8]	Climate and Clean Air Coalition (CCAC)	A calculator that allows users to rapidly estimate the impacts of reducing emissions on health, climate, and agriculture. The tool uses sensitivity coefficients that link gridded emissions of air pollutants and precursors to health, climate and agricultural impacts at a national level. The tool is primarily used for policy analysis. The tool is currently Excel-based and is available through the developers only. A web-based interface is currently under development.	National-level	$PM_{2.5}$, Ozone, NO_2	This tool is applicable at national scale. Accordingly, the tool is not recommended for project-level CEQA analysis.
Methodology for Estimating Premature Deaths Associated with Long-Term Exposure to Fine Airborne Particulate Matter in California[9]	California Air Resources Board	The staff report identifies a relative risk of premature death associated with $PM_{2.5}$ exposure based on a review of all relevant scientific literature, and a new relative risk factor was developed. This new factor is a 10% increase in risk of premature death per 10 $\mu g/m^3$ increase in exposure to $PM_{2.5}$ concentrations (uncertainty interval: 3% to 20%)	National	$PM_{2.5}$	The primary author of the CARB staff report notes that the analysis method is not suited for small projects and may yield unreliable results due to various uncertainties. The tool also cannot provide results on a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.

[6] See: https://www.epa.gov/benmap

[7] See: http://tm5-fasst.jrc.ec.europa.eu/

[8] See: https://www.ccacoalition.org/en/resources/long-range-energy-alternatives-planning-integrated-benefits-calculator-leap-ibc-factsheet

[9] See: https://ww3.arb.ca.gov/research/health/pm-mort/pmmortalityreportfinalr10-24-08.pdf

Tool	Created by	Description	Resolution	Pollutants Analyzed	Project-level CEQA Applicability
Multi-Pollutant Evaluation Method (MPEM)[10]	BAAQMD	Estimates the impacts of control measures on pollutant concentration, population exposures, and health outcomes for criteria, toxic, and GHG pollutants. Monetizes the value of total health benefits from reductions in $PM_{2.5}$, ozone, and certain carcinogens, and the social value of GHG reductions. MPEM was designed for development of a Clean Air Plan for the San Francisco Bay Area. The inputs are specific to the SF region and are not appropriate for projects outside BAAQMD.	Regional level in the SFBAAB	Ozone, PM, air toxics, GHG	This tool is designed to support the BAAQMD in regional planning and emissions analysis within the San Francisco Bay Area Air Basin (SFBAAB). The model applies changes in pollutant concentrations over a four-square kilometer grid. The tool also cannot provide results on a project-level. Additionally, this tool is only applicable for the SFBAAB. Accordingly, the tool is not recommended for project-level CEQA analysis.
Offshore and Coastal Dispersion Model Version 5 (OCD)[1, 2]	USEPA	A straight-line Gaussian model developed to determine the impact of offshore emissions from point, area or line sources on the air quality of coastal regions. OCD incorporates overwater plume transport and dispersion as well as changes that occur as the plume crosses the shoreline. Hourly meteorological data are needed from both offshore and onshore locations.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for project-level CEQA analysis.
Response Surface Model (RSM)-based Benefit-per-Ton Estimates[11]	USEPA	Consists of tables reporting the monetized $PM_{2.5}$-related health benefits from reducing $PM_{2.5}$ precursors from certain source types nationally and for 9 US cities/regions. Applying these estimates simply involves multiplying the emissions reduction by the relevant benefit per-ton metric. The resulting value is the PM mortality risk estimate at a 3% discount rate.	National or regional (San Joaquin County only) levels	SOx, VOC, NH_3, NO_x	RSM includes regional values specific to San Joaquin County. The values are also dated. Accordingly, the tool is not recommended for project-level CEQA analysis.
Sector-based Benefit-per-Ton Estimates[12]	USEPA	Two specific sets of Benefit-per-ton (BPT) estimates for 17 key source categories are available. Both are a reduced-form approach based on BenMAP modeling. Applying these factors involves multiplying the emissions reduction (in tons) by the relevant benefit (economic value) or incidence (rates of mortality and morbidity) per-ton metric. The resulting value is the economics, mortality, and morbidity of direct and indirect $PM_{2.5}$ emissions.	National-scale	$PM_{2.5}$, SO_2, NO_x	The BPT estimates do not account for project-specific emissions or receptor locations, local dispersion characteristics, or regional photochemistry. The resultant health effects are therefore reflective of national averages and may not be accurate when applied to the project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.

[10] See: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/mpem_nov_dec_2016-pdf.pdf?la=en

[11] See: https://www.epa.gov/benmap/response-surface-model-rsm-based-benefit-ton-estimates

[12] See: https://www.epa.gov/benmap/sector-based-pm25-benefit-ton-estimates. The updated Technical Support Document (February 2018) is available at: https://www.epa.gov/sites/production/files/2018-02/documents/sourceapportionmentbpttsd_2018.pdf

APPENDIX C

Cultural and Paleontological Resource Assessment

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT FOR THE FRESNO WEST AREA SPECIFIC PLAN PROJECT, CITY OF FRESNO, FRESNO COUNTY, CALIFORNIA

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October 2019

Cogstone Project Number: 4669
Type of Study: Cultural and Paleontological Resources Assessment
Sites: P-10-3110, P-10-3111, P-10-3112, P-10-3113, P-10-3114, P-10-3115, P-10-3116, P-10-3117, P-10-3118, P 10-3119, P-10-3120, P-10-3121, P-10-3122, P-10-3123, P-10-3124, P-10-3125, P-10-3126, P-10-3127, P-10-3128, P-10-3129, P-10-3130, P-10-3131, P-10-3132, P-10-3133, P-10-3134, P-10-3135, P-10-3136, P-10-3137, P-10-3138, P-10-3139, P-10-3140, P-10-3141, P-10-3142, P-10-3143, P-10-3144, P-10-3145, P-10-3146, P-10-3147, P-10-3148, P-10-3149, P-10-3150, P-10-3151, P-10-3152, P-10-3153, P-10-3154, P-10-3155, P-10-3156, P-10-3157, P-10-3158, P-10-3159, P-10-3160, P-10-3161, P-10-3930, P-10-4701, P-10-4702, P-10-4975, P-10-4976, P-10-4977, P-10-4978, P-10-4988, P-10-5205, P-10-5391, P-10-5392, P-10-5573, P-10-5648, P-10-5816, P-10-5829, P-10-6002, P-10-6003, P-10-6004, P-10-6005, P-10-6006, P-10-6007, P-10-6008, P-10-6009, P-10-6010, P-10-6027, P-10-6028, P-10-6029, P-10-6030, P-10-6031, P-10-6130
USGS 7.5' Quadrangles: Fresno North, Herndon
Area: 7,077 acres
Key Words: Cultural Resources Assessment, Paleontological Resources Assessment, Specific Plan

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SUMMARY OF FINDINGS

The objective of this study is to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Fresno's (City) West Area Specific Plan (Project). The purpose of the West Area Specific Plan is to implement and refine the City's vision for the West Area in order to guide future growth and development in the most northwest area of the City. The Project area is located within approximately 7,077 acres west of Highway 99 in the City of Fresno, Fresno County, California. The City is the lead agency under the California Environmental Quality Act (CEQA).

The Project surface is mapped as modern artificial fill, Holocene deposits of the San Joaquin River, the late Pleistocene Modesto Formation, and the middle Pleistocene Riverbank Formation. No fossils are known from the Fresno area. However, fossils have been found in the same formations as occur within the West Area SP. Although fossils may occur in artificial fill, any present would not be in situ and therefore not scientifically relevant. As such, artificial fill is assigned a very low Potential Fossil Yield Classification (PFYC 1). The Holocene river deposits are assigned a low potential for fossils (PFYC 2) based on age, and the Riverbank Formation is assigned a low potential for fossils (PFYC 2) based on the low number of fossils previously found in these sediments. The upper seven feet of the Modesto Formation are assigned a low potential for fossils (PFYC 2) due to the lack of fossils previously recovered. Modesto Formation sediments more than seven feet below the original ground surface are assigned a moderate but patchy potential for fossils (PFYC 3a) due the presence of numerous fossils found in other areas of the San Joaquin Valley. A mitigation measure is recommended

Cogstone requested a search of the California Historic Resources Inventory System at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield on July 18, 2019. Results of the record search indicate that 36 previous cultural resources studies have been completed within the boundaries of the West Area SP. The records search also determined 82 previously recorded cultural resources are located within the West Area SP. Of these, four are historic archaeological sites and 78 are historic built environment resources. The majority of the historic built environment resources are historic residences clustered around North Polk Avenue and West Acacia Avenue. Two mitigation measures are recommended

INTRODUCTION

PURPOSE OF STUDY

The objective of this study is to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the West Area Specific Plan (SP). The West Area SP consists of approximately 7,077 acres located west of Highway 99 in the City of Fresno (City) in Fresno County, California (Figure 1). The City is the lead agency under the California Environmental Quality Act (CEQA).

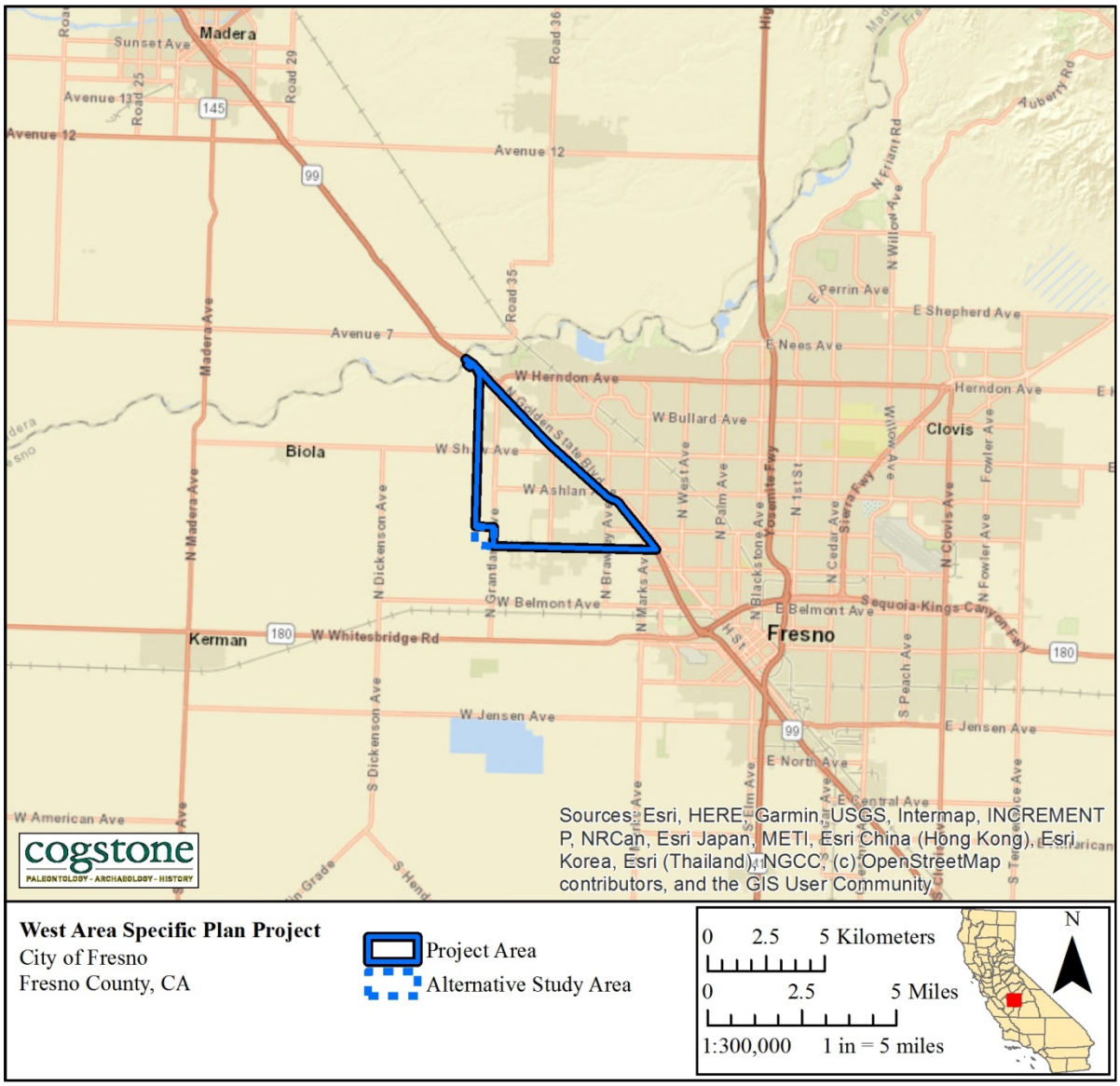

Figure 1. Project vicinity map

PROJECT LOCATION AND DESCRIPTION

The City of Fresno is located within the San Joaquin Valley in Fresno County, California (Figure 1). The Fresno West Area SP is located in the western portion of the City and is bounded by North Golden State Boulevard (Highway 99) to the north and east, North Garfield Avenue to the west, and West Clinton Avenue to the south. Specifically, the West Area SP is located within the Herndon and Fresno North United States Geological Survey (USGS) 7.5' topographic maps (Table 1; Figures 2a-3f).

Table 1. Fresno West SP Cadastral Information

USGS 7.5 TOPOGRAPHIC QUAD(S)	TOWNSHIP	RANGE	SECTION(S)
Herndon	12S	19E	31, 32
	13S	19E	4, 5, 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 28, 29
Fresno North	13S	19E	14, 23, 24, 25, 26
	13S	20E	30

The proposed SP will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre SP area. The SP will serve as a bridge between the Fresno General Plan and individual development applications in the Plan Area.

The SP seeks to provide for the orderly and consistent development that promotes and establishes the West Area as a complete neighborhood with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The Plan Area does not currently have needed commercial amenities, forcing residents to travel east of State Route 99 for retail services. The Plan Area also lacks a complete roadway network and parkland.

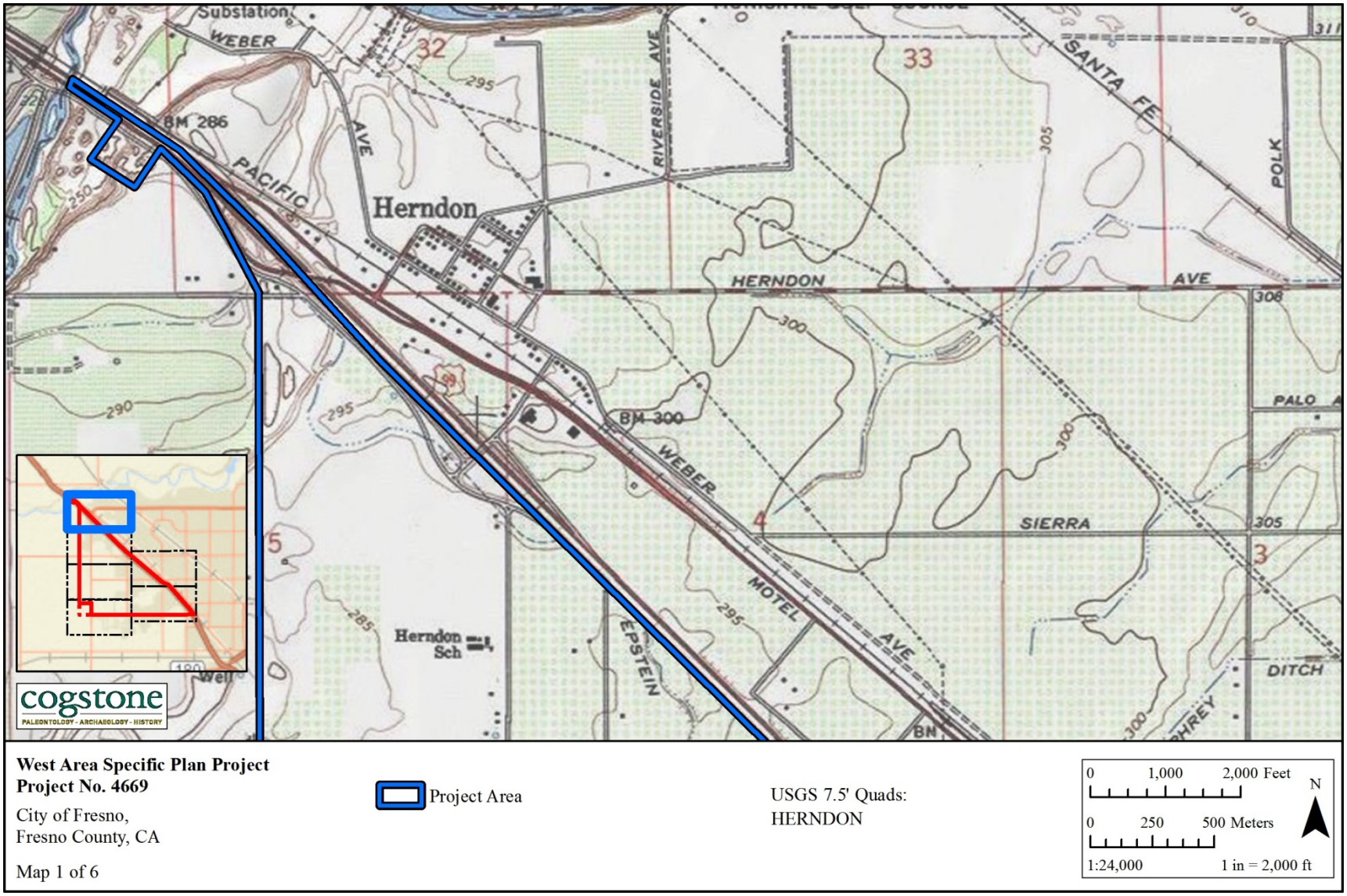

Figure 2a. Project location map

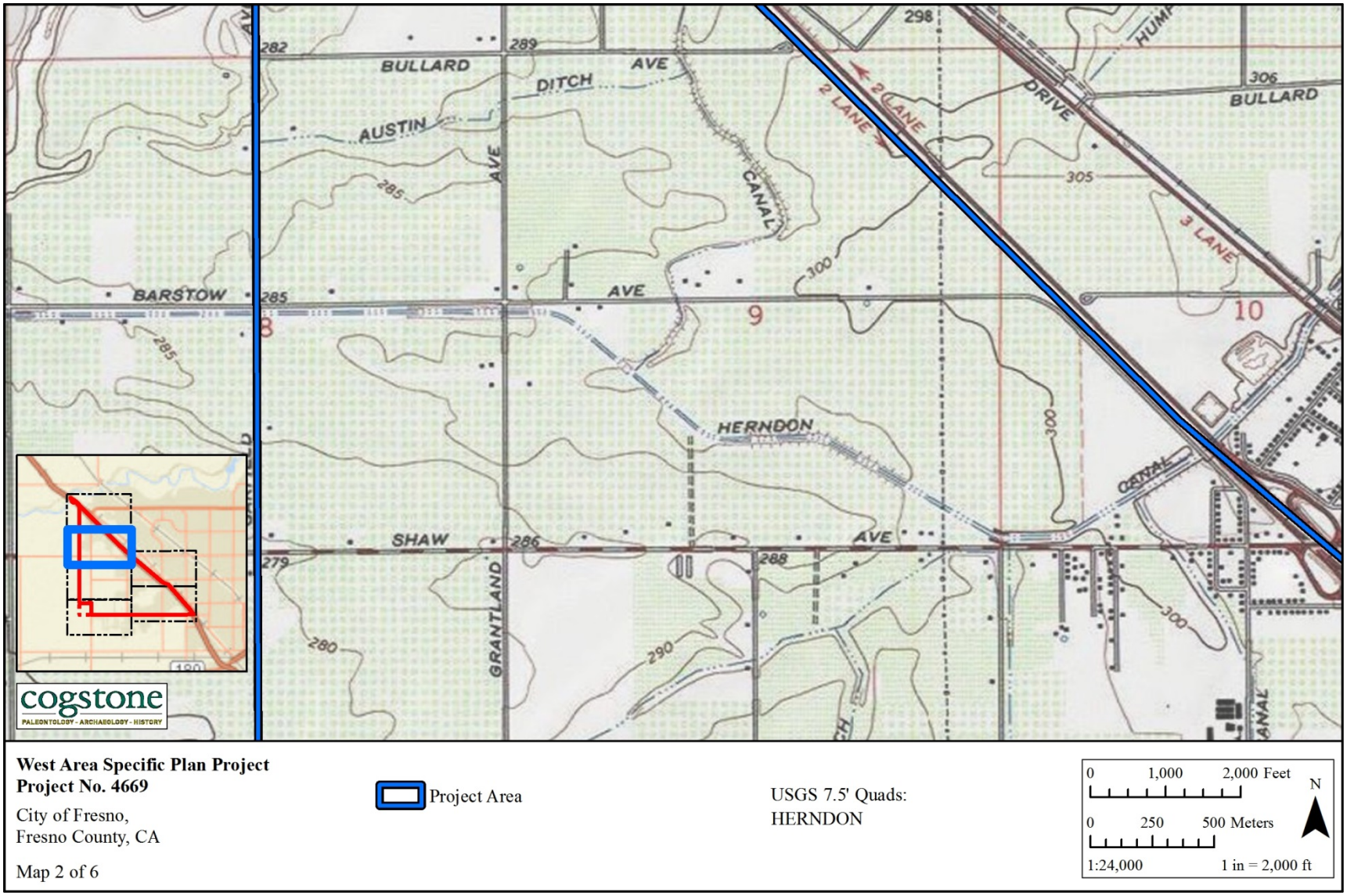

Figure 2b. Project location map

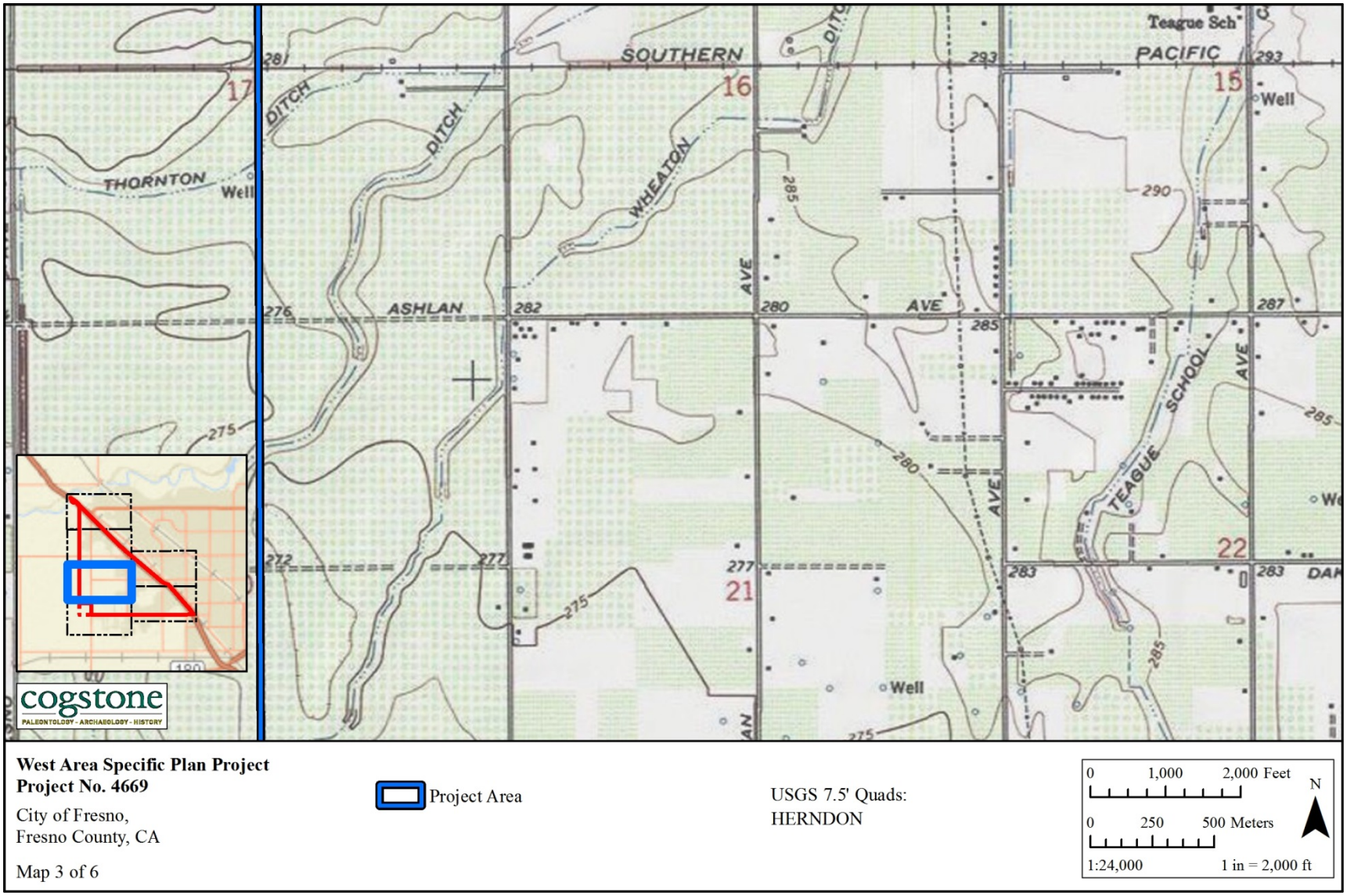

Figure 2c. Project location map

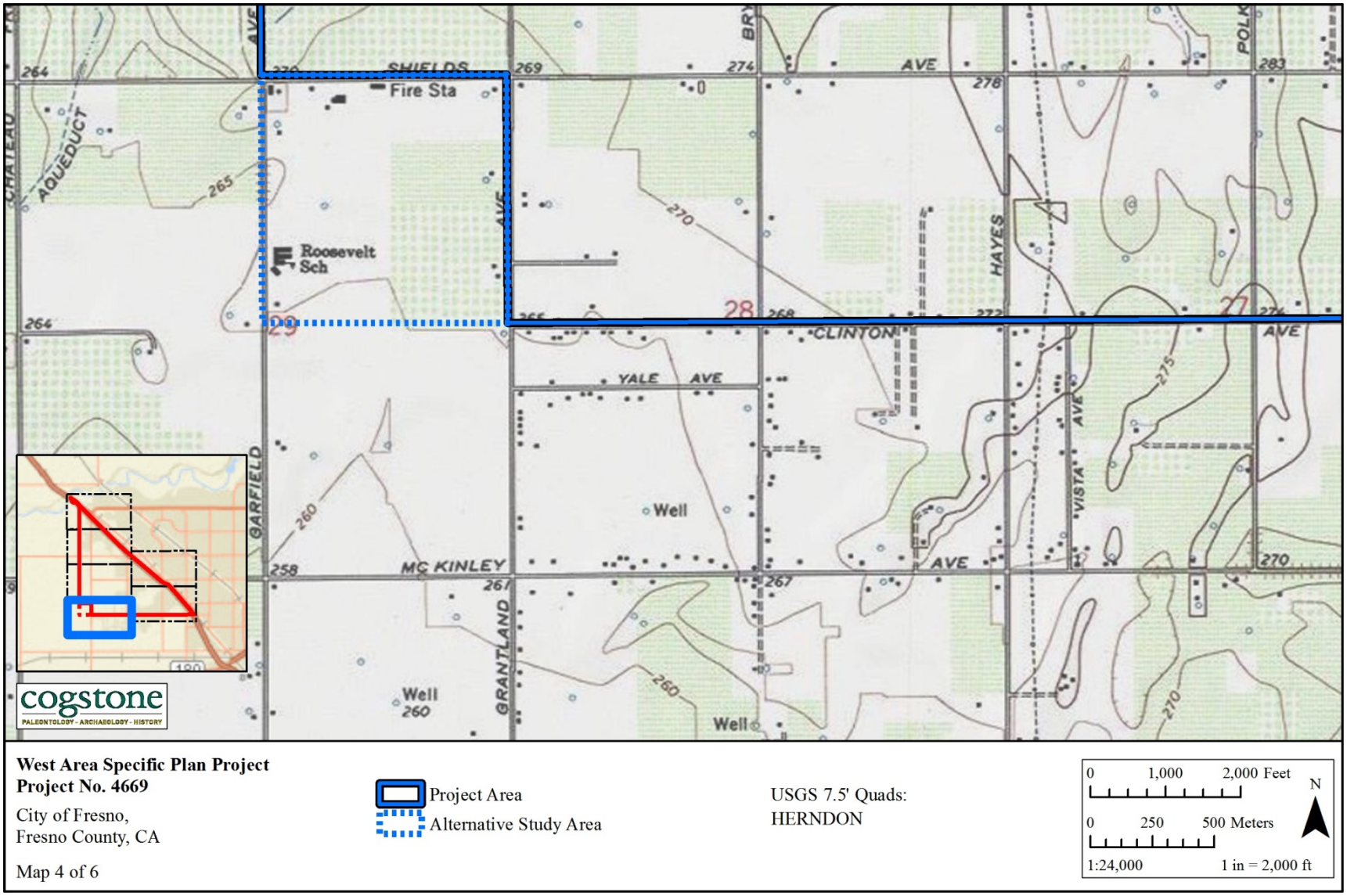

Figure 2d. Project location map

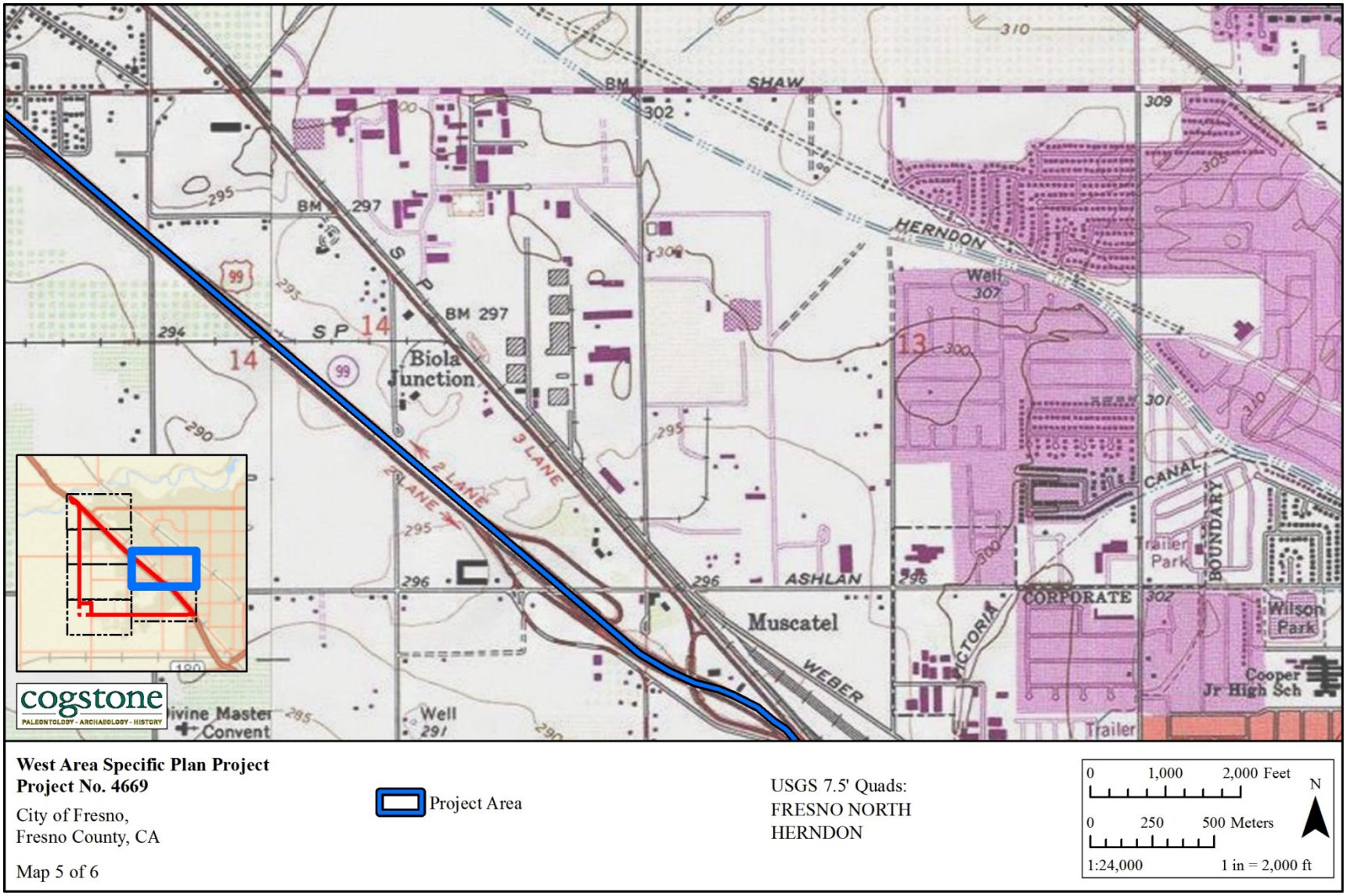

Figure 2e. Project location map

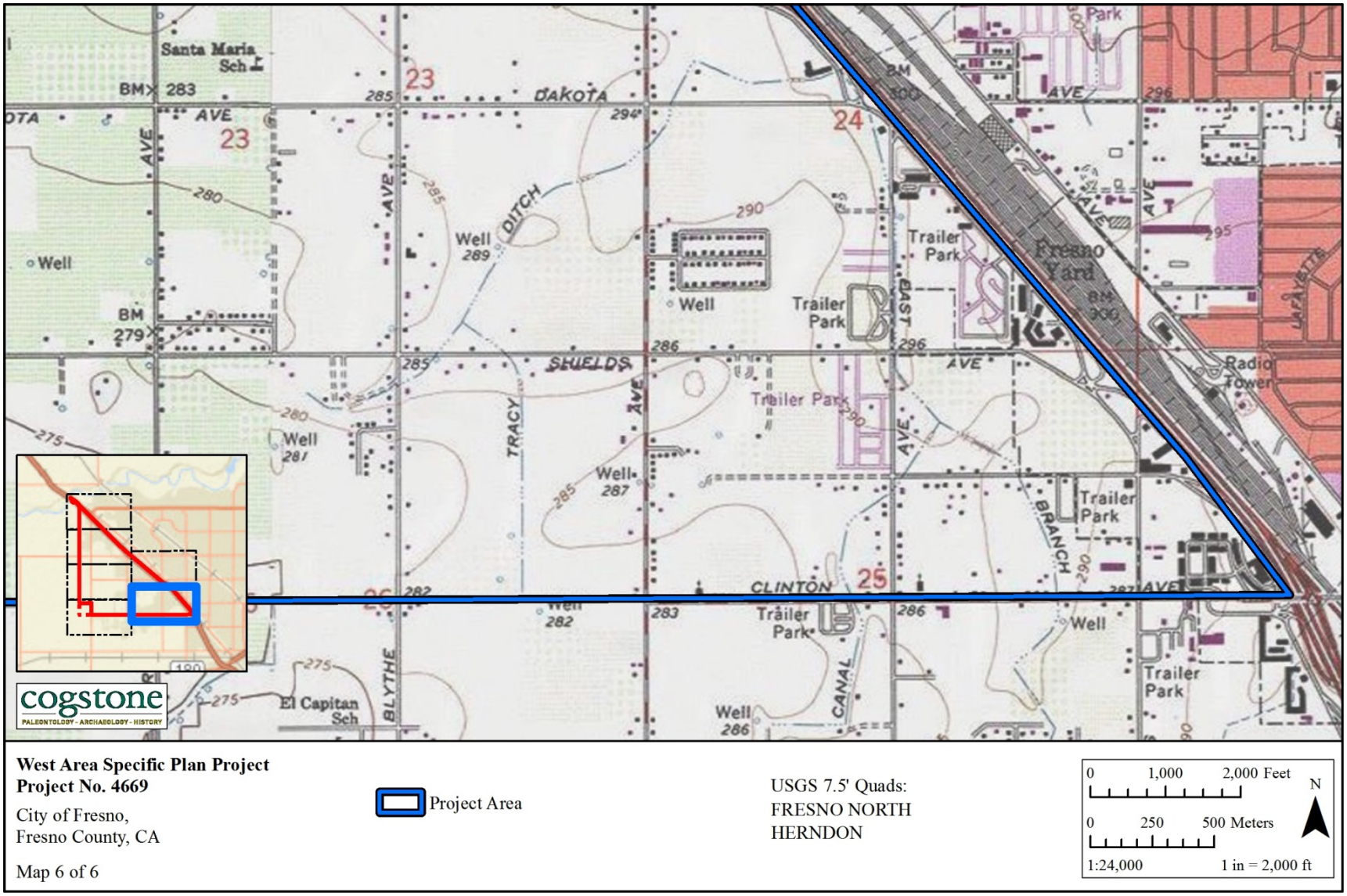

Figure 2f. Project location map

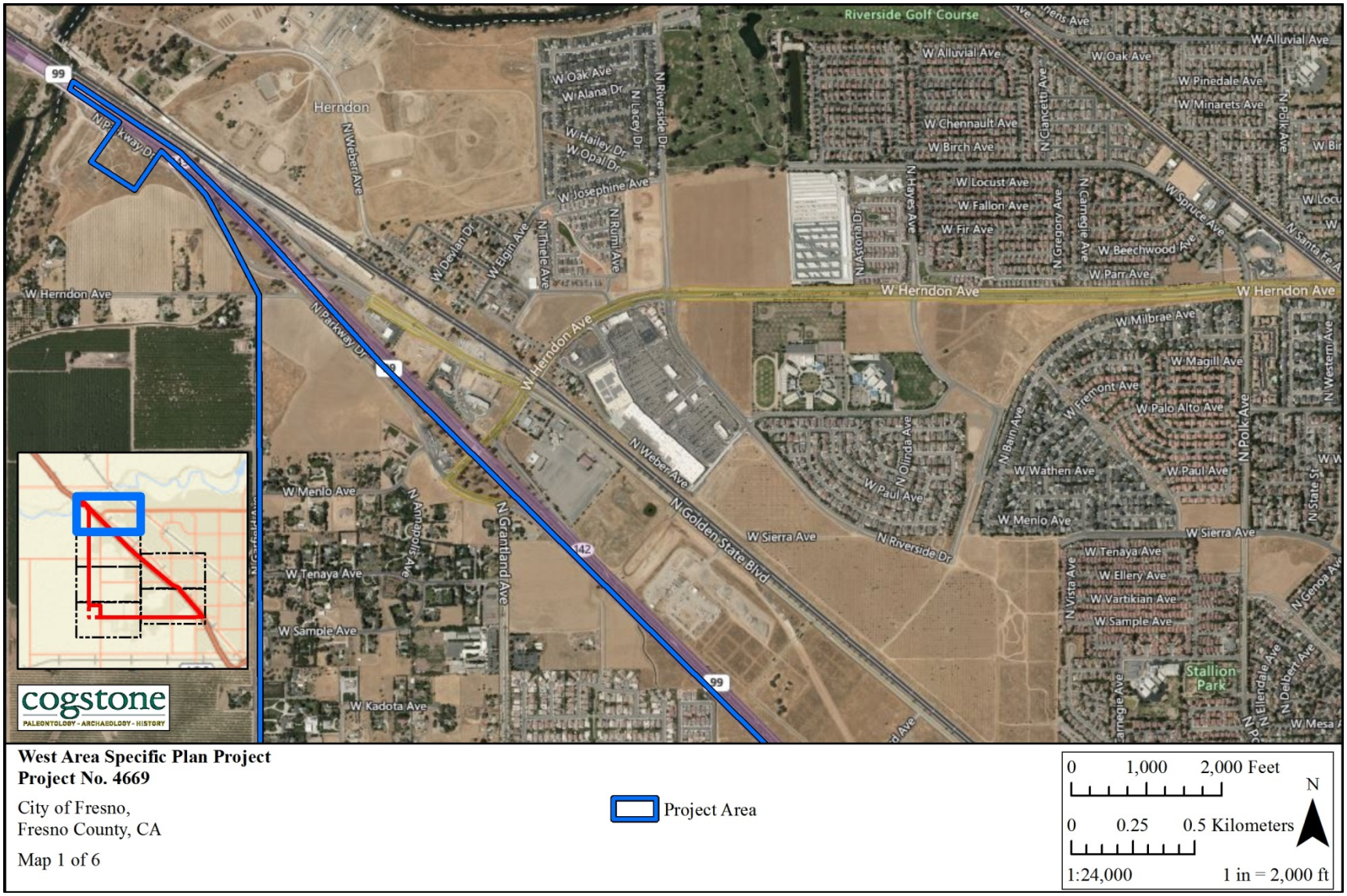

Figure 3a. Project aerial map

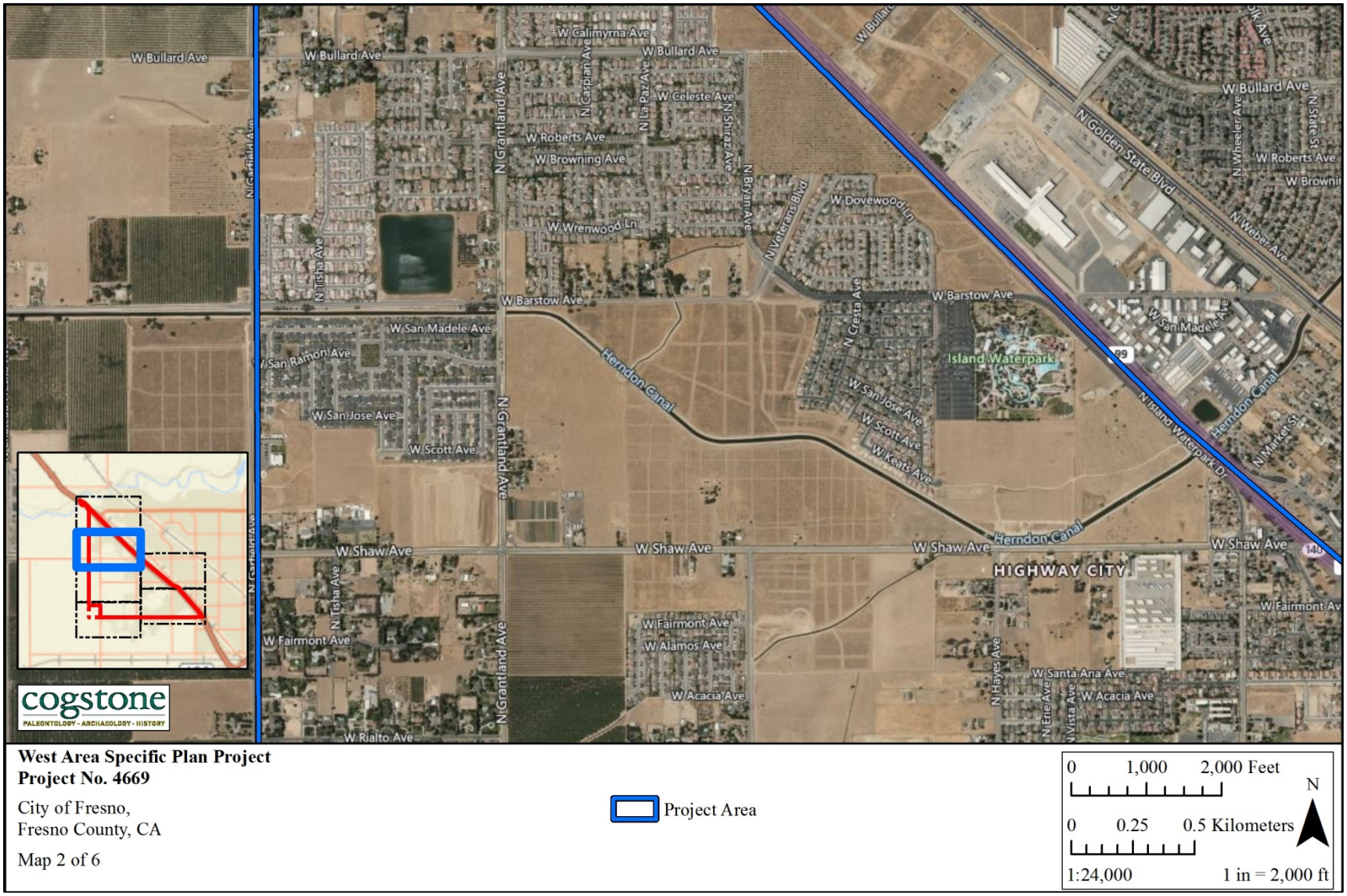

Figure 3b. Project aerial map

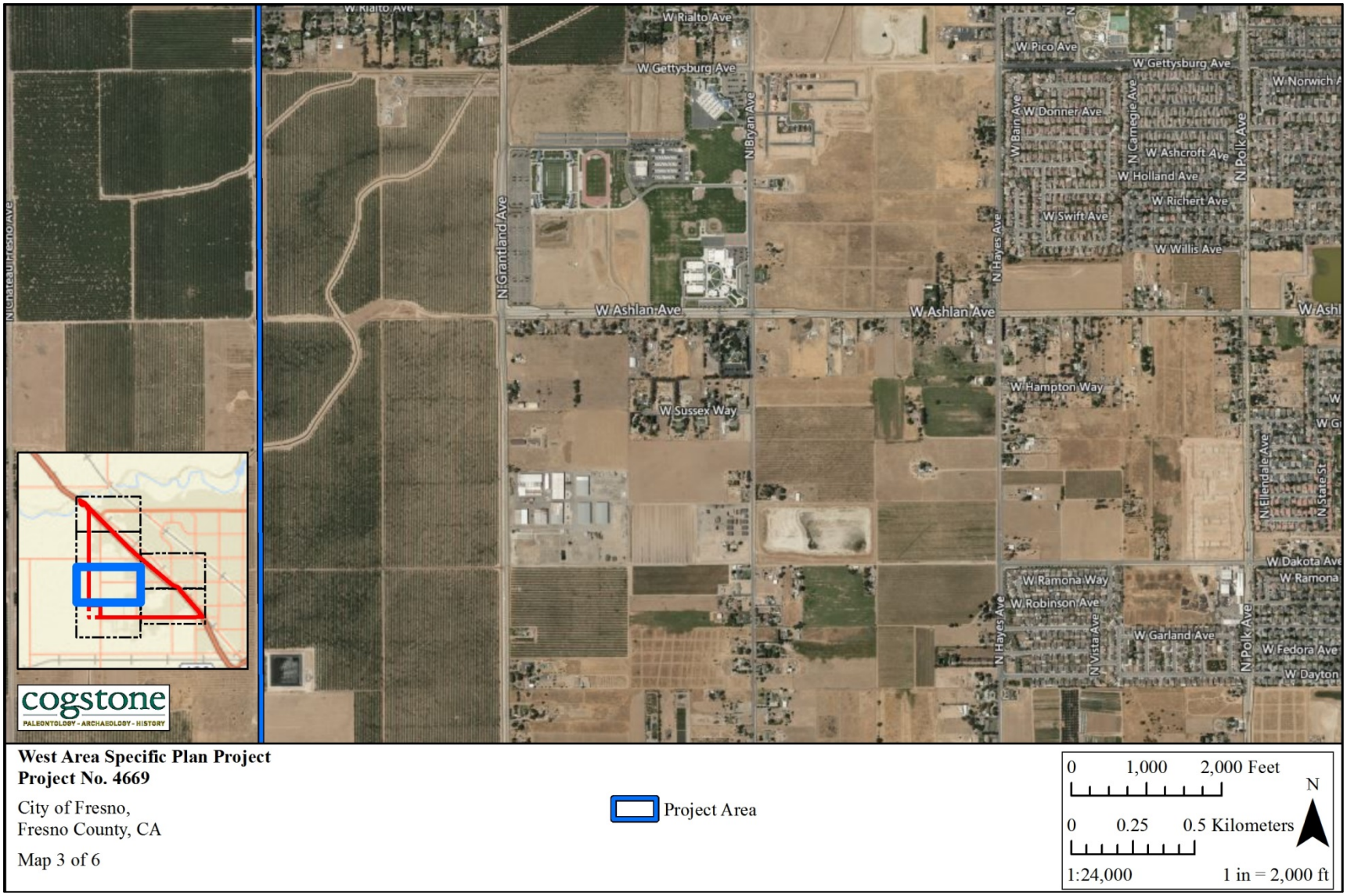

Figure 3c. Project aerial map

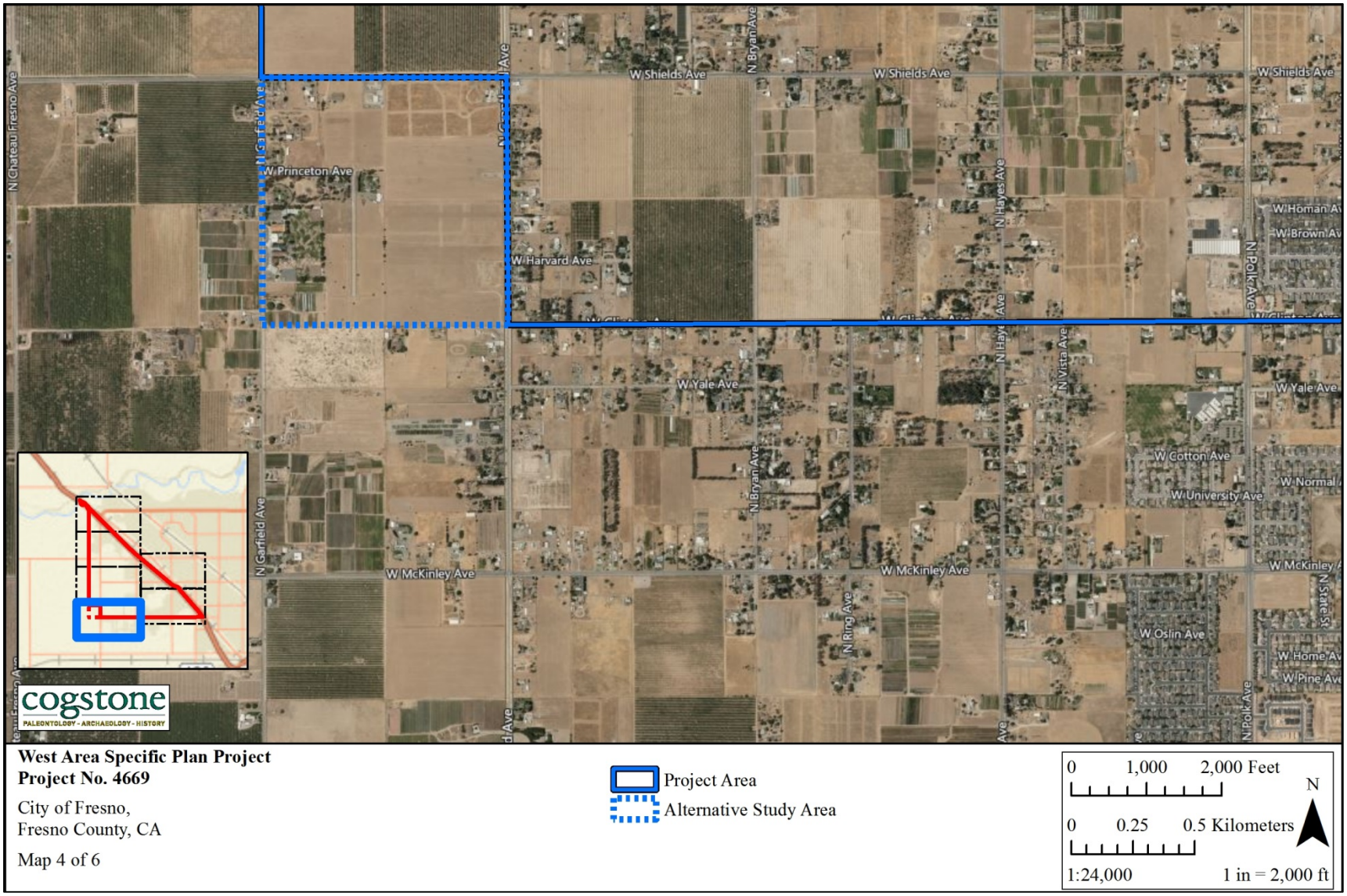

Figure 3d. Project aerial map

Figure 3e. Project aerial map

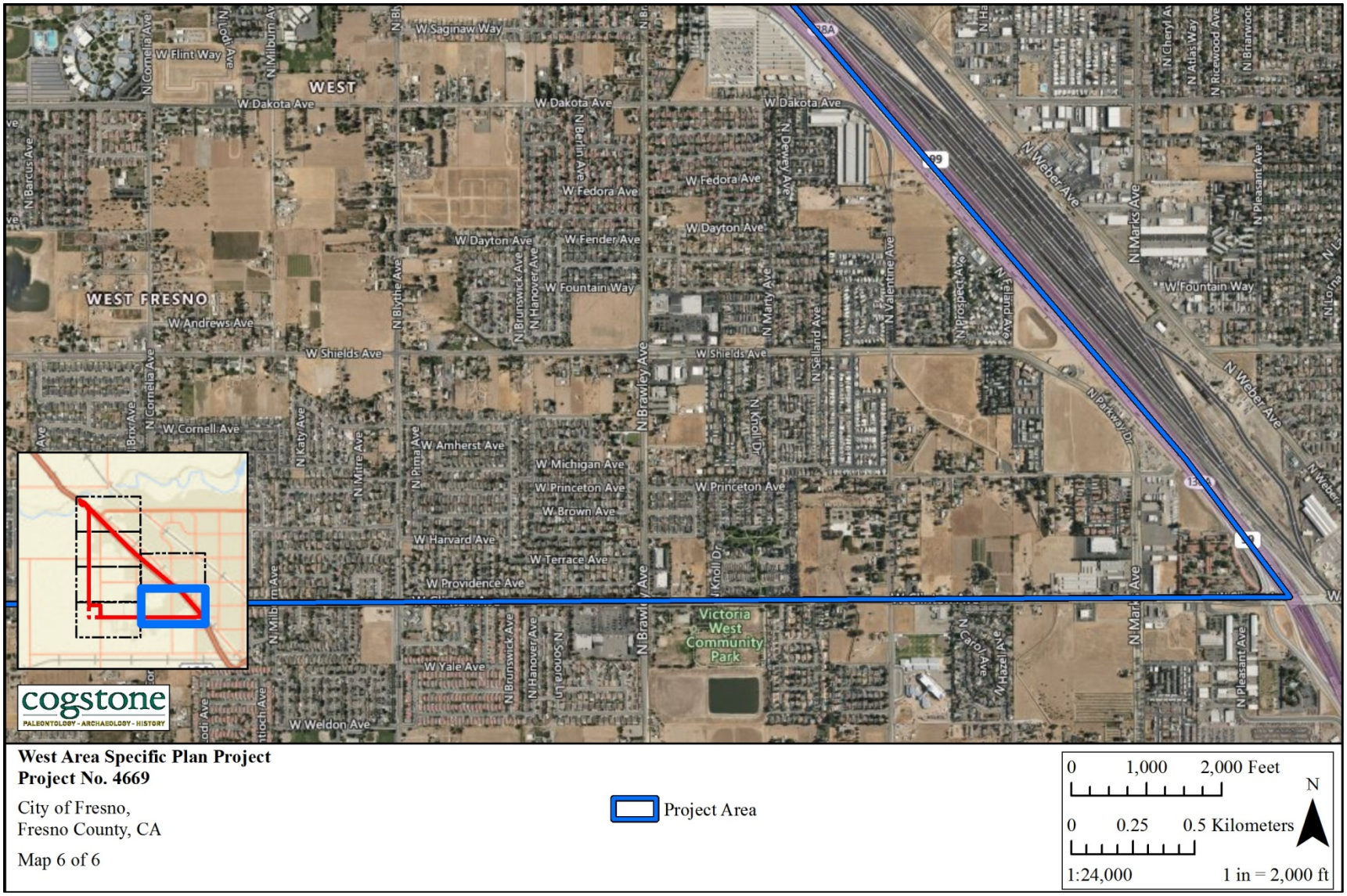

Figure 3f. Project aerial map

PROJECT PERSONNEL

Cogstone Resource Management Inc. (Cogstone) conducted the cultural and paleontological resources assessment study. Qualifications of Cogstone key personnel are provided (Appendix A).

- Desireé Martinez served as the Task Manager providing QA/QC while supervising all tasks for the Project. Ms. Martinez is a Registered Professional Archaeologist (RPA), has an M.A. in Anthropology from Harvard University, Cambridge and has more than 22 years of experience in southern California archaeology.
- Molly Valasik, RPA, served as the Principal Investigator for Archaeology and reviewed the report. Ms. Valasik has an M.A. in Anthropology from Kent State University and has more than 10 years of experience in southern California archaeology.
- Kim Scott served as the Principal Investigator for Paleontology, performed the survey, authored the paleontological portions of this assessment. Scott has an M.S. in Biology with an emphasis in paleontology from California State University (CSU) San Bernardino, a B.S. in Geology with an emphasis in paleontology from the University of California (UC) Los Angeles, and over 20 years of experience in California paleontology and geology.
- Holly Duke authored portions of the report. Ms. Duke has a B.A. in Archaeology/History from Simon Fraser University, British Columbia and has more than six years of experience in southern California archaeology.
- Logan Freeberg served as the Geographic Information System (GIS) technician and provided maps for this assessment. Mr. Freeberg has a B.A. from UC Santa Barbara and has more than 15 years of experience in southern California archaeology.
- Emily Barton consulted with Native American tribes for this Project. Mrs. Barton has a B.A. from CSU Sonoma in Anthropology with a minor in Paleontology and has more than 8 years of experience in southern California archaeology.
- Shannon Lopez wrote the historic context of this report. Ms. Lopez has an M.A. in History from CSU Fullerton and has more than four years of professional experience.
- Edgar Alvarez authored portions of the report. Mr. Alvarez has a B.A. in Anthropology from CSU Northridge and has more than three years of experience in southern California archaeology.
- Dr. John Harris reviewed the paleontological portions of this report for quality control. He has a Ph.D. in Geology with paleontology emphasis from the University of Bristol (U.K.), an M.A. in Geology with paleontology emphasis from the University of Texas, Austin, and a B.S. (Hons) in Geology from the University of Leicester (U.K.). Dr. Harris has over 40 years of field and research experience in North America and Africa.

REGULATORY ENVIRONMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA states that: It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

CEQA declares that it is state policy to: "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

TRIBAL CULTURAL RESOURCES

As of 2015, CEQA established that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code, § 21084.2). In order to be considered a "tribal cultural resource," a resource must be either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

PUBLIC RESOURCES CODE

Section 5097.5: No person shall knowingly and willfully excavate upon, or remove, destroy,

injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The California Register of Historical Resources (CRHR) is a listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks number No. 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register, is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2) It is associated with the lives of persons important to local, California, or national history;
3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or

appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

NATIVE AMERICAN HUMAN REMAINS

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below:

In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307

This section states that “No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value.”

CITY OF FRESNO HISTORIC DESIGNATION

The City of Fresno’s Historic Preservation Ordinance (Ordinance) was approved by the City Council in 1979 and revised in 1999 (Fresno Municipal Code Sect. 12, Art. 16). The purpose of the Ordinance is “to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public....” The Ordinance establishes three categories of designation for properties in Fresno – *Historic Resource*, *Heritage Property*, and *Local Historic District*. The criteria for City of Fresno historic designation correspond closely with criteria established for State and National Register eligibility, and are as follows:

HISTORIC RESOURCE DESIGNATION

The City of Fresno Historic Preservation Commission and City Council may designate any building, structure, object or site as a Historic Resource if it is found to meet the following criteria:

It has been in existence more than 50 years and it possesses integrity of location, design, setting, materials, workmanship, feeling and association, and:

a) It is associated with events that have made a significant contribution to the broad
b) patterns of our history; or
c) It is associated with the lives of persons significant in or past; or
d) It embodies the distinctive characteristics of a type, period or method of construction,
e) or represents the work of a master, or possesses high artistic values; or
f) It has yielded or is likely to yield, information important in prehistory or history.

Additionally, a property may be eligible for designation as an Historic Resource if it is less than 50 years old and meets the above-listed criteria, and is found to have exceptional importance within an appropriate historical context at the local, state, or national level.

HERITAGE PROPERTY DESIGNATION

Any building, structure, object or site may also be eligible for designation as a Heritage Property by the City of Fresno Historic Preservation Commission if it is found by the Commission to be worthy of preservation because of its historical, architectural or aesthetic merit.

LOCAL HISTORIC DISTRICT DESIGNATION

In order for a group of properties to be designated as a Local Historic District (LHD) by the City of Fresno, there must be a finite group of resources related to one another in a clearly distinguishable way; or a geographically definable area that possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. Additionally, the proposed LHD must meet one or more of the following criteria:

1. It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, or architectural heritage; or
2. It is identified with a person or group that contributed significantly to the culture and development of the city; or
3. It embodies the distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or
4. craftsmanship; or
5. Structures within the area exemplify a particular architectural style or way of life to the city; or

6. The area is related to a designated historic resource or district in such a way that it's preservation is essential to the integrity of the designated resource or Local Historic District; or
7. The area has potential for yielding information of archaeological interest.

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003, Scott et al. 2004).

BACKGROUND

GEOLOGICAL SETTING

The Fresno West Area SP is located in the Great Valley Geomorphic Province of California. The Great Valley or Central Valley is an alluvial plain which extends a distance of about 450 miles from the Tehachapi Mountains in the south to the Klamath Mountains in the north. Located between the Sierra Nevada to the east and the Coast Ranges to the west, the valley has

an average width of about 50 miles. The southern half of the Great Valley is also known as the San Joaquin Valley, while the northern half is also known as the Sacramento Valley.

The valley floor can be divided into four geomorphic units, dissected uplands, low alluvial plains and fans, river flood plains and channels, and overflow lands and lake bottoms (Poland and Evenson 1966). Structurally, the valley is a northwest trending elongated asymmetrical trough that has been filled with a thick sequence of sediments ranging in age from Jurassic through to modern times (Hackel 1966).

Beginning during the Pliocene approximately 4 million years ago, plate tectonic related uplift brought the oldest rocks of the Sierra Nevada to the surface and began to create the mountains we know today (Figueroa and Knott 2011). The east side of the Great Valley is a nearly continuous series of coalescing alluvial fans, with their apices located where streams drain the west slope of the Sierra Nevada. These fans are composed of undeformed to only slightly deformed alluvial deposits laid down primarily during Plio-Pleistocene time by the streams from the uplands of the Sierra Nevada. These low relief alluvial fans form a continuous belt between the dissected uplands of the Sierra Nevada and the nearly flat surface of the Central Valley floor.

STRATIGRAPHY

The SP surface is mapped as Holocene deposits of the San Joaquin River less than 11,700 years old, the late Pleistocene Modesto Formation is between 121,000 and 11,700 years old, and the middle Pleistocene Riverbank Formation is between 774,000 and 121,000 years old (Mathews and Burnett 1965; Figure 4). While unmapped by Mathews and Burnett (1965), modern artificial fill is present in most locations where construction has previously occurred.

ARTIFICIAL FILL, MODERN

Modern fill is frequently not mapped on geologic maps due to its ubiquitous nature. If mapped it is only the largest deposits. Although fill is typically less than a few feet thick, it can be substantially thicker in the areas of overpasses, freeways, and other large earthworks. Any fossils that may be encountered therein are not scientifically significant.

RIVER DEPOSITS, HOLOCENE

River and stream deposits of the eastern San Joaquin Valley are dominated by Mesozoic granitic and metamorphic rocks of the Sierra Nevada. Sediments are dominated by sands to gravels with silt and clay-rich deposits. Clasts coarsen upstream with boulders up to several meters across being deposited near the mountains during flash floods. These deposits are unconsolidated and typically are typically very light grey in color.

MODESTO FORMATION, LATE PLEISTOCENE

This formation is at least 9,000 years old (Janda and Croft 1967, Croft 1972) and wood from the lower member has been dated to 42,000 years old. Most of the farmland and towns in the eastern San Joaquin Valley is on young alluvium covering the Modesto Formation.

The Modesto Formation has been divided into informal upper and lower members. However, geologic mapping within the project area is not detailed enough to include this information. The upper member is usually 10 meters or less in thickness and consists of coarse arkosic sands and gravels. The lower member is typically 25 meters thick or more and consists primarily of sands with some gravels and stratified silts from channel deposits, interdistributary and floodbasin deposits, colluvium, and eolian sand (Marchand, 1976; Marchand and Allwardt, 1981).

RIVERBANK FORMATION, MIDDLE PLEISTOCENE

The middle Pleistocene Riverbank Formation is estimated to be between 130,000 and 450,000 years old. Overall the sediments of the Riverbank Formation coarsen upwards and are derived from the interior of the Sierra Nevada (Marchand 1976, Marchand and Allwardt 1981).

Three members of the Riverbank Formation have been recognized in the Fresno area. However, geologic mapping within the project area is not detailed enough to include this information. The upper member gravel was derived from the North Merced Gravel and other older gravels during later Riverbank deposition and crops out only in the north part of the project. This unit consists of upward grading alluvial silts and sands capped by a cobble conglomerate at the top. The upper member is divided from the middle member by a moderately developed paleosol. The middle member is characterized by red colored alluvial sand, silt, and gravel with paleosols. This unit is typically 1 – 4 meters thick, thickens to the west, and represents a single aggradational unit (Marchand 1976, Marchand and Allwardt 1981).

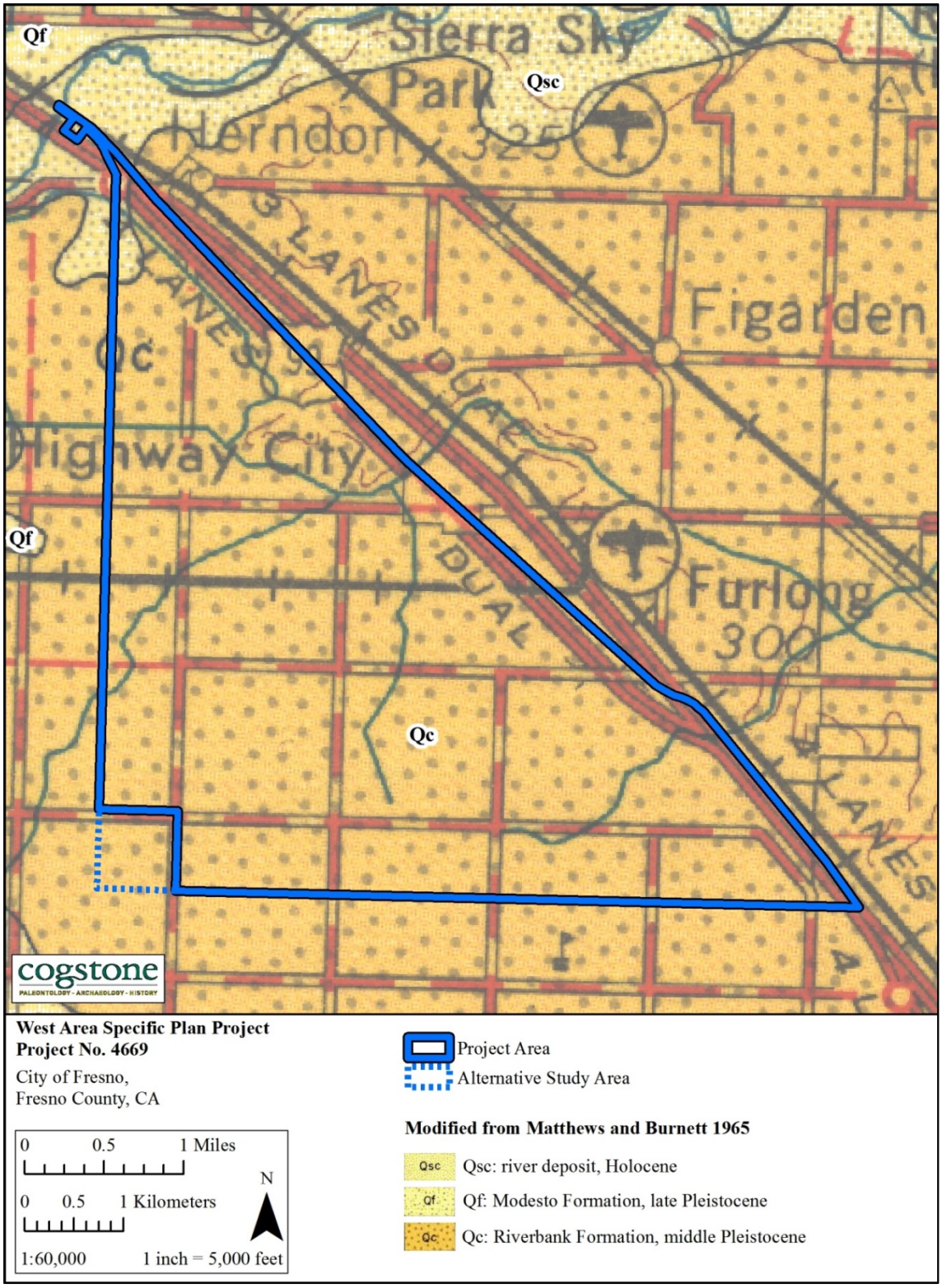

Figure 4. Geology of the Project area

PREHISTORIC SETTING

PALEOINDIAN AND LOWER ARCHAIC PERIODS (11,500–5,550 CAL B.C.)

Few archaeological sites that predate 5,000 years ago have been discovered in the region. Near the end of the Pleistocene (approximately 9,050 cal B.C.) and during the early Middle Holocene (approximately 5,550 cal B.C.), there were periods of climate change and associated alluvial deposition throughout the central California lowlands (Rosenthal et al. 2007:151). Recent geoarchaeological studies (e.g., Meyer and Rosenthal 2008; Rosenthal and Meyer 2004a, 2004b; White 2003) have verified that large segments of the Late Pleistocene landscape were removed or buried by periodic episodes of deposition or erosion during the Middle Holocene. This confirms hypotheses that Paleoindian and Lower Archaic sites were buried during the last 5,000 to 6,000 years by deposits of Holocene alluvium up to 10 meters thick along the lower stretches of the Sacramento River and San Joaquin River drainage systems. Archaeological evidence for the Paleoindian Period is scant, comprised primarily by fluted projectile points.

The Lower Archaic Period is also mainly represented by isolated finds, such as at the Tulare Lake basin in the southern San Joaquin Valley (Rosenthal et al. 2007:151-152). As a consequence of the natural alluvial deposition processes, only one site on the valley floor has produced cultural material dating to this period, and featured stone tools, remains of birds, fish and shellfish but no plant remains or milling tools. At two Lower Archaic Period sites in the foothills of Calaveras County, abundant handstones and milling slabs have been recovered.

MIDDLE ARCHAIC PERIOD (5550–550 CAL B.C.)

Middle Archaic Period archaeological sites are more common in the foothills, particularly in buried contexts between circa 4,050 and 2,050 cal B.C., and are relatively scarce on the valley floor due to burial by natural processes (Rosenthal et al. 2007:153). The change in climate and rising sea levels at the start of the Middle Holocene led to the development of the extensive marshland known as the Sacramento–San Joaquin Delta (Atwater and Belknap 1980; Goman and Wells 2000). The archaeological record indicates groups followed a seasonal foraging strategy and exploited a wide range of natural resources, including a variety of large and small mammals, fish, waterfowl, and plant resources (Fredrickson 1973; Heizer 1949; Ragir 1972; Moratto 1984). It is also likely that groups occupied higher elevations in the summer and shifted to lower elevations during the winters (Moratto1984:206), and that residential stability along river corridors within the Central Valley increased during this period (Rosenthal et al. 2007:153). Faunal remains recovered from Middle Archaic sites include tule elk, deer, pronghorn, and rabbits, while fish remains include salmon, sturgeon, and smaller fishes. Seeds or acorns apparently formed an important part of the diet during this period (Moratto 1984:201; Rosenthal et al. 2007:153, 155), and milling implements found at sites include grinding slabs and handstones, as well as mortars and pestles.

Spears, angling hooks, composite bone hooks, and baked clay artifacts that may have been used as net or line sinkers represent the variety of fishing implements found at sites dating to this

period. Other baked clay items include pipes and discoids, as well as cooking "stones." Impressions of twined basketry, bone tools, shell beads, and ground and polished charmstones have also been recovered. A variety of grave goods accompanied burials in cemetery areas, which were separate from habitation areas. The presence during the Middle Archaic of an established trade network is indicated by a variety of exotic cultural materials, including obsidian tools, quartz crystals, and *Olivella* shell beads.

UPPER ARCHAIC PERIOD (550 CAL B.C.–CAL A.D. 1100)

The Upper Archaic Period features more specialized technology, with innovations and new types of bone tools, *Olivella* shell beads, *Haliotis* ornaments, charmstones, and ceremonial blades. An abundance of grinding tools (mortars and pestles) and plant remains, accompanied by a decrease in slab milling stones and handstones, indicates a shift to a greater reliance on acorns as a dietary staple during the Upper Archaic Period (Fredrickson 1974:125; Moratto 1984:209; Wohlgemuth 2004; Rosenthal et al. 2007:156). A wide variety of natural resources were exploited during this period. Subsistence strategies varied regionally, focusing on seasonally available resources suited for harvesting in bulk, such as salmon, shellfish, deer, rabbits, and acorns (Rosenthal et al. 2007:156). Numerous large shell mounds dating to this period are located near fresh or salt water and indicate exploitation of aquatic resources was relatively intensive. The accumulations of cultural debris and habitation features, such as rock-lined ovens, house floors, burials, hearths, and fire-cracked rock, reflect long-term residential occupation (Bouey 1995:348-349).

In the western margins of the San Joaquin Valley, discrete cemeteries date to the Upper Archaic Period (Meyer and Rosenthal 1998; Olsen and Payen 1969; Pritchard 1970). In the southern San Joaquin Valley, villages on the shores of Buena Vista Lake were occupied year-round (Rosenthal et al. 2007:157). Trade in marine shell beads and obsidian, among other items, continued to be important.

EMERGENT/LATE PREHISTORIC PERIOD (CAL A.D. 1100–HISTORIC CONTACT)

The archaeological record in the Central Valley for the Emergent or Late Prehistoric Period documents an increase in the diversity and number of artifacts and in the number of archaeological sites (Rosenthal et al. 2007:157-159). Along with an increase in sedentism and population that led to the development of social stratification, with an elaborate ceremonial and social organization, a number of cultural innovations shaped the Emergent Period. These include the introduction of the bow and arrow and more diverse fishing equipment (bone fish hooks, harpoons, and gorge hooks). Fishing, hunting, and gathering plant foods continue as the foci of subsistence practices, including intensive harvesting of acorns and an increased emphasis on fishing (Rosenthal et al. 2007:158-159). Hopper mortars and shaped mortars and pestles, as well as bone awls used for producing coiled baskets, are common. Locally made Cosumnes Brownware has been recovered from some sites in the lower Sacramento Valley, while pottery in the Tulare basin was obtained through trade. Baked clay balls, probably used for cooking in the absence of stone, remain common.

Ceremonial and ritual items include flanged tubular pipes and baked clay effigies representing humans and animals. Clamshell disk beads were used as currency and accompanied the development of extensive exchange networks. Mortuary practices included flexed burials, the cremation of high-status individuals, and pre-interment burning of offerings in grave pits (Fredrickson 1973:127-129; Moratto 1984:211). Overall, the cultural patterns known from historic period Native American groups inhabiting the Central Valley are reflected in the subsistence and land use patterns practiced during the Emergent Period (Rosenthal et al. 2007:157-158).

ETHNOGRAPHY

The Fresno West Area SP is located within the traditional territory of the Yokuts. Historically, the Yokuts people collectively inhabited the San Joaquin Valley as well as the eastern foothills of the Sierra Nevada from the Calaveras River southward to the Kern River (Kroeber 1925). Ethnographers and linguists have traditionally divided Yokuts into three geographic groups, based on linguistic similarities and differences: Northern Valley, Southern Valley, and Foothill. The SP is located in the area historically occupied by the Northern Valley Yokuts according to Kroeber (1925: 462), who suggested that they lived along the San Joaquin River. The Northern Valley Yokuts tribes' territory extended southward from the Calaveras River to the upper San Joaquin River and from the crest of the Coast (Diablo) Range east to the Sierra Nevada foothills.

Information on the Yokuts lifeways has been compiled by Kroeber (1925:474-543), Wallace (1978:462-470), and Latta (1977) and is summarized here. The Northern Valley Yokuts grouping consisted of 11 or more tribes, each containing 300 or so people (Wallace 1978:462-466). Most members lived within a single settlement that often had the same name as the political unit. These were generally established on low rises along the major watercourses. The eastern side of the San Joaquin River was more heavily populated than the land to the west of the river, due to greater water availability. A village generally contained at least three types of structures – oval single-family dwellings made of tule, ceremonial chambers, and sweathouses (Wallace 1978:465). According to Kroeber's informants, a tribe of Yokuts known as the *Hewchi* lived close to the SP, near Fresno River (1925: 470).

The fundamental economy of the Yokuts was subsistence fishing, hunting, and collecting plant foods. Acorns, collected in the fall and then stored in granaries, were a staple food (Wallace 1978:464). During the fall and spring runs, salmon was a dietary mainstay. Wildfowl, such as geese and ducks, were also an important staple. Additional dietary plant parts included seeds, berries and tule roots. Large game included deer, elk, antelope, and black bears.

A wide variety of tools, implements, and enclosures were used by the Northern Valley Yokuts to gather, collect, and process food resources (Kroeber 1925:527; Latta 1977; Wallace 1978:464-465). These included bow and arrows, nets, traps, slings, and blinds for hunting land mammals and birds; and harpoons, hooks, and nets, as well as tule rafts. Sharpened digging sticks and woven tools (seed beaters, burden baskets, and carrying nets) would have been used to collect plant resources and a variety of implements (stone mortars and pestles, bedrock and portable mortars, stone knives, and bone tools) used for processing resources. The Northern Valley Yokuts traded with neighboring groups for bows and arrows, baskets, shell ornaments and beads, obsidian, and mussels and abalone (Wallace 1978:465).

The San Joaquin Valley was never settled during the Spanish and Mexican periods, but influences from the coastal missions and presidios were felt inland by the late 1700s. By 1805, Northern Valley Yokuts were transported to the San José, Santa Clara, Soledad, San Juan Bautista, and San Antonio missions that were established during the Spanish era (Wallace 1978:468-469). Later, disease and military raids claimed many lives during the Mexican period, followed by displacement during the early American Period by gold seekers and farmers.

Pre-contact population density for Northern Valley Yokuts has been estimated at 25,000 to 31,000 (Wallace 1978:463). In 1852, representatives of only three Northern Valley Yokuts tribes (including the *Heuchi*) remained to sign one of a series of statewide treaties (Wallace 1978:469). Today, people of Yokuts descent live on the Tule River Reservation in Tulare County and on three rancherias: Picayune in Madera County at Coarsegold, Santa Rosa in Kings County, and Table Mountain in Fresno County near Friant. Some Foothill Yokuts also live with Central Sierran Miwok on the Tuolumne Rancheria in Tuolumne County.

HISTORIC SETTING

SPANISH EXPLORATION

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). The Spanish colonization of what was then known as Alta California began with the 1769 overland expedition, led by Gaspar de Portolá, with a crew of 63 men, in order to explore the land between San Diego and Monterey. Between 1769 and 1822, the Spanish had colonized California and established missions, presidios, and pueblos and documented the people and landscape along the way (McCawley 1996).

Following the Portolá Expedition, vast tracts of land were granted to the missions. The goals of the missions were tri-fold: they establish a Spanish presence on the west coast, proselytize Christianity to the native peoples, and served to exploit the native population as laborers. The Spanish also hoped each mission would become a town center, whereas, “the pueblo would

receive a ground of four square leagues of land… and other property would be parceled out among the Indians". The missionaries, or padres, would essentially serve as a mayor, or head of the town (Bean 1968).

MEXICAN PERIOD

In 1821, Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, appropriating the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands, in the form of land grants, to private owners (Bean and Rawls 1993). The lands were typically granted to soldiers who proved their loyalty to the Mexican government once liberated from the Spanish crown.

CITY OF FRESNO

The County of Fresno was founded in 1856 from portions of Tulare, Merced, and Mariposa Counties. In 1872, Central Pacific Railroad, predecessor to the Southern Pacific Railroad Company, arrived in the San Joaquin Valley. The local train station, "Fresno Station," represented the epicenter of Fresno (Planning Resource Associates, Inc. 2008).

Fresno's original site plan was organized on a grid system which extended eastward from the Central Pacific Railroad tracks along what is currently H Street. In 1872, the Railroad began selling lots to entrepreneurs and by the end of the year Fresno consisted of a few residential homes, multiple livery stables, four restaurants and hotels, and two stores (Planning Resource Associates, Inc. 2008).

In 1874, the Fresno county seat was transferred from Millerton, which had experienced years of floods and a catastrophic fire, to the City of Fresno (Hoover & Kyle 2002). Fresno's new position as the county seat resulted in a boost of prosperity and by 1885 Fresno was incorporated with a population of approximately 2,000 (Victor Gruen Associates 1968).

Fresno's economic success came from its agricultural production in conjunction with the railroad. Fresno County became the number one agricultural producer in California in addition to one of the nation's best producers of cotton, figs, grapes, and raisins (Hoover & Kyle 2002). In 1911, the Sun-Maid Raison Cooperative was founded in the City of Fresno as the principle-packing center and hosted multiple packinghouses throughout the City (Hattersley-Drayton 2013). To this day, Fresno County is ranked as the nation's highest agricultural producer with annual sales totaling over $3 billion per annum.

By the late 1890s and early 1900s, Fresno's population and economy continued to grow with the U.S. Census showing the City's population doubling from 12,470 in 1900 to 24,892 in 1910 (U.S. Census 1910). The Fresno City Board of Trustees approved the establishment of the City's first planning commission in 1916, in anticipation of further growth. By 1923 the plans were

adopted and included parks and recreation centers, streets to accommodate the increased population (Planning Resource Associates, Inc. 2008).

Fresno's early 20th century residential development located north of the downtown area caused the expansion of the electric Fresno Street Railway established in 1888. The Railway was later taken over by the Fresno City Railway Company in 1901 and built northward to connect the suburban areas to the City's center. The electric streetcar would remain the primary form of mass transit in Fresno City until its replacement by the bus by 1939 (Planning Resource Associates, Inc. 2008).

During the Post-War Economic Boom (1945-1973), the population shifted from Fresno's center to the newly developed suburbs as a result of increased population and increase in personal car ownership. This shift in population caused the decline of the City's urban center and in the 1960s, Fresno began an urban revitalization project for downtown resulting in the construction of the Fulton Mall in 1964. This six-block pedestrian mall was considered an innovative model and effective response to what was considered at the time to be America's "Urban Crisis" (Victor Gruen Associates 1968).

During the 1970s to 1990s, development continued to expand outwards from Fresno's City center.

PROJECT AREA HISTORY

The Fresno West SP boundaries are defined by Clinton Avenue at its southern boundary, North Grantland Avenue at its western boundary, and the SR-99 running northwest/southeast connecting the northern end of Grantland Avenue to the eastern end of Clinton Avenue. Historic topographic maps, from 1923 (Bullard 7.5x15 minute) to approximately 1965 (Fresno North 7.5 minute) show the vast majority of the SP occupied by farmland and various farmhouses. The Post-War Economic Boom (1945-1973) is depicted in historic aerials from 1962 and 1972 as an increase in tract homes on previous agricultural land as the population shifted from urban to suburban locations. The tract homes spread west of SR-99 through the SP. By 1998, nearly a third of the Fresno West Area SP is developed and closely resembles the area's built environment at it exists today.

RECORD SEARCHES AND LITERATURE REVIEW

PALEONTOLOGY

A search for paleontological records was completed by the Natural History Museum of Los Angeles County (LACM; McLeod 2019; Appendix B). Published literature, unpublished

paleontological reports, and fossil databases were also searched for fossil records (Jefferson 1991a, 1991b; Hilton et al. 2000; Finger 2017; UCMP 2019; PBDB 2019).

No fossils are known from the Fresno area. However, fossils have been found in the same formations as occur within the Fresno West Area SP.

ARTIFICIAL FILL

Although fossils may occur in artificial fill, any present would not be *in situ* and therefore not scientifically relevant.

RIVER DEPOSITS

Being less than 11,700 years old, these sediments are too young to contain the remains of extinct animals.

MODESTO FORMATION LOCALITIES

In Fresno County, the Modesto Formation has produced fossils of mammoth ([1]†*Mammuthus* sp.) and a camel (†Camelidae) from two localities (UCMP V99829, UCMP V99830; UCMP 2019).

The number of fossils recovered from the Modesto Formation in Merced County has increased greatly in the past few years. Along State Route 99 (SR-99) 1,667 late Pleistocene fossils were found between 7 and 26 feet below the original ground surface in excavations associated with the construction of the new Le Grand Road overpass:

> Except for one locality found in a paleosol, all fossils were recovered from sandy stream and adjacent slow moving water and flooding (overbank) environments. Most fossils were not recovered from the streams themselves but instead were from the adjacent sediments. The presence of abundant root traces and caliche (calcium carbonate) provides evidence of plants and occasional drying events.
>
> Large mammals identified include Columbian mammoth (†*Mammuthus columbi*), giant ground sloth (†*Paramylodon harlani*), yesterday's camel (†*Camelops hesternus*), llama (†*Hemiauchenia* sp.), ancient bison (†*Bison antiquus*), horses of at least two types (†*Equus occidentalis* and †*E. conversidens*), and deer (*Odocoileus hemionius*). In addition, partial specimens were assigned to †Proboscidea (fossil elephant, probably mammoth), and undifferentiated hooved mammal (Ungulata). Carnivores identified include dire wolf (†*Canis dirus*), coyote (*Canis latrans*) and cougar (*Felis concolor*).
>
> Small mammals identified include jackrabbit (*Lepus californicus*), Audubon's and

1 † - Indicates that the species, or for higher taxonomy, the species that could be present is extinct.

> Bachman's rabbits (*Sylvilagus audubonii* and *S. bachmani*), rabbits of indeterminate species (*Sylvilagus* sp.), ground squirrel (*Spermophilus* sp.), kangaroo rat (*Dipodomys* sp.), pack rat (*Neotoma* sp.), and pocket gopher (*Thomomys bottae*). Mice include the meadow mouse or vole (*Microtus* sp.), pocket mouse (*Perognathus* sp.), deer mouse (*Peromyscus* sp.), and harvest mouse (*Reithrodontomys* sp.).
>
> Birds identified include Canada goose (*Branta canadensis*), California quail (*Calipepla californica*), western scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), American robin (*Turdus migratorius*), western meadowlark (*Sturnella neglecta*) and sparrow (*Zonotrichia* sp.). Fishes were restricted to minnows (Cyprinidae) and three-spine stickleback (*Gasterosteus aculeatus*).
>
> Western pond turtle (*Actinemys marmorata*) appears to be the only type of turtle present. Other reptiles were only identified to group. These are snakes of the gopher snake family (Colubridae) and rattlesnake (*Crotalus* sp.). Similarly, specimens of frog and toad are present but could not be identified more specifically.
>
> The presence of bison and dire wolf together indicates the fossil fauna is within the Rancholabrean Land Mammal Age. The overall assemblage indicates a grassland environment with creeks and streams. [Gust, Scott, and Richards 2012]

A fossil of elephant (†Proboscidea) is known from the Modesto Formation in Ash Slough just northeast of Chowchilla (LACM 7254), Madera County (McLeod 2019).

Based on the number of fossils recovered from the Modesto Formation along SR-99 at Le Grand Road in Merced County, fossils recovered during excavations for the new Sandy Mush Road overpass are most likely from the Modesto Formation as well. Numerous Pleistocene fossils including the palate and tusk of a subadult mammoth were found during construction (Stewart personal communication 2015).

Locally, a records search for the City of Clovis in Fresno County from the University of California Museum of Paleontology (UCMP) reported no fossil localities within the city limits in either the Modesto and/or Riverbank formation (Finger 2017). While the City of Clovis General Plan update (City of Clovis 2014) stated that fossils have been recovered within the City previously, further investigations found that the source of this statement was a technical study prepared by the San Bernardino County Museum for the 1993 General Plan update. This study references the fact that fossils have been found in the Great Valley in the Riverbank and Turlock Lake Formations and from Pleistocene river terraces. The study inaccurately attributes large mammal fossils as having been recovered within the City of Clovis from river terraces and no fossils are currently known within the City of Clovis.

RIVERBANK FORMATION LOCALITIES

In Fresno, County the Riverbank Formation has produced fossils of horse (†*Equus* sp.; UCMP 2019). Fossils previously attributed to the Riverbank formation at Fairmead Landfill in Madera County have been reassigned to the middle to early Pleistocene Turlock Lake Formation (Dundas et al. 1996) which does not appear in the current study area. In Sacramento County, the Riverbank Formation has produced fossils of Harlan's ground sloth (†*Paramylodon harlani*), dire wolf (†*Canis dirus*), coyote (*Canis latrans*), Columbian mammoth (†*Mammuthus columbi*), horse (†*Equus* sp.), yesterday's camel (†*Camelops hesternus*), ancient bison (†*Bison antiquus*), antelope (Antilocapridae), deer (Cervidae), rabbit (Leporidae), pocket gopher (*Thomomys* sp.), woodrat (*Neotoma* sp.), squirrel (*Sciurus* sp.), broad-footed mole (*Scapanus latimanus*), gartersnake (*Thamnophis* sp.), and Sacramento blackfish (*Orthodon* sp.; Hilton et al. 2000).

CULTURAL

CALIFORNIA HISTORIC RESOURCES INFORMATION SYSTEM

The purpose of the cultural records search is to identify all previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the Fresno West Area SP. All cultural resources, as well as cultural resource surveys, performed within the Fresno West Area SP boundaries were reviewed.

Cogstone archaeologist, Holly Duke, requested a search of the California Historic Resources Information System (CHRIS) from the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield on July 30, 2019, which included the entire SP. Results of the record search indicate that 36 previous studies have been completed within the SP (Table 2).

Table 2. Previous Studies within the Fresno West Area SP

REPORT NO. (FR-)	AUTHOR(S)	TITLE	YEAR
00069	Hudlow, Scott M. and de la Garza, Theresa	A Phase I Architectural Survey for the Highway City Specific Plan Area City of Fresno, California	1996
00135	Hatoff, Brian, Voss, Barb, Waechter, Sharon, Benté, Vance, and Wee, Stephen	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project.	1995
00166	Kus, James S.	Negative Archaeological Survey Report for Proposed Fresno Housing Authority Clinton Avenue Project	1994
00191	Wren, Donald G.	An Archaeological Survey: Central Unified School District Stadium Project	1998
00271	Bissonnette, Linda Dick	Cultural Resources Survey for Central unified School District Adult School, Fresno County, California	1991

REPORT NO. (FR-)	AUTHOR(S)	TITLE	YEAR
00287	Bissonnette, Linda Dick	Phase I Cultural Resources Assessment: Central Unified School District, Milburn/Dakota Elementary School Site, Fresno County, California	1992
00294	Bissonnette, Linda Dick	Cultural Resources Assessment for the Central Unified School District, New High School Project, Northwest of Dakota and Cornelia Avenues, Fresno County	1993
00302	Bissonnette, Linda Dick	Grantland Avenue Sewer Trunk and Herndon Expressway Cultural Resources Assessment	1994
00393	Dondero, Steven	Negative Archaeological Survey Report for the Herndon Avenue Overcrossing, Fresno County	1988
00433	Davis, Alan, Dick, Linda, and Varner, Dudley	An Archaeological Reconnaissance of the Gates Substation to the Proposed Gregg Substation 500 KV Transmission Line, Fresno and Madera Counties	1977
00447	Jackson, Scott R.	Environmental Impact Evaluation: An Archaeological Assessment of God's Family Church Property, Fresno County, California	1990
00677	Roop, William	A Cultural Resources Evaluation of Tracts 4488 (APN 311-031-24) and 4581 (APN 404-071-17), Fresno, Fresno County, California	1993
00760	Varner, Dudley M.	Highway City Sewer Project (Improvement Dist. #166)	1974
01640	Binning, Jeanne Day	Negative Archaeological Survey Report Installation of Traffic Surveillance Stations along Interstate 5, State Route 41, and State Route 99 in Madera and Fresno Counties	1999
01656	Wren, Donald G.	A Cultural Resource Study: Stormwater Retention Basin EN and EO, Fresno County, California	2000
01702	Wren, Donald G.	A Cultural Resource Study: Basin CD Project, Fresno County, California	2001
01710	Szeto, Andy	Site Location Map and Site Description for PL-754-01	1998
01808	Wren, Donald G.	An Archaeological Survey Central Unified Education Center, Fresno County, California	2002
01811	Hildebrand, Karen and Roper, C. Kristina	Hardpan and Adobe Brick: A National Register Evaluation of Two Highway City Adobe Buildings, Fresno, California	1997
01942	Hudlow, Scott M. and de la Garza, Theresa	A Phase I Architectural Survey for the Highway City Specific Plan Area, City of Fresno, California	1996
01953	Wren, Donald G.	Draft Environmental Impact Report: Central Unified Education Center: State Clearinghouse No. 2002021064	2002
02029	Brady, Jon L.	Historic Property Survey for the Proposed La Estancia Housing Project, Fresno, California	2004
02212	Nettles, Wendy M.	Phase I Cultural Resources Study of Assessor's Parcel No. 311-140-14, 5901 W. Shaw Avenue, Fresno, California	2006
02227	Losee, Caroyln	New Tower Submission Packet, FCC Form 620	2006
02256	Hobbs, Kelly	Historic Property Survey Report: State Route 99/Shaw Avenue Interchange Improvement Project, Fresno, California	2002
02256	Brady, Jon	Underground Caverns 4951 N. Dale, Fresno California, Historic Evaluation and Determination of Significance	2000
02256	Kiaha, Krista	Archaeological Survey Report for the Shaw Avenue Interchange Reconstruction at State Route 99 Fresno County, California	2001
02256	Hobbs, Kelly	Historic Architecture Survey Report/Historic Resource Evaluation for State Route 99/Shaw Avenue Interchange Improvements	2002

REPORT NO. (FR-)	AUTHOR(S)	TITLE	YEAR
02256	Unknown	Public Information Meeting Summary Report State Route 99/Shaw Avenue Interchange Reconstruction Project	2001
02336	Brady, Jon L.	Historic Property Survey for the Horizon Enterprises Property 6785 & 6825 West Barstow Avenue in the City of Fresno, California	2008
02348	Roper, C. Kristina	A Cultural Resources Survey of the Bella Serra Residential / Commercial Development, Herndon, Fresno County, California	2007
02405	Lanner, David	Archaeological Survey Report Herndon Interchange Improvements Project, Fresno County	2010
02408	Lanner, David	Archaeological Survey Report for the Island Park and North Fresno Six Lane Expansion in Fresno County and Madera County	2008
02408	Deocampo, Daniel	First Supplemental Extended Phase I Report Geoarchaeological Investigations for the Island Park Six-Lane Project, Fresno and Madera Counties, California	2008
02408	Deocampo, Daniel	Final Extended Phase I Report Geoarchaeological Investigations for the Island Park Six-Lane Project, Fresno and Madera Counties, California	2007
02408	Vallejo, Philip	Historical Resource Evaluation Report Island Park Six-Lane Project, Fresno and Madera Counties, California	2008
02408	Lanner, David	Historic Property Survey Report Proposed Highway 99 Six-Lane Expansion, Fresno County and Madera County, California	2008
02431	Hibma, Michael	Historical Resources Evaluation Report for the Veterans Boulevard/State Route 99 Interchange and Grade Separations Project, Fresno, Fresno County, California	2010
02454	Whitehouse, John and Blind, Heather	Historic Property Survey Report for the Veterans Boulevard/State Route 99 Interchange and Grade Separations Project, Fresno, Fresno County, California, Caltrans District 6, EA#06-OH3600	2010
02711	Stoyka, Michael	Survey for Island Park ASR and HPSR for the Bridge Replacement at Highway 99 and the San Joaquin River, Fresno County, California	2013
02721	Brady, Jon L. and Brady, Justin M.	Archaeological Survey Report for the Proposed New Community Health Center, 4711 West Ashlan Avenue, Fresno, Fresno County, California	2015
02722	Anderson, Katherine and Vader, Michael	Fresno Recycled Water Distribution System Project, Phase I Cultural Resources Study, Fresno County, California	2015
02728	Anderson, Katherine and Vader, Michael	Recycled Water Distribution System, Southwest Quadrant: Phase I Cultural Resources Study	2017
02775	Losee, Carolyn	Cultural Resources Investigation for AT&T Mobility CVL02290 "Polk" 5957 West Shields Avenue, Fresno City and County, California	2016

The results of the records search indicates a total of 82 cultural resources have been previously recorded within the SP (Table 3). Of these cultural resources, four are historic archaeological sites and 78 are historic built environment resources.

Table 3. Previously Recorded Cultural Resources within the Fresno West Area SP

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
003110	-	Historic Resource	Single-family residence constructed in 1935 located at Parkway Drive (Building 14).	1996	Unevaluated
003111	-	Historic Resource	Single-family residence constructed in 1940 located at 5055 Parkway Drive.	1996	Unevaluated
003112	-	Historic Resource	Parkway Mini Mart constructed in 1920 located at 5510 Parkway Drive.	1996	Unevaluated
003113	-	Historic Resource	Single-family residence constructed between 1935 and 1940 located at 5085 Parkway Drive.	1996	Unevaluated
003114	-	Historic Resource	Single-family residence constructed in 1940 located at 5100 Lola Street.	1996	Unevaluated
003115	-	Historic Resource	Single-family residence constructed in 1935 located at 5086 Lola Street.	1996	Unevaluated
003116	-	Historic Resource	Single-family residence constructed in 1940 located at 5070 Lola Street.	1996	Unevaluated
003117	-	Historic Resource	Single-family residence constructed in 1940 located at 5066 Lola Street	1996	Unevaluated
003118	-	Historic Resource	Single-family residence constructed in 1945 located at 5060 Lola Street.	1996	Unevaluated
003119	-	Historic Resource	Single-family residence constructed in 1910 located at 5040 Lola Street.	1996	Unevaluated
003120	-	Historic Resource	Single-family residence constructed in 1930 located at 5010 Lola Street.	1996	Unevaluated
003121	-	Historic Resource	Single-family residence constructed in 1925 located at 5945 W. Shaw Avenue.	1996	Unevaluated

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
003122	-	Historic Resource	Farm with single-family residence, sales shed, carport and associated farm buildings constructed in 1935 located at 5507 W Shaw Avenue.	1996	Unevaluated
003123	-	Historic Resource	Farm with frame farmhouse constructed 1900-1910 and Adobe structure constructed 1885, located at 5901 W. Shaw Avenue.	1996	Unevaluated
003124	-	Historic Resource	Single-family residence constructed in 1930 located at 5865 W. Shaw Avenue.	1996	Unevaluated
003125	-	Historic Resource	Single-family residence constructed in 1930 located at 5807 W. Shaw Avenue.	1996	Unevaluated
003126	-	Historic Resource	Adobe structure constructed in 1900 located at UTM 11S 241850 mE, 4077145 mN.	1996	Unevaluated
003127	-	Historic Resource	Single-family residence constructed in 1920 located at 5765 W. Shaw Avenue.	1996	Unevaluated
003128	-	Historic Resource	Single-family residence, half adobe structure half stucco covered frame, constructed in 1940 located at 5787 West Shaw Avenue.	1996	Unevaluated
003129	-	Historic Resource	Single-family residence constructed in 1930 located at 5739 West Shaw Avenue	1996	Unevaluated
003130	-	Historic Resource	West Shaw Market constructed in 1930 and located at 5591 West Shaw Avenue	1996	Unevaluated
003131	-	Historic Resource	Single-family residence constructed in 1930 located at 5585 West Shaw Avenue.	1996	Unevaluated
003132	-	Historic Resource	Highway City Feed & Pet Supplies constructed in 1930 and located at 5525 West Shaw Avenue.	1996	Unevaluated

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
003133	-	Historic Resource	Single-family residence constructed in 1925 located at 4943 Lola Street.	1996	Unevaluated
003134	-	Historic Resource	Single-family residence constructed in 1940 located at 4933 Lola Street.	1996	Unevaluated
003135	-	Historic Resource	Single-family residence constructed in 1930 located at 4921 Lola Street.	1996	Unevaluated
003136	-	Historic Resource	Single-family residence constructed in 1940 located at 4978 Polk Avenue.	1996	Unevaluated
003137	-	Historic Resource	Single-family residence constructed in 1930 located at 4966 Lola Street.	1996)	Unevaluated
003138	-	Historic Resource	Single-family residence constructed in 1945 located at 5540 Fairmont Avenue.	1996	Unevaluated
003139	-	Historic Resource	Single-family residence constructed in 1930 located at 5530 Fairmont Avenue.	1996	Unevaluated
003140	-	Historic Resource	Peluso's Grocery constructed in 1920 and located at 5495 West Shaw Avenue.	1996	Unevaluated
003141	-	Historic Resource	Single-family residence constructed in 1930 located at 4965 Polk Avenue.	1996	Unevaluated
003142	-	Historic Resource	Single-family residence constructed in 1940 located at 4953 Polk Avenue.	1996	Unevaluated
003143	-	Historic Resource	Single-family residence constructed in 1925 located at 4947 Polk Avenue.	1996	Unevaluated
003144	-	Historic Resource	Single-family residence constructed in 1940 located at 4937 Polk Avenue.	1996	Unevaluated
003145	-	Historic Resource	Two single-family residences constructed in 1900-1925 located at 5490 Fairmont Street.	1996	Unevaluated

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
003146	-	Historic Resource	Single-family residence constructed in 1930 located at 5474 Fairmont Avenue.	1996	Unevaluated
003147	-	Historic Resource	Single-family residence constructed in 1930 located at 5464 Fairmont Avenue.	1996	Unevaluated
003148	-	Historic Resource	Single-family residence constructed in 1935 located at 5440 Fairmont Avenue.	1996	Unevaluated
003149	-	Historic Resource	Single-family residence constructed in 1940 located at 4966 Polk Avenue.	1996	Unevaluated
003150	-	Historic Resource	Single-family residence constructed in 1940 located at 4960 Polk Avenue.	1996	Unevaluated
003151	-	Historic Resource	Single-family residence constructed in 1930 located at 4950 Polk Avenue.	1996	Unevaluated
003152	-	Historic Resource	Single-family residence constructed in 1920 located at 4907 State Avenue.	1996	Unevaluated
003153	-	Historic Resource	Single-family residence constructed in 1930 located at 4917 North State Avenue.	1996	Unevaluated
003154	-	Historic Resource	Single-family residence constructed in 1930 located at 4925 N. State Avenue.	1996	Unevaluated
003155	-	Historic Resource	Single-family residence constructed in 1935 located at 4935 State Avenue.	1996	Unevaluated
003156	-	Historic Resource	Single-family residence constructed in 1910 located at 5463 Fairmont Avenue.	1996	Unevaluated
003157	-	Historic Resource	Single-family residence constructed in 1910-1920 located at 5383 Fairmont Avenue.	1996	Unevaluated
003158	-	Historic Resource	Single-family residence constructed in 1930 located at 4846 Cornelia Street.	1996	Unevaluated

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
003159	-	Historic Resource	Single-family residence constructed in 1925 located at 4843 North Parkway Drive.	1996	Unevaluated
003160	-	Historic Resource	Single-family residence constructed in 1925 located at 4853 N. Parkway Drive.	1996	Unevaluated
003161	-	Historic Resource	Single-family residence constructed in 1930 located at 4884 Barcus Street.	1996	Unevaluated
003930	003109H	Historic Archaeological Site	Biola Branch Extension Railroad connecting Biola to Kerman in Fresno County. Consists of a 1,417 foot long and 14 foot wide segment with three features: concrete flow-control irrigation box, concrete irrigation culvert and concrete pad constructed in 1929-1930 located 0.5 miles south of the intersection of West Shaw Avenue and Howard Avenue.	1998 1999 2002 2004 2009 2010 2013 2015 2016 2018	Unevaluated
004701	003194	Historic Archaeological Site	Two adjacent concrete pads and broken glass scatter located on the south side of West Shaw Avenue, east of Polk Avenue.	2001	Unevaluated
004702	003195H	Historic Archaeological Site	Empty field with sparse historic artifact scatter. Dating to late 19th to late 20th century, artifacts include a well casing and pump, glass, PVC pipe, marble fragments, tile, ceramics, porcelain and concrete fragments.	2001	Unevaluated
004975	-	Historic Resource	Single-family residence constructed in 1922 located at 5453 West Fairmont Avenue.	1997	Unevaluated
004976	-	Historic Resource	Single-family residence constructed in 1939 located at 4858 North Barcus Avenue.	1997	Unevaluated

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
004977	-	Historic Resource	Single-family residence constructed in 1946 located at 5531 West Fairmont Avenue.	1997	Unevaluated
004978	-	Historic Resource	Single-family residence constructed in 1932 located at 4909 North Polk Avenue.	1997	Unevaluated
004988	-	Historic Resource	Single-family residence constructed in 1926 located at 5463 West Fairmont Avenue.	1997	Unevaluated
005205	-	Historic Resource	Single-family residence constructed in 1910 located at 4884 North Barcus Avenue.	1997	Unevaluated
005391	-	Historic Resource	Single-family residence and vineyard constructed in 1925-1948 located at 3646 North Cornelia Avenue.	2004	Unevaluated
005392	-	Historic Resource	St. Mary's Parish Church, Parsonage, and ancillary buildings constructed in 1945 located at 4636 West Dakota Avenue.	2004	Unevaluated
005573	CA-FRE-003608H	Historic Resource	Herndon Canal, constructed with earthen levees shored with poured concrete or rock and cement. Constructed circa 1891 and is located within APNs 50506008, 50506074, 50506007, 50506016S, 50506043 and 50506017.	2001 2006 2009 2010	Unevaluated
005648	CA-FRE-003424H	Historic Archaeological Site	Historic San Joaquin River Quarry site constructed in 1914-1945 consisting of four features: two subsurface oil tanks, one subsurface oil tank with four-chambered concrete oil sump, one weight scale (concrete pad) and one concrete support structure. Loose historic artifact scatter consisting of broken glass, iron pipe, milled lumber, broken concrete and cast	2007	Unevaluated

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
			iron fragments. The site is located 300 feet to the west of Highway 99.		
005816	-	Historic Resource	Property consisting of eight buildings: one adobe residence, one wood frame residence, two detached garages, one barn, one shed, one adobe fumigating building one pump house, and one metal pole barn. Constructed in 1943 and located at 6785 West Barstow Avenue.	2008 2010	Unevaluated
005829	-	Historic Resource	Epstein Canal; Fresno Irrigation District, 1943.	2008 2010	Unevaluated
006002	-	Historic Resource	Unnamed canal/aqueduct consisting of an approximately 2000 foot segment of earthen-lined, above ground canal, in between shallow levees. Constructed circa 1915 and located at 6506 West Barstow Avenue.	2010	Unevaluated
006003	-	Historic Resource	Single-family residence constructed in 1959 located at 6572 West Barstow Avenue.	2010	Unevaluated
006004	-	Historic Resource	Single-family residence constructed in 1948 located at 6594 West Barstow Avenue.	2010	Unevaluated
006005	-	Historic Resource	Single-family residence constructed in 1951 located at 6610 W. Barstow Avenue.	2010	Unevaluated
006006	-	Historic Resource	Single-family residence constructed in 1956 locates at 6844 West Barstow Avenue.	2010	Unevaluated
006007	-	Historic Resource	Single-family residence constructed in 1924 located at 7018 West Barstow Avenue.	2010	Unevaluated
006008	-	Historic Resource	Single-family residence constructed in 1957 located at 6526 West Shaw Avenue.	2010	Unevaluated

PRIMARY NO. (P-10)	TRINOMIAL NO. (CA-FRE-)	RESOURCE TYPE	RESOURCE DESCRIPTION	YEAR RECORDED	NRHP/ CRHR STATUS
006009	-	Historic Resource	Single-family residence constructed in 1920 located at 6665 West Shaw Avenue.	2010	Unevaluated
006010	-	Historic Resource	Single-family residence constructed in 1954 located at 6730 West Shaw Avenue.	2010	Unevaluated
006027	-	Historic Resource	Single-family residence constructed in 1949 located at 4901 North Polk Avenue.	2001	Unevaluated
006028	-	Historic Resource	Single-family residence constructed in 1930 located at 4951 North Lola Avenue.	2001	Unevaluated
006029	-	Historic Resource	Single-family residence constructed in 1945 located at 4967 North Lola Avenue.	2001	Unevaluated
006030	-	Historic Resource	Single-family residence constructed in 1949 located at 5075 North Parkway Avenue.	2001	Unevaluated
006031	-	Historic Resource	Marcelli Terrace is a 12 building housing complex consisting of single story wood framed duplexes. Constructed in 1952 and located at 5323 West Fairmont Avenue.	2001	Unevaluated
006130	CA-FRE-003609H	Historic Resource	Herndon-Kearney Transmission Line is an approximately one-mile segment consisting of six steel lattice towers with each tower conveying a single circuit, of two sets of three, conductors and a pair of aerial ground wires. Constructed in 1946-1963 located south of the Herndon Substation crossing over State Route 99.	2010	Unevaluated

OTHER SOURCES

In addition to the SSJVIC records search, a variety of sources were consulted in August 2019 to obtain information regarding the cultural context of the Project Area (Table 4). Sources included the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), California Historical Resources Inventory (CHRI), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Specific information about the Project Area, obtained from historic-era maps and aerial photographs, is presented in the Project Area History section.

Table 4. Additional Sources Consulted

SOURCE	RESULTS
National Register of Historic Places (NRHP; 1979-2002 & supplements)	Negative.
Historic USGS Topographic Maps	Historic topographic maps, from 1923 (Bullard 7.5x15 minute) to approximately 1965 (Fresno North 7.5 minute map) the vast majority of the Project area was occupied by farmland and various farmhouses. By 1972-1981 (Fresno North, 7.5 min.), significant development is shown spreading throughout the Project Area, appearing similar in development density as it does today.
Historic US Department of Agriculture (USDA) Aerial Photographs	As seen in the earliest historic aerials, from 1962 and 1972 tract homes are slowly replacing farmland as they spread west of SR-99 through the Project Area. By 1998, nearly a third of the Project Area has been developed which closely resembles the area's built environment at it exists today.
California Register of Historical Resources (CRHR; 1992-2014)	Negative.
California Historical Resources Inventory (CHRI; 1976-2014)	Negative.
California Historical Landmarks (CHL; 1995 & supplements to 2014)	Negative.
California Points of Historical Interest (CPHI; 1992 to 2014)	Negative.
Historical Societies	4 historical societies were contacted. No one has responded with concerns regarding the SP.
Bureau of Land Management (BLM) General Land Office Records	Negative.

Local historical societies and libraries were contacted in August 2019 and included the Fresno Historical Society, Eastern Fresno County Historical Society, Fresno County Historical Museum, and the Hiebert Library at Fresno Pacific University. No additional information or comments were provided.

NATIVE AMERICAN CONSULTATION

Cogstone submitted a Sacred Lands File (SLF) search request to the Native American Heritage Commission (NAHC) on July 18, 2019. The NAHC responded on August 13, 2019, that there are known sacred lands within the Fresno West Area SP. The NAHC recommended that 13 representatives from local Native American tribal organizations be contacted for further information regarding the Project vicinity.

Consultation letters were sent via certified mail on August 20, 2019 requesting information related to cultural resources or heritage sites within the Fresno West Area SP. Additional attempts at contact were made by email or phone on September 6 and September 19, 2019. To date, three responses have been received and are summarized below. All consultation correspondence and a contact log are provided in Appendix C.

- On 8/26/2019 Mr. Charley, tribal secretary for the Dunlap Band of Mono Indians, responded via phone that the SP is outside the Tribe's interest and that they would not be commenting or requesting consultation. Mr. Charley recommended contacting Big Sandy or Table Mountain Rancheria for comments.
- On 9/19/2019 Mr. Alec of the Kings River Choinumni Farm Tribe, responded via phone that the Tribe has no concerns with the SP.
- On 8/6/2019, Mr. Pennell, Cultural Resources Director of the Table Mountain Rancheria, responded with by letter stating that the Tribe is interested in the SP and requested any cultural resource reports received from the record search. Mr. Pennell requested that the City contact the Tribal office to coordinate a discussion and meeting date for the SP. On 10/7/2019 Cogstone replied to Mr. Pennell with the results of the cultural records search.

SENSITIVITY

PALEONTOLOGICAL SENSITIVITY

A multilevel ranking system was developed by professional resource managers within the BLM as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system (BLM 2016; Appendix D) has a multi-level scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings.

Fossil resources occur in geologic units (e.g., formations or members). The probability for finding significant fossils in a project area can be broadly predicted from previous records of

fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria

All alluvial deposits may increase or decrease in fossiliferous potential depending on how coarse the sediments are. Sediments that are close to their basement rock source are typically coarse; those farther from the basement rock source are finer. The chance of fossils being preserved greatly increases once the average size of the sediment particles is reduced to 5 mm or less in diameter. Moreover, fossil preservation also greatly increases with rapid burial in flood-plains, rivers, lakes, oceans, etc. Remains left on the ground surface become weathered by the sun or consumed by scavengers and bacterial activity, usually within 20 years or less. So the sands, silts, and clays of flood-plains, rivers, lakes, and oceans are the most likely sediments to contain fossils.

Using the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment.

No fossils are known from the study area or the Fresno area proper (City of Clovis 2014, Finger 2017, Dundas 2019, McLeod 2019). Although fossils may occur in artificial fill, any present would not be *in situ* and therefore not scientifically relevant. As such all fill has a very low potential for fossils (PFYC 1). The river deposits are assigned a low potential for fossils (PFYC 2) due to the Holocene age. While numerous fossils have been recovered from the Modesto Formation, all fossils where the depth was known were recovered more than seven feet below the below the original ground surface. The upper seven feet of the Modesto Formation are assigned a low potential for fossils (PFYC 2) due to the lack of fossils previously recovered. Modesto Formation sediments more than seven feet below the original ground surface are assigned a moderate but patchy potential for fossils (PFYC 3a) due the presence of numerous fossils found in other areas of the San Joaquin Valley. The Riverbank Formation is assigned a low potential for fossils (PFYC 2) based on the lack of fossils recovered previously (Table 5, Figure 2).

Table 5. Paleontological Sensitivity Rankings

Rock Unit	PFYC rankings					
	5 very high	**4 high**	**3a moderate; patchy**	**3b moderate; undemonstrated**	**2 low**	**1 very low**
artificial fill, modern						X
river deposits, Holocene					X	
Modesto Formation, late Pleistocene			more than 7 feet deep		less than 7 feet deep	
Riverbank Formation, middle Pleistocene					X	

ARCHAEOLOGICAL RESOURCES SENSITIVITY

No prehistoric archaeological sites have been previously recorded within the Fresno West Area SP. Unknown resources may be present.

Only four historical archaeological sites have been recorded in the Fresno West SP. Three of the historic archaeological sites are in the vicinity of the Teague School and one historic archaeological site, the San Joaquin River Quarry, is located just south of Highway 99 in the northern portion of the SP.

HISTORICAL RESOURCE SENSITIVITY

Historical resources include current and former locations of historic buildings, historical archaeological sites (often near historic use areas) and the location of extant historic homes more than 45 years old. The majority of the historic built resources are historic residences clustered around North Polk Avenue and West Acacia Avenue.

MITIGATION MEASURES

MM PAL-1. Planned mass excavations more than seven feet below the original ground surface into the Modesto Formation shall require a paleontological assessment and potentially paleontological mitigation. "Mass excavations" includes excavations conducted by excavator, scrapers, dozers, etc. which allow the context of the fossil to be observed. Context includes information such as depth/elevation, formation identification, and other data that can be critical to scientific significance. Mass excavations excludes all work conducted by augers, pile drivers, pot-holing or other similar activities where context cannot be accurately determined. If unanticipated discoveries of paleontological resources occur during construction, all work within

50 feet of the discovery should be halted until the find has been evaluated by a qualified paleontologist.

MM CUL-1. City staff shall require applicants for future proposed projects with intact extant building(s) more than 45 years old to provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations are required as part of the technical study. All work shall be performed by a qualified architectural historian meeting Secretary of the Interior Standards.

MM CUL-2. The City shall have a standard condition in every grading and excavation permit that requires applicants to halt work upon discovery of any unanticipated buried cultural resources until it can be evaluated by qualified professionals. Work may resume immediately at least 50 feet away from the discovery. A list of qualified cultural resources consultants is maintained by the California Office of Historic Preservation at www.chrisinfo.org.

MM CUL-3. Unanticipated discoveries of human remains shall require immediate cessation of ground disturbance within 50 feet and notification to City staff and the Coroner and shall follow state law as stated in Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

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APPENDIX A. QUALIFICATIONS

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

MOLLY VALASIK
Principal Investigator for Archaeology

EDUCATION

2009 M.A., Anthropology, Kent State University, Kent, Ohio
2006 B.A., Anthropology, Ohio State University, Columbus, Ohio

SUMMARY QUALIFICATIONS

Ms. Valasik is a Registered Professional Archaeologist (RPA) with over 10 years of professional and academic archaeological field and research experience. She has conducted technical studies and prepared cultural resources reports for CEQA/EIR compliance documents for project-level and program-level Specific Plans, General Plans, Master Plans, and Zoning Amendments for mixed-use, residential, commercial, and industrial developments. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and is well-versed in the compliance procedures of CEQA and Section 106 of the NHPA and in working with a variety of federal, state, and local agencies throughout California. She is accepted as a principal investigator for prehistoric archaeology by the State Office of Historic Preservation's Information Centers.

SELECTED PROJECTS

Irvine General Plan Update - Phase II, City of Irvine, Orange County, CA. Cogstone conducted a study to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Irvine to support the Phase II update of the City's General Plan. A general analysis of impacts of future projects within the City of Irvine that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to Placeworks. Principal Investigator for Archaeology. 2018-2019

La Verne General Plan Update, City of La Verne, Los Angeles County, CA. Cogstone reviewed and summarized available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of La Verne to support an update of the City's General Plan. Cogstone conducted archaeological and paleontological record searches, extensive historical research at City Hall, a Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC), and a general analysis of impacts of future projects within the city that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to De Novo. Principal Investigator for Archaeology. **2018**

Agora Town Center Mixed-Use EIR, Laguna Niguel, Orange County, CA. Conducted due diligence review of the previous environmental document. Prepared updated cultural and paleontological sections, including updated records search. The project also involved preparation of a new Tribal cultural resources section; and assisting the City of Laguna Niguel with combined SB 18/AB52 consultation and outreach. Sub to PlaceWorks. Principal Investigator for Archaeology. 2016

Lyon Subdivision EIR, City of Coto de Caza, Orange County, CA. Conducted a cultural resources technical study to support preparation of an EIR on behalf of the developer for the proposed subdivision of an existing large estate for development of 28 new residential lots on approximately 50-57 acres of land. The existing land is predominantly a citrus orchard. Services included records search, Sacred Lands search, Native American consultation, GIS mapping, and intensive-level pedestrian survey with negative results. The lead agency for the Project is the City of Coto de Caza. Sub to CAA Planning. Principal Investigator for Archaeology. 2015

Shoppes at Corona Vista Specific Plan, City of Corona, Riverside County, CA. The Project involves the construction of a shopping center and a church, and includes a specific plan amendment for a 7.25-acre site situated within a former citrus growing community. Services included archaeological, paleontological and historical records searches, NAHC consultation, pedestrian survey and prepared technical reports. One historic resource, a Craftsman bungalow, was recorded. A DPR 523 site record was completed. The building was evaluated for eligibility for listing on the California Register of Historic Resources (CRHR) and determined not eligible. Sub to Applied Planning. Principal Investigator for Archaeology & Co-Author. 2015

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

KIMBERLY SCOTT
Principal Investigator for Paleontology

EDUCATION

2013 M.S., Biology, with paleontology emphasis, California State University, San Bernardino
2000 B.S., Geology, with paleontology emphasis, University of California, Los Angeles

SUMMARY QUALIFICATIONS

Ms. Scott has 21 years of experience in California as a paleontologist and sedimentary geologist. She has worked extensively in the field surveying, monitoring, and salvaging fossils on over 100 projects. In addition, she has special skills in fossil preparation (cleaning and stabilization) and in the preparation of stratigraphic sections and other documentation for fossil localities. She has written over 100 assessments and monitoring compliance reports to all agency requirements. Ms. Scott serves as company safety officer and is the author of the company safety and paleontology manuals. She is a Member of the Society of Vertebrate Paleontology and the Geological Society of America.

SELECTED PROJECTS

Irvine General Plan Update - Phase II, City of Irvine, Orange County, CA. Cogstone conducted a study to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Irvine to support the Phase II update of the City's General Plan. A general analysis of impacts of future projects within the City of Irvine that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to Placeworks. Principal Paleontologist. 2018-2019

City of La Verne General Plan Update Project, Los Angeles County, CA. The project involved review and summary of available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of La Verne to support an update of the City's General Plan. Scott co-authored the Cultural and Paleontological Assessment. Sub to De Novo Planning Group. Principal Paleontologist/Report Co-author. 2018

Westminster General Plan Update EIR, City of Westminster, Orange County, CA. Prepared paleontological resources assessment to support the General Plan Update. The study area included the entire city, spanning 6,590 acres. Services involved records search, GIS mapping. Impact analysis determined negative results. Sub to PlaceWorks. Principal Investigator/Author of Paleontological Report. 2015-2016

Temecula Gateway EIR, City of Temecula, Riverside County, CA. A Planned Development Overlay/Zone Change and General Plan Amendment. The applicant intended to change the General Plan designation to Community Commercial. The Planned Development Overlay would allow for a mixture of uses intended to provide for the development of a variety of local and tourist- serving commercial development. Prepared an assessment report for a 9-acre parcel for the EIR. Sub to PMC. Co-Principal Investigator/Report Co-author. 2015

Valley Boulevard Specific Plan and EIR, Cities of Fontana and Bloomington, San Bernardino County, CA. The Project proposes to maintain and improve existing private and community assets with land use change. Land use changes would involve replacing current conventional zoning districts with five Specific Plan land use districts; Mixed Use, Bloomington Enterprise, Commercial, Low and Medium Residential, and Medium and High Residential districts. Co-Principal Paleontologist/Report Co-author. 2015

Yucaipa General Plan Update and Program EIR, City of Yucaipa, San Bernardino County, CA. The project involved a comprehensive update to the Yucaipa General Plan, an Initial Study, a Program Environmental Impact Report (EIR), a Mitigation Monitoring or Reporting Program (MMRP), and the Findings of Fact and Statement of Overriding Considerations (SOC) for an advanced planning project proposal on behalf of the City of Yucaipa Community Development Department. Conducted record search, Sacred Lands search, NAHC consultation, GIS mapping, cultural and paleontological resources sensitivity analysis, and reporting. Sub to PlaceWorks. Co-Principal Investigator/Report Co-author. 2014

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

SHERRI GUST
QA/QC

EDUCATION

1994 M. S., Anatomy, University of Southern California, Los Angeles
1979 B. S., Anthropology (Physical), University of California, Davis

SUMMARY QUALIFICATIONS

Ms. Gust is a Registered Professional Archaeologist and Qualified Principal Paleontologist with more than 35 years of experience in cultural resources management and consulting in California. She has conducted technical studies and prepared cultural resources chapters for CEQA/EIR compliance documents for project-level and program-level Specific Plans, General Plans, Master Plans, and Zoning Amendments for mixed-use, residential, commercial and industrial developments. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation.* Ms. Gust holds current BLM permits for cultural and paleontology in California and is certified by all counties and cities in California that maintain lists. She is accepted as a principal investigator for both prehistoric and historical archaeology by the State Office of Historic Preservation's Information Centers.

SELECTED PROJECTS

Tustin Downtown Commercial Core Specific Plan Project, City of Tustin, Orange County, CA. Cogstone performed archaeological and paleontological resources assessments in compliance with CEQA for a 220-acre portion of the City of Tustin. The assessment included an inventory of all historic-era buildings, the preparation of GIS Maps for the entire Specific Plan area, and preparation of a combined cultural and paleontological assessment report with recommendations. Sub to EPD Solutions, Inc. Principal Investigator for Archaeology & Co-Author. 2017

Westminster General Plan EIR, City of Westminster, Orange County, CA. Performed archaeological and paleontological programmatic technical study including record searches, Native American consultation, and prepared report with recommendations. Sub to Placeworks. Principal Investigator for Archaeology and Paleontology. 2016

Alton Parkway Mixed Use Development, City of Irvine, Orange County, CA. Cogstone conducted a literature review followed by archaeological and paleontological monitoring during ground disturbing activities for construction of a four-story residential development on a 3.7-acre site. Subsequently, Cogstone prepared a monitoring compliance report to fulfill the City of Irvine's Existing Plans, Programs, and Policies mitigation measure. Project Manager. 2016

Hidden Oaks Country Club Specific Plan and TT 18869, City of Chino Hills, San Bernardino County, CA. Managed cultural and paleontological resources assessments, assisted the City with SB 18 compliance, and responded to the cultural section of the project EIR comment for this proposed 537-acre residential project with minimum 5-acre per lot constraints. Services included records search, Sacred Lands search, NAHC consultation, field survey, and mitigation recommendations. Principal Investigator. 2015-2016

Paradise Valley Specific Plan, Glorious Land Company, unincorporated Riverside County, CA. The project involves construction of a 5,411 acre resort community. Prepared Supplemental Phase I Cultural Resources Assessment Report and Final Paleontological Assessment Report. Sub to Envicom. Principal Investigator. 2011-2014

Historic Town Center Master Plan Update EIR, City of San Juan Capistrano, Orange County CA. Conducted a survey and assessment to determine the potential effects on cultural resources of potential changes to the Historic Town Center Master Plan area in support of a project-level EIR. Managed archaeological and paleontological record searches, research, and survey plus Native American consultation for the 31-acre town center. Evaluated resources, including updated site records and impact assessment. Sub to Templeton Planning Group. Principal Archaeologist/Paleontologist & Author. 2011

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

SHANNON LOPEZ
Architectural Historian

EDUCATION

2018 M.A., History (with an emphasis in architecture), California State University, Fullerton
2012 B.A., History, Minor in Asian-Pacific Studies, California State University, Dominguez Hills

SUMMARY QUALIFICATIONS

Ms. Lopez is a qualified historian and she meets the Secretary of the Interior's *Professional Qualifications for Standards* for history. Ms. Lopez is experienced in architectural history research and surveys along with photo documentation and recording of built environment resources for local and federal projects. Additionally, she is an approved Reader at the Huntington Library by the Los Angeles Office of Historic Resources.

SELECTED PROJECTS

Irvine General Plan Update, Phase II, City of Irvine, Orange County, CA. Cogstone conducted a study to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Irvine to support the Phase II update of the City's General Plan. A general analysis of impacts of future projects within the City of Irvine that may adversely affect paleontological, archaeological, or historic resources was provided along with mitigation recommendations. Sub to Placeworks. Architectural Historian. 2018-2019

737 S. Oxford Ave. Apartments Project, City of Los Angeles, Los Angeles County, CA. The purpose of this study was to determine the potential effects to cultural and paleontological resources resulting from the construction of a new seven-story, 92-unit apartment building with a single level subterranean parking garage. The project area was open ranching and agricultural lands until development began in the early 20th century. By 1918, two single family homes with detached garages were present on the property with nearly two dozen homes around the project area as well a handful of empty lots. Cogstone conducted a survey, documented the building proposed for demolition within the project area, and prepared a cultural resources assessment. Architectural Historian. 2018

Rhode Island Historical Resource Archive of Melville Naval Historic District and U.S. Naval Hospital, Newport Historic District, Naval Station Newport, R.I. This purpose of this project is to produce Rhode Island Historical Resources Archive (RIHRA) documentation of the Melville Naval Historic District and the U.S. Naval Hospital Newport Historic District, at Naval Station (NAVSTA) Newport, Newport, Rhode Island. Conducted research, form contributor, and assistant Architectural Historian. 2018

2525 N. Main, City of Santa Ana, Orange County, CA. The project proposed demolition of existing building and the construction of a five-story multi-family residential apartment complex. Cogstone conducted a cultural and historic resources records search, a field visit to known historic homes and Santiago Park, evaluation of the historic resources, and produced a built environment report. Conducted research, evaluation and co-author. Architectural Historian. 2018

La Verne General Plan Update, City of La Verne, Los Angeles County, CA. Cogstone reviewed and summarized available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of La Verne to support an update of the City's General Plan. Ms. Lopez guided the extensive historical research at City Hall where building records, Mills Acts, photographs and other documents were reviewed. Sub to De Novo. Co-Architectural Historian. 2018

Accelerated Charter Elementary School, Los Angeles Unified School District, City of Los Angeles, Los Angeles County, CA. The project involved the construction of a new facility on a 2.3-acre site in South Central Los Angeles. Cogstone conducted paleontological and cultural resources monitoring. Five new archaeological sites were defined and updated one building record. Updated building DPR. Sub to Gafon. Assistant Architectural Historian. 2017

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

HOLLY DUKE
Archaeology Data Supervisor

EDUCATION

2009 B.A., Archaeology/History, Simon Fraser University, Canada

SUMMARY QUALIFICATIONS

Ms. Duke is a qualified archaeologist and cross-trained paleontologist with six and a half years of experience in pedestrian survey, monitoring, excavation and burial recovery, as well as the identification of human and faunal skeletal remains. She is proficient in the preparation of cultural resources assessment reports for a variety of state and local agencies throughout California. Duke is responsible for the organization of field data, lab supervision and organization, as well as identifying and cataloging prehistoric and historic artifacts. She also has experience with preparing artifact collections for curation at a variety of different repositories as well as fossil preparation and stabilization.

SELECTED PROJECTS

TetraGro Lancaster Project, City of Lancaster, Los Angeles County, CA. The project consisted of a cultural resources assessment for the construction of a 22,000 square foot medical cannabis cultivation center with a clean anodized aluminum façade. Provided task management and supervised all work for the project which included a records search and an intensive pedestrian survey. Authored the Cultural Resources Assessment Report. Task Manager. 2018

West Bastanchury Residential Subdivision Project, City of Yorba Linda, Orange County, CA. The project consisted of a cultural and paleontological resources assessment for the creation of a tentative tract map to subdivide a 13-acre City-owned lot into 23 residential lots. Provided task management and supervised all work for the project which included a records search and an intensive pedestrian survey. Authored the Cultural Resources Assessment Report. Task Manager. 2017

Crowder Canyon, Caltrans District 8, San Bernardino County, CA. The project consisted of the realignment of SR-138. Participated in the archaeological testing and data recovery of two archaeological sites near Hesperia. Conducted excavation and data recovery of more than six prehistoric features. Sub to Applied Earthworks. Archaeologist. 2016

Cold Canyon Landfill Expansion, South Berm Soil Removal Module 11, Arroyo Grande, San Luis Obispo County, CA. Conducted archaeological testing of the historic Patchett-Weir family site (CA-SLO-2559H) to assess its eligibility for listing on the National Register of Historic Places. The site would be impacted by landfill expansion and Army Corps of Engineers wetland restoration. Supervised the excavation of mechanically excavated trenches and hand excavated a unit within the site. Cataloged 20 historic-age artifacts recovered during excavation. Archaeologist. 2016

Fisher House and Golf Course Parking Lot Project, Veterans Affairs Long Beach Healthcare System, City of Long Beach, Los Angeles County, CA. In compliance with the Historic Properties Treatment Plan, supported an archaeological testing program to identify cultural resources by utilizing ground penetrating radar and magnetometry, shovel test pits, and mechanical excavation. Recovered numerous historic artifacts from a trash dump during ground disturbing activities within the Golf Course Parking Lot project area. Cleaned, identified, and cataloged all recovered artifacts. Monitored excavation for utilities at Golf Course Parking Lot project. Prime. Archaeologist/Lab and Data Manager. 2015-2016

APPENDIX B. MUSEUM PALEONTOLOGICAL RECORDS SEARCH

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

1 August 2019

Cogstone Resource Management, Inc.
1518 West Taft Avenue
Orange, CA 92865-4157

Attn: Logan Freeberg, GIS Technician

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed Fresno West Project, Cogstone Project # 4669, in the City of Fresno, Fresno County, project area

Dear Logan:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Fresno West Project, Cogstone Project # 4669, in the City of Fresno, Fresno County, project area as outlined on the portions of the Herndon and Fresno North USGS topographic quadrangle maps that you sent to me via e-mail on 18 July 2019. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have fossil vertebrate localities somewhat nearby that occur in sedimentary deposits similar to those that occur in the proposed project area.

According to the geologic mapping surface deposits for the entire proposed project area consist of soil on top of late Pleistocene deposits of the Riverbank Formation. We do not have any vertebrate fossil localities specifically designated as coming from the Riverbank Formation, but our closest vertebrate fossil locality from these deposits, LACM 7254, northwest of the proposed project area on the south side of Ash Slough northeast of Chowchilla, produced a fossil specimen of elephantoid, Proboscidea.

Shallow excavations in the soil and Riverbank Formation deposits that occur surficially throughout the proposed project area may not uncover significant fossil vertebrate remains.

Deeper excavations that extend down into older sedimentary deposits, however, may well encounter significant vertebrate fossil remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossil materials uncovered during mitigation activities should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

APPENDIX C. NATIVE AMERICAN CONSULTATIONS

Tribal Consultation Log for the Fresno West Area Specific Plan

Native American Group	First Name	Last Name	Title	Date(s) and Method of First Contact Attempt	Date(s) and Method of Second Attempt	Date(s) and Method of Third Attempt	Date(s) of Replies Rec'd	Comments
Big Sandy Rancheria	Elizabeth D.	Kipp	Chairperson	8/20/2019, Certified US Mail	9/4/2019, email	9/19/2019, Phone/voicemail message	No Response	
Cold Springs Rancheria	Carol	Bill	Chairperson	8/20/2019, Certified US Mail	9/6/2019, email	9/19/2019, Phone, email	No Response	Cold Springs Rancheria has a new Chair, Helena Alarcon. Follow up email was sent to her emai
Dumna/Wo-Wah Tribal Government	Robert	Ledger Sr.	Chairperson	8/20/2019, Certified US Mail	9/6/2019, email	9/19/2019, Phone, email	No Response	Chairperson Ledger requested email with original letter to be resent to his email for review. The letter was resent.
Dunlap Band of Mono Indians	Benjamin	Charley Jr.	Tribal Chair	8/20/2019, Certified US Mail	-	-	8/26/2019 phone	On 8/26/2019 Mr. Charley, tribal secretary for the Dunlap Band of Mono Indians, responded via phone that the SP is outside the Tribe's interest and that they would not be commenting or requesting consultation. Mr. Charley recommended contacting Big Sandy or Table Mountain Rancheria for comments.
Dunlap Band of Mono Indians	Dick	Charley	Tribal Secretary	8/20/2019, Certified US Mail	-	-	8/26/2019 phone	See above for Mr. Charley
Kings River Choinumni Farm Tribe	Stan	Alec		8/20/2019, Certified US Mail		9/19/2019, Phone	9/19/2019 phone	On 9/19/2019 Mr. Alec of the Kings River Choinumni Farm Tribe, responded via phone that the Tribe has no concerns with the SP.
North Fork Mono Tribe	Ron	Goode	Chairperson	8/20/2019, Certified US Mail	9/6/2019, email	9/19/2019, Phone/voicemail message	No Response	
Santa Rosa Rancheria, Tachi Yokut Tribe	Rueben	Barrios Sr.	Chairperson	8/20/2019, Certified US Mail		9/19/2019, Phone/voicemail message	No Response	
Table Mountain Rancheria	Leanne	Walker-Grant	Chairperson	8/20/2019, Certified US Mail		-	No Response	

Native American Group	First Name	Last Name	Title	Date(s) and Method of First Contact Attempt	Date(s) and Method of Second Attempt	Date(s) and Method of Third Attempt	Date(s) of Replies Rec'd	Comments
Table Mountain Rancheria	Bob	Pennell	Cultural Resources Director	8/20/2019, Certified US Mail	9/6/2019, email	-	8/6/2019 Letter	On 8/6/2019, Mr. Pennell, Cultural Resources Director of the Table Mountain Rancheria, responded with by letter stating that the Tribe is interested in the SP and requested any cultural resource reports received from the record search. Mr. Pennell requested that the City contact the Tribal office to coordinate a discussion and meeting date for the SP. On 10/7/2019 Cogstone replied to Mr. Pennell with the results of the cultural records search.
Traditional Choinumni Tribe	David	Alvarez	Chairperson	8/20/2019, Certified US Mail	9/6/2019, email undeliverable	-	No Response	
Traditional Choinumni Tribe	Rick	Osborne	Cultural Resources	8/20/2019, Certified US Mail	9/6/2019, email	9/19/2019, Phone/voicemail message	No Response	
Wuksache Indian Tribe/Eshom Valley Band	Kenneth	Woodrow	Chairperson	8/20/2019, Certified US Mail	9/6/2019, email	9/19/2019, Phone/voicemail message	No Response	

City of FRESNO

Planning and Development Department

2600 Fresno Street, Room 3065
Fresno, California 93721-3604
(559) 621-8003
www.fresno.gov

Jennifer K. Clark, AICP, HDFP
Director

[MONTH, DAY, YEAR]

[FIRST LAST]
[TRIBE]
[TITLE/ROLE]
[ADDRESS, STREET]
[CITY, CA, ZIP]

RE: CEQA and SB 18 Consultation Request for the Specific Plan of the West Area, City of Fresno, Fresno County, California.

[TITLE & LAST NAME]:

The City of Fresno (City) proposes to develop the Specific Plan of the West Area Project (Project). The Project will refine the City's General Plan for the West Area by implementing a specific development plan including roadway and sidewalk networks and maintenance as well as an updated designated zoning plan for land use areas including but not limited to commercial, residential, employment (i.e. business park), mixed use, open space (i.e. parks), and public facilities (i.e. school and emergency response) for the continued growth, safety, and necessity of the City's residents (see Figure 1). The Project encompasses an approximately 7,077-acre triangular portion of the northwest area of the City west of State Route 99 with a 160-acre "alternative study area" in the southwest corner. It is bounded by State Route 99 to the northeast; Garfield Avenue to the west and Clinton Avenue to the south (see Figures 2-6). This Project will comply with CEQA regulations and an Environmental Impact Report that is being prepared. The City of Fresno will be the lead CEQA Agency.

We are contacting you because the [TRIBE] requested to be notified and provided information, under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)), also known as AB 52, regarding projects with the City of Fresno's jurisdiction and within the traditional territory of the [TRIBE]. Please consider this letter and preliminary Project information as the formal notification of the proposed Project. The City of Fresno is requesting to consult with the [TRIBE] in order to identify tribal cultural resources that may be impacted by the proposed Project. The point of contact for the City of Fresno is below.

City of Fresno Point of Contact Information	
Name/Title:	Rodney L. Horton, MPA
	Planner III
	Planning and Development Department
Address:	2600 Fresno Street, Rm 3065
City:	Fresno, CA 93721
Tel:	(Office) 559-621-8181
E-Mail:	Rodney.Horton@fresno.gov

Additionally, the City of Fresno is requesting consultation under Senate Bill 18 (Chapter 905, Statutes of 2004) which requires local governments to consult with tribes prior to making certain planning decisions and requires consultation and notice for a general and specific plan adoption or amendment in order to preserve, or mitigate impacts to, cultural places that may be affected. The Native American Heritage Commission (NAHC) provided us with a list of tribal entities and individuals who have requested to be placed on the SB 18 consultation list. The [TRIBE] is on the list provided. As a result, please consider this letter as a notice of the Project and an invitation to provide comments regarding the Project.

Cogstone Resource Management, Inc. (Cogstone) has been retained to assist the City of Fresno with their cultural resources assessment of the Project area

The Native American Heritage Commission (NAHC) was contacted on July 18, 2019 to perform a search of the Sacred Lands File. The NAHC responded on August 13, 2019 and reported positive for Native American sacred sites and/or heritage resources located within the Project area or the immediate vicinity.

Cogstone requested a record search of the entire Project area from the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield on July 18, 2019. Cogstone received the results of the records search on July 30, 2019. A total of 82 cultural resources are located within the Project area, all of which are historic resources. Of these, 78 are historic built environment resources and four are historic archaeological sites. No prehistoric archaeological sites have been recorded within the Project area. A pedestrian survey is not required for this Project.

We would appreciate receiving any comments, issues and/or concerns relating to cultural resources, sacred lands, and tribal cultural resources that you may have within the Project area. All information provided will be kept confidential.

Please respond within 30 days, pursuant to PRC 21080.3.1(d), if you would like to consult on this Project under CEQA. For consultation under SB 18, **you have 90 days to respond**. If you have any questions please contact Emily Barton, Cogstone, by phone (714-974-8300), email (cogstoneconsult@cogstone.com), or fax (714-974-8303) or you can contact me at the address and phone number above.

Thank you for your assistance.

Rodney L. Horton, MPA
Planner III
Planning and Development Department

Attachments: Project vicinity map
Project location maps (5)

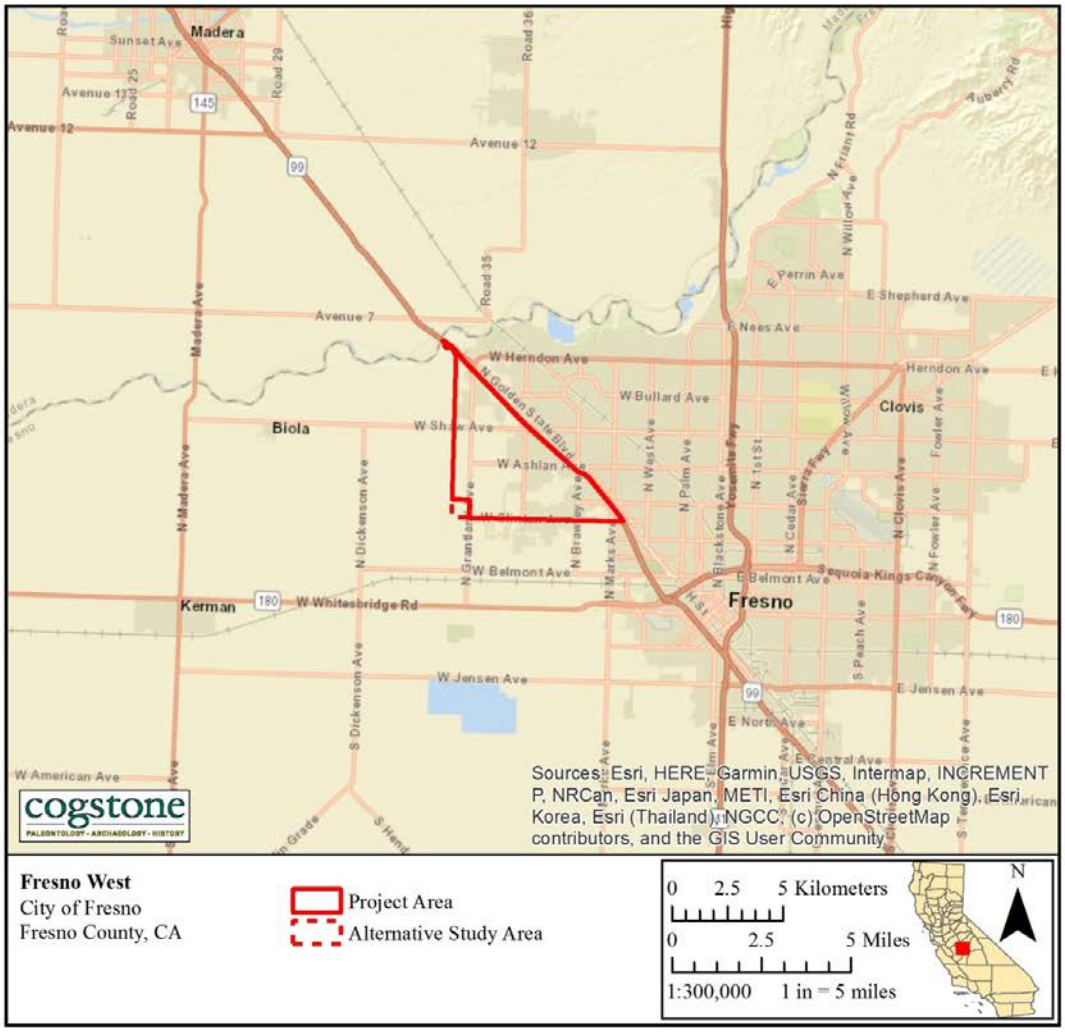

Figure 1. Project vicinity map

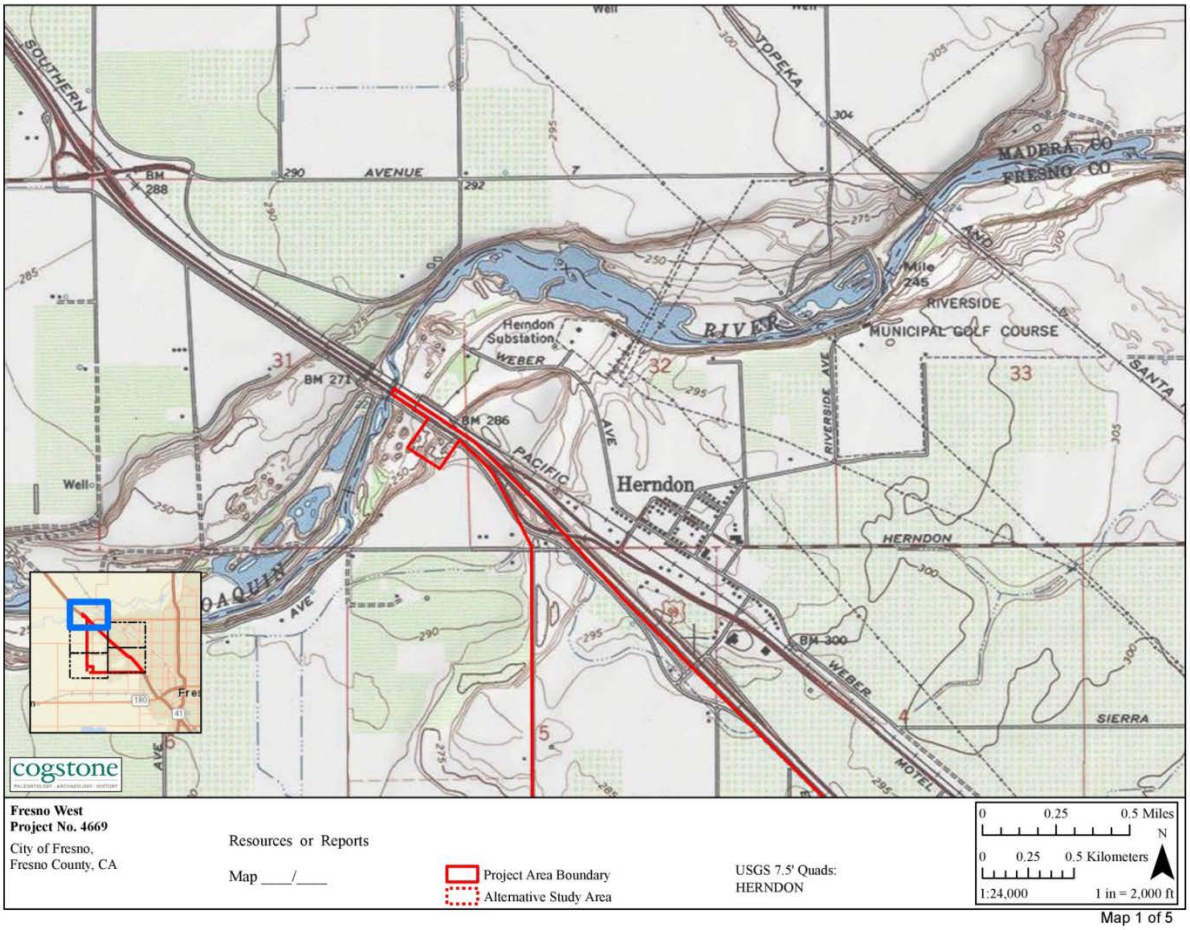

Figure 2. Project location map 1

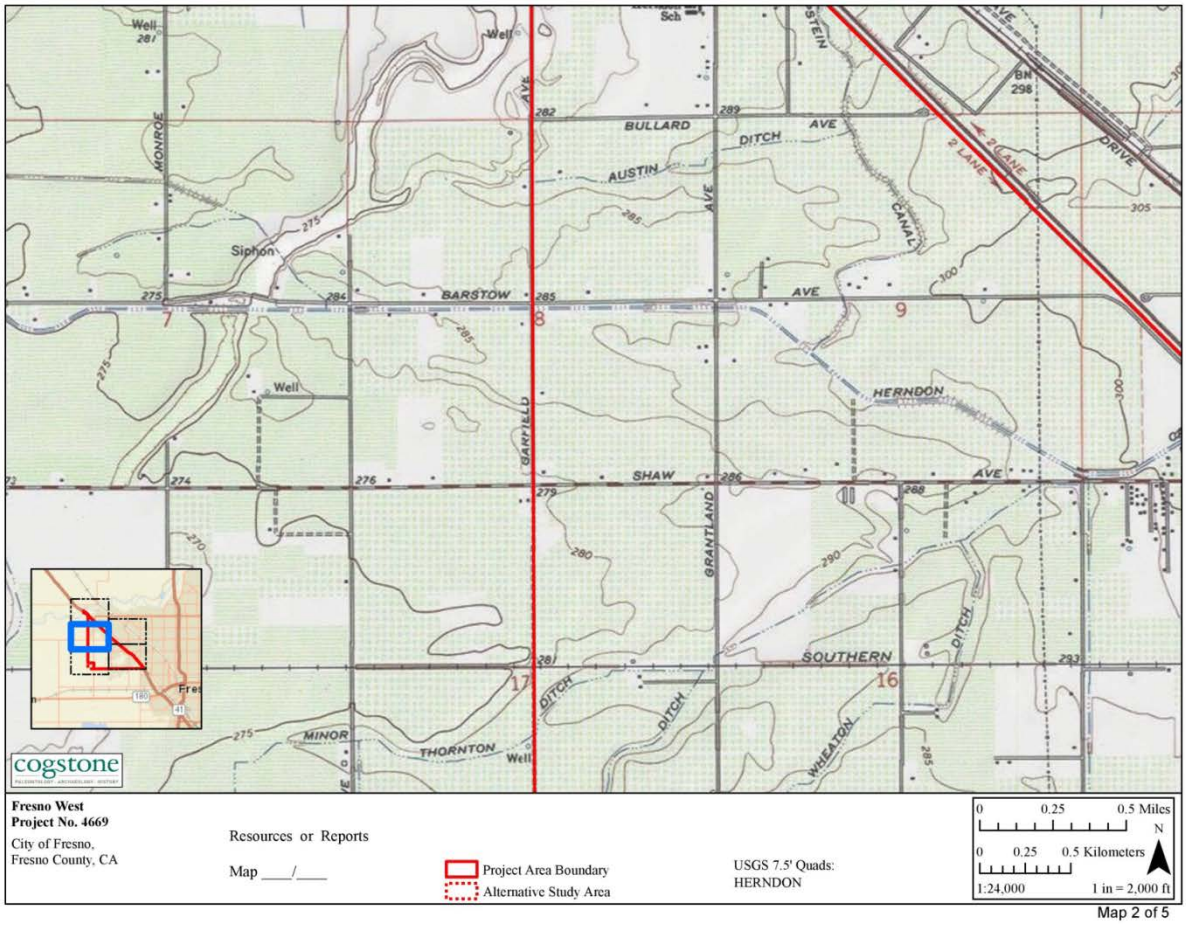

Figure 3. Project location map 2

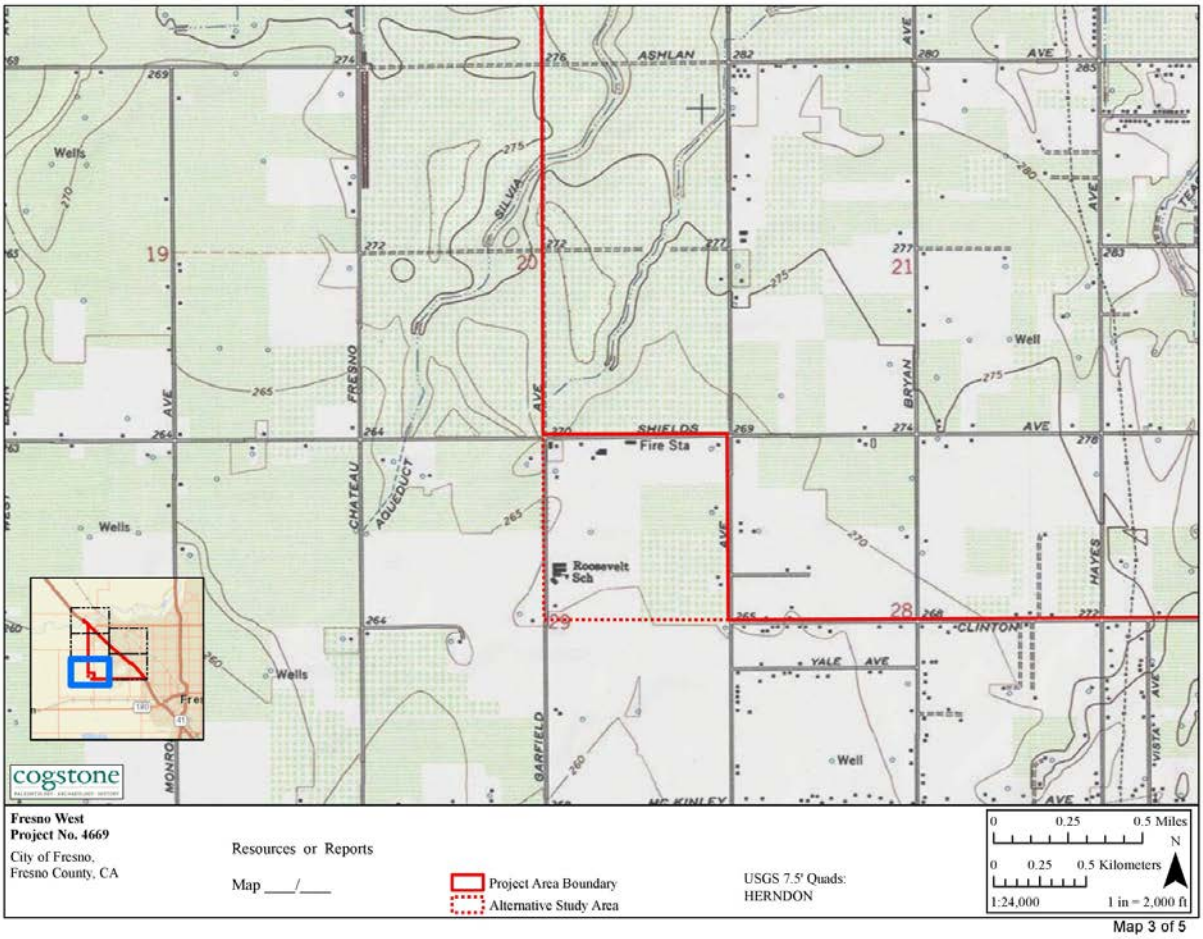

Figure 4. Project location map 3

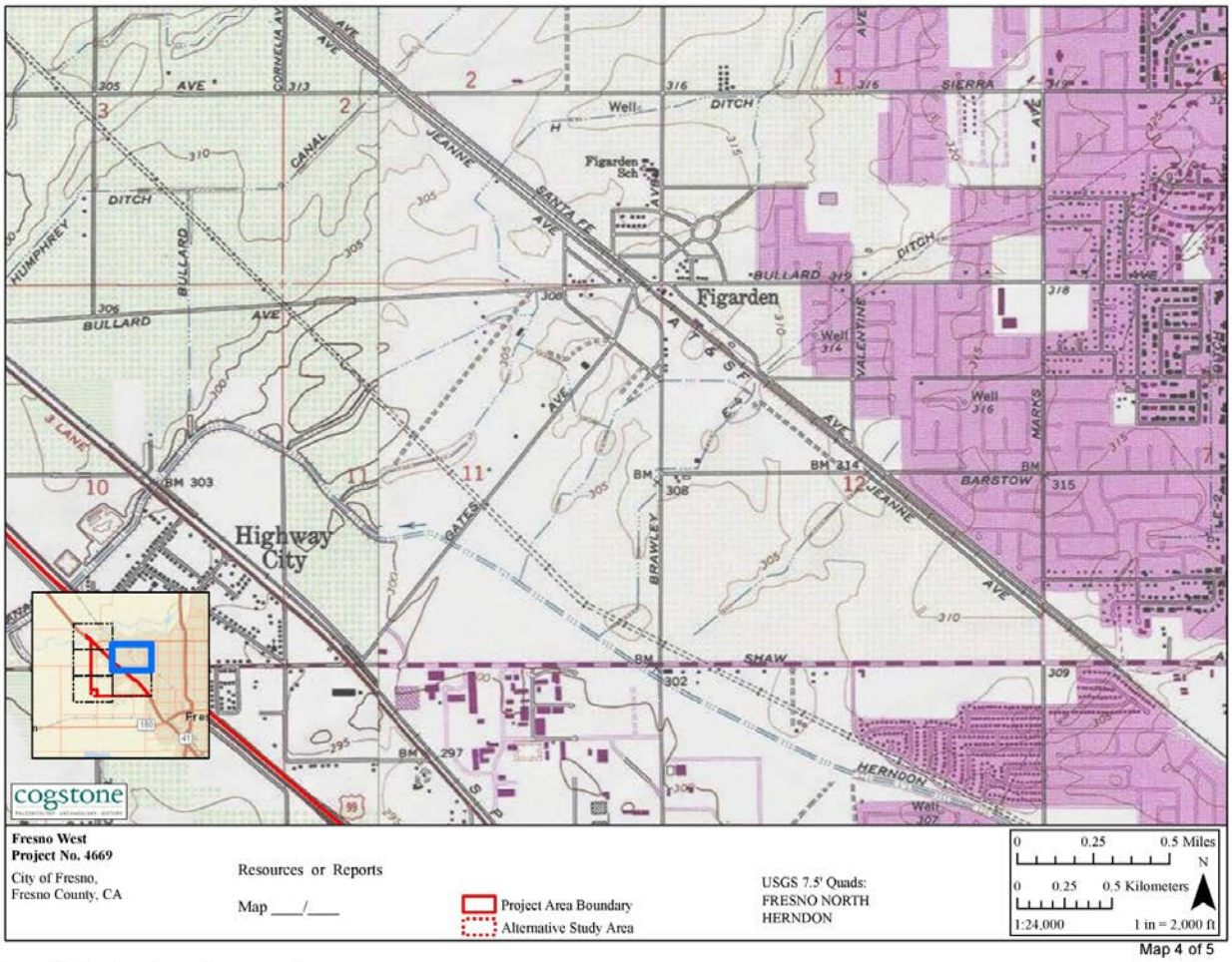

Figure 5. Project location map 4

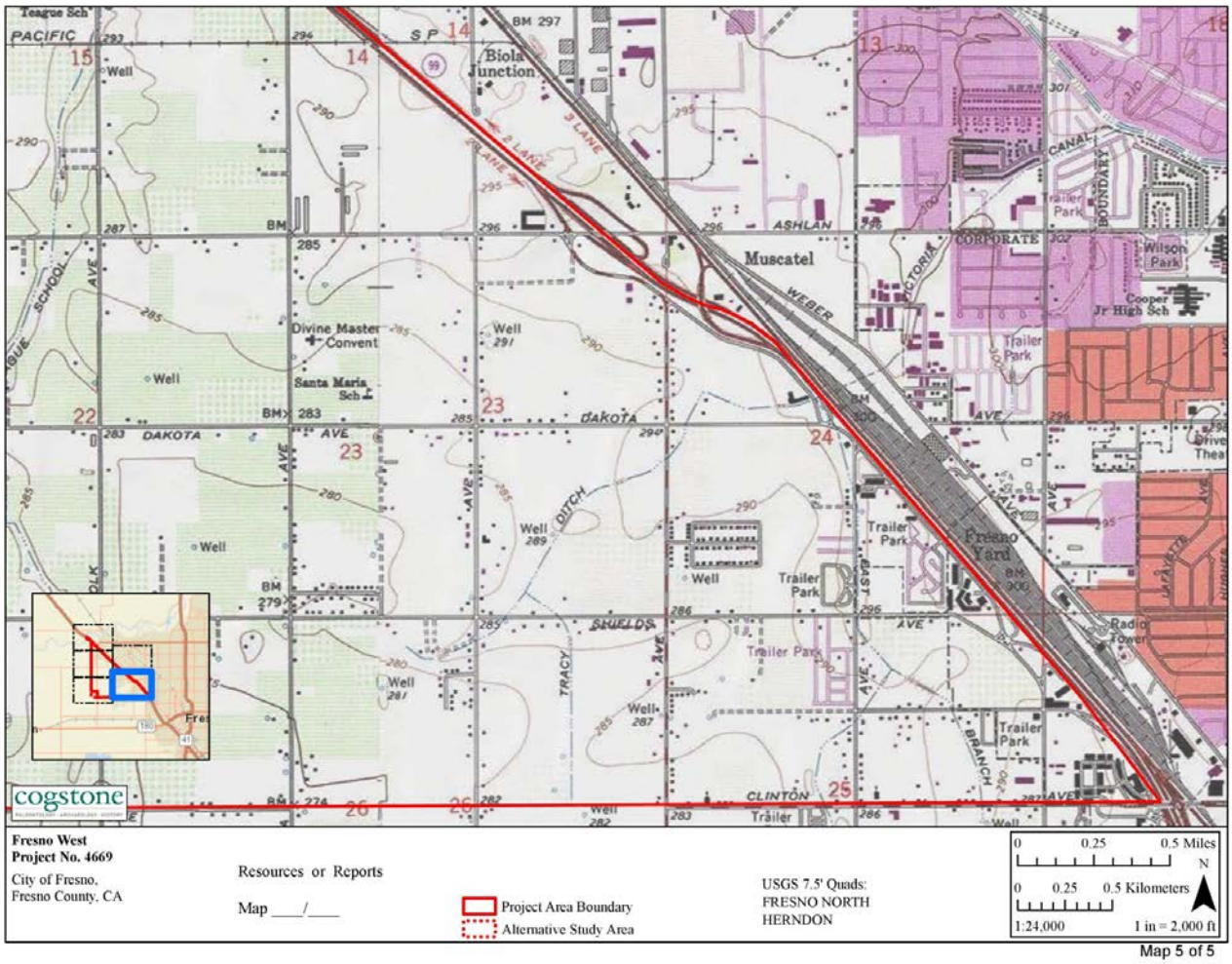

Figure 6. Project location map 5

TABLE MOUNTAIN RANCHERIA
TRIBAL GOVERNMENT OFFICE

CERTIFIED 3675 4654

August 6, 2019

Rodney L. Horton, MPA, Planner III
City of Fresno
Planning and Development Department
2600 Fresno Street, Rm 3065
Fresno, Ca. 93721

RE: CEQA and SB 18 Consultation Request for the Specific Plan of the West Area, City of Fresno, Fresno County

Dear: Rodney L. Horton

Table Mountain Rancheria is responding to your letter dated, August 19, 2019, regarding, CEQA and SB 18 Consultation Request for the Specific Plan of the West Area, City of Fresno, Fresno County. Thank you for notifying Table Mountain Rancheria of the potential development and request for consultation. The Rancheria is very interested in this project as it lies within our cultural area of interest.

If you have already conducted a record search, please provide Table Mountain Rancheria with copies of any cultural resource report you may have.

At this time, please contact our office at (559) 325-0351 or rpennell@tmr.org to coordinate a discussion and meeting date regarding your project.

Sincerely,

Robert Pennell
Tribal Cultural Resources Director

23736
Sky Harbour Road
Post Office
Box 410
Friant
California
93626
(559) 822-2587
Fax
(559) 822-2693

Molly Valasik

From: Molly Valasik <mvalasik@cogstone.com>
Sent: Monday, October 07, 2019 11:04 AM
To: 'rpennell@tmr.org'
Cc: 'Emily Barton'
Subject: Fresno West Area Specific Plan
Attachments: 19-287 Results Letter.pdf

Hi Mr. Pennell,

The City of Fresno forwarded your August 6, 2019 response regarding the Specific Plan of the West Area, City of Fresno to me. We are currently drafting the cultural resources assessment report for the Specific Plan and will provide you a copy once it is complete.

I have attached the results of the records search conducted by the SSJVIC on July 30, 2019. Results of the record search indicate that 36 previous studies and 82 cultural resources have been previously recorded within the Specific Plan. The cultural resources include four historic archaeological sites and 78 historic built environment resources.

Please let me know if I can provide you with any more information. Thank you.

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY
Federal Certifications 8(a), SDB, EDWOSB
State Certifications DBE, WBE, SBE, UDBE

Molly Valasik, MA, RPA
Principal Investigator/Project Manager II
1518 W Taft Ave, Orange, CA 92865
419-344-3622 cell
mvalasik@cogstone.com www.cogstone.com
Field Offices in San Diego, Riverside, Morro Bay, San Francisco

We tell the stories of ancient life and human cultures both to promote an appreciation of the past and relevance to the future.™

APPENDIX D. SENSITIVITY RANKING CRITERIA

PFYC Description	PFYC Rank
Very Low. The occurrence of significant fossils is non-existent or extremely rare. Includes igneous or metamorphic and Precambrian or older rocks. Assessment or mitigation of paleontological resources is usually unnecessary.	1
Low. Sedimentary geologic units that are not likely to contain vertebrate fossils or scientifically significant nonvertebrate fossils. Includes rock units too young to produce fossils, sediments with significant physical and chemical changes (e.g., diagenetic alteration) and having few to no fossils known. Assessment or mitigation of paleontological resources is not likely to be necessary.	2
Potentially Moderate but Undemonstrated Potential. Units exhibit geologic features and preservational conditions that suggest fossils could be present, but no vertebrate fossils or only common types of plant and invertebrate fossils are known. Surface-disturbing activities may require field assessment to determine appropriate course of action.	3b
Moderate Potential. Units are known to contain vertebrate fossils or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered and of low abundance. Common invertebrate or plant fossils may be found. Surface-disturbing activities may require field assessment to determine appropriate course of action.	3a
High. Geologic units containing a high occurrence of significant fossils. Fossils must be abundant per locality. Vertebrate fossils or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability. If impacts to significant fossils can be anticipated, on-the-ground surveys prior to authorizing the surface disturbing action will usually be necessary. On-site monitoring or spot-checking may be necessary during construction activities.	4
Very High. Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. On-the-ground surveys prior to authorizing any surface disturbing activities will usually be necessary. On-site monitoring may be necessary during construction activities.	5

**Potential Fossil Yield Classification (PFYC) rankings are as per the Bureau of Land Management (BLM 2016)*

APPENDIX D

Utility Background Summary

WEST YOST
Water. Engineered.

6800 Koll Center Parkway
Suite 150
Pleasanton CA 94566

925.426.2580 phone
530.756.5991 fax
westyost.com

TECHNICAL MEMORANDUM

DATE: January 20, 2022

Project No.: 487-60-19-16
SENT VIA: EMAIL

TO: Steve McMurtry, De Novo Planning Group

FROM: Jim Connell, RCE# 63052

REVIEWED BY: Doug Moore, RCE# 58122

SUBJECT: City of Fresno West Area Neighborhood Specific Plan Utility Background Summary

This Technical Memorandum (TM) presents background information on wet utility infrastructure for the City of Fresno's (City) West Area Neighborhood Specific Plan. This TM includes the following sections:

- Potable Water Treatment and Distribution
- Wastewater Collection and Treatment
- Stormwater and Flood Control

The focus of this TM is on the West Area, as shown in Figure 1. However, because the West Area is dependent on the available capacities of potable water, recycled water, sewer, wastewater treatment and the regional flood control systems, overviews of these City-wide systems are also provided. Because there is minimal recycled water infrastructure conveying recycled water to the West Area, the City's recycled water program is discussed as part of the wastewater collection and treatment section.

The City is anticipating considerable growth over its buildout horizon. According to the General Plan developed in 2014 (Dyett & Bhatia, 2014), the City's population is expected to increase from approximately 495,000 in the 2010 Census to approximately 771,000 people by the year 2035 (General Plan Horizon) and 970,000 people by Buildout of the Sphere of Influence (SOI), which is expected after 2035. The City's 2018 West Area Specific Plan Existing Conditions Report estimates the current population of the West Area to be approximately 38,503 people.

The maximum buildout potential allowed under the West Area Neighborhood Specific Plan would allow for the future development of up to 54,953 dwelling units (including 47,072 dwelling units in the residential category, 67 dwelling units in the commercial category, and 7,814 dwelling units in the mixed use category) and approximately 48.8 million square feet of non-residential uses.

Based on the City's General Plan Housing Element estimate of approximately 2.97 persons per dwelling unit, the proposed Specific Plan is estimated to accommodate 163,211 new residents in the City at buildout under the maximum development potential allowed under the Specific Plan. Therefore, the West Area is expected to have a total population of 201,714 people by buildout of the Specific Plan under the

maximum development potential. The 2014 General Plan included the West Area, and thus previous infrastructure evaluations are helpful in determining the future infrastructure needs of the West Area.

POTABLE WATER TREATMENT AND DISTRIBUTION

The potable water facilities are discussed below.

Summary of the Water System

The City's Water Division serves the City and several County islands (unincorporated areas within the City, West Yost, 2014) through nearly 1,800 miles of transmission and distribution pipelines with approximately 133,000 service connections (Provost & Pritchard, 2016). More than 39,100 million gallons of potable water were delivered in 2018 (Fresno, 2019). The City's water supply comes from groundwater wells, surface water treatment facilities, and contracts for surface water supplies from the United States Bureau of Reclamation (USBR) and the Fresno Irrigation District (FID).

The West Area is served by nearly 96 miles of distribution pipelines and just under a mile of recycled water service (in North Cornelia Avenue between West Clinton Avenue and West Shields Avenue). The West Area's potable water system is shown on Figure 2.

In addition to the City's water system, there are four independent water systems located within the City limits, including Bakman Water Company, Pinedale County Water District, California State University Fresno, and Park Van Ness Mutual Water Company. These independent water systems have their own water supplies, and do not receive water from the City, with the exception of a portion of the Pinedale County Water District east of Highway 41 and south of Herndon Avenue.

The City has emergency interties with the City of Clovis and California State University Fresno that provides additional water supply flexibility.

Water Demands and Supplies

In 2016, The City of Fresno adopted its 2015 Urban Water Management Plan (UWMP) (Provost & Pritchard, 2016). This UWMP documented the past, current, and projected future water demands and supplies through 2040, as shown in Table 1. In 2015, the City served approximately 132,844 acre-feet (af) of potable water. The City's water demands are projected to increase to over 301,000 af per year (af/yr) by 2040 (based on the growth in the 2014 General Plan). However, available water supply is also projected to increase to over 366,000 af/yr by 2040. Thus, the City should continue to have a surplus supply in excess of 65,000 af/yr. The West Area is included in the City's water supply and demand projections. Therefore, the City will have enough water to meet the full water demands of the West Area starting in 2020 and continuing beyond 2040.

Table 1. City of Fresno Past and Projected Water Demands, Supplies, and Surpluses, af/yr[a]

	Actual 2015	Projected 2020	Projected 2025	Projected 2030	Projected 2035	Projected 2040
Potable Demand	132,844	14,500	229,600	239,700	254,300	262,500
Recycled Water Demand	8,762	21,200	34,400	34,400	38,600	38,600
Total Demands	**141,606**	**235,700**	**264,000**	**274,100**	**292,900**	**301,100**
Groundwater Supply	83,360	130,400	135,100	139,700	44,300	148,900
Surface Water – Fresno Irrigation District (FID) Contract Supply[b]	-	106,200	111,200	116,200	121,200	126,200
Surface Water – United States Bureau of Reclamation (USBR) Contract Supply	41,525	52,600	52,600	52,600	52,600	52,600
Recycled Water Supply	8,750	19,500	31,000	33,500	36,000	38,500
Purchased	3,000	-	-	-	-	-
Total Supply	**136,635**	**308,700**	**329,900**	**342,000**	**354,100**	**366,200**
Surplus	**(4,971)[c]**	**73,000**	**65,900**	**67,900**	**61,200**	**65,100**

(a) Source: City of Fresno 2015 UWMP, Tables 4-3, 4-4, and 4-5 for Demands and Tables 6-7, 6-13, and 6-14 for Supply

(b) The quantity of water available to the City of Fresno from FID is not explicitly quantified. On May 25, 1976, the City signed a contract with FID for delivery of the City's pro rata share of FID's water entitlements on the Kings River. The contract specifically excludes any of FID's Class 2 USBR entitlement and any water stored in Pine Flat Reservoir by FID. The Kings River Water Association (KRWA) allocates entitlements to Kings River contractors on a daily basis; these entitlements are allocated among the contractors using a methodology that estimates the flow in the Kings River before construction of Pine Flat Reservoir (i.e., the project). Once KRWA calculates the "pre-project" entitlement, FID has the option of releasing the entire entitlement for downstream diversion or storing a portion of the entitlement within Pine Flat Reservoir for use at a later date.

(c) The values provided in the City's 2015 UWMP do not balance exactly for the year 2015.

Recent groundwater and surface water production is shown in Table 2.

Table 2. Recent Groundwater and Surface Water Production, af/yr[a]

Water Source	2016	2017	2018	2019
Groundwater	99,107	105,211	76,796	54,608
Surface Water	13,162	15,869	43,269	60,936
Total	**112,269**	**121,079**	**120,066**	**115,544**

(a) Some numbers do not add up exactly due to rounding.

City Groundwater Facilities

Until 2004, groundwater was the sole source of potable water supply for the City. As of 2018, there were approximately 250 operational groundwater wells with a total production of 25,000 million gallons per year (Fresno, 2018). Local groundwater comes from the Kings Sub-basin of the San Joaquin Valley Groundwater Basin. This sub-basin has been classified by the California Department of Water Resources (DWR) as critically over drafted (DWR, 2018), but supplementing supplies with surface water has reduced drawdown. The West Area is served by eight active wells, as summarized in Table 3.

Table 3. Summary of Active City Wells Serving the West Area

Well Number	Pump Horsepower	Rated Capacity gallons per minute[(a)]
Well 104	125	1,500
Well 138	125	1,800
Well 169	200	2,400
Well 171-1	60	600
Well 171-2	150	1,750
Well 192	150	2,000
Well 358 (has backup power)	200	2,100
Well 364	100	1,000
Total Well Pumping Capacity [gpm]		**13,150**

(a) Pump capacity and backup power information provided by City Staff.

Groundwater within the Kings Sub-basin generally meets primary and secondary drinking water standards[1] for municipal water use. However, groundwater contamination has caused the City to close over 30 wells and to construct well-head treatment facilities to other wells. Wellhead treatment and blending for 1,2-dibromo-3-chloropropane; ethylene dibromide; 1,2,3-trichloropropane; volatile organic compounds (including trichlorethylene, tetrachloroethylene), nitrate, manganese, radon, chloride, and iron are required in some areas of the City. Nitrates are an important cause of groundwater contamination in the City. Nitrates come primarily from on-site wastewater treatment systems (septic tanks and leach fields) and fertilizer. Water contaminated with nitrate is difficult to treat. A transmission grid main (TGM) system on a half-mile grid decreases water quality variation between wells. While most wells discharge directly to the TGM system, there are some that are treated or blended first to address specific water quality issues. Twelve well sites City-wide have de-aeration facilities where groundwater is pumped to a tank to allow for de-aeration before entering the TGM (West Yost, 2014). **With wellhead treatment and blending, the water supplied by the City meets all the primary and secondary drinking water standards for municipal water use and is safe and healthy to consume.**

The West Area tends to have better ground water quality than the City as a whole (Dyett & Bhatia, 2014), with only a small portion of the West Area (near Highway 99) having nitrates in excess of the allowable limit

[1] EPA has established National Primary Drinking Water Regulations (NPDWRs) that set mandatory water quality standards for drinking water contaminants. These are enforceable standards called "maximum contaminant levels (MCLs) which are established to protect the public against consumption of drinking water contaminants that present a risk to human health. An MCL is the maximum allowable amount of a contaminant in drinking water which is delivered to the consumer.

In addition, EPA has established National Secondary Drinking Water Regulations (NSDWRs) that set non-mandatory water quality standards for 15 contaminants. EPA does not enforce these "secondary maximum contaminant levels" (SMCLs). They are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered to present a risk to human health at the SMCL. (EPA website, https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals, accessed February 21, 2020)

of 45 mg/L as NO_3 or 10 mg/L as NO_3-N. Well 171-2 is the only well that requires treatment within the West Area, and uses granular activated carbon (GAC). The City proposes to construct 15 new wells as needed in the West Area to help meet buildout demand. In addition, nearly 3 miles of distribution pipelines are planned, including expansions to the TGM (West Yost, 2014).

Surface Water Facilities

Historically, about one third of the water supplied to the City comes from surface water from the Kings and San Joaquin river through rain and snow melt from the Sierra Nevada Mountains via the Friant-Kern Canal and the 4.5-mile-long Friant-Kern canal pipeline. Recent expansion of surface water treatment capacity has resulted in a larger share of City water supplies coming from surface water (53 percent in 2019).

Since mid-2004, the City has operated the North East Surface Water Treatment Facility (NESWTF) to treat this water to supplement the City's groundwater supplies. The NESWTF has a rated capacity of 30 million gallons per day (mgd) (Provost & Pritchard, 2016). In 2015, the City brought a new Water Storage and Treatment Facility (T3) online with a capacity of 4 mgd. The T3 was a temporary facility until the Southeast Surface Water Treatment Facility (SESWTF) began full operation in July 2018. The SESWTF has a rated capacity of 54 mgd and receives raw water from the Kings River through the thirteen-mile-long Kings River Pipeline. Expansion of the facility is planned to increase capacity to 80 mgd by 2021 (Fresno, 2019).

The City purchases surface water from the USBR's Central Valley Project (CVP) – Friant Division with an agreement of 60,000 acre-feet of water per year (19,551 million gallons per year). This agreement was renewed in 2010 with no expiration date (Provost & Pritchard, 2016). The surface water is imported to constructed recharge basins and used for "intentional recharge" to the groundwater basin.

In May of 1976 the City of Fresno and FID executed an agreement that stipulated that as land is annexed to the City, the City will receive a pro rata share of FID's Kings River entitlement. The agreement was specific that FID's USBR Class 2 water was excluded and that the City could not store allocated water behind Pine Flat Dam. The pro rata share is based on the area annexed to the City, and within FID's boundaries, as compared to the total area of FID's water service area (Provost & Pritchard, 2016). The historical and projected volume of water available from FID is shown in Table 4, which is copied from the City's 2015 UWMP Table 6-5.

Table 4. Projected Allocation of FID's Kings River Water for City of Fresno in Normal Years[(a)]

Year	2010[(b)]	2015[(b)]	2020	2025	2030	2035	2040
Projected City Allocation, %	25.41	25.94	27.23	28.51	29.80	31.09	32.37
Projected Water Quantity to City in Normal Year, af/yr	108,200	110,500	116,000	121,500	126,900	132,400	137,900
Actual Allocation for City, af	125,543	42,935	-	-	-	-	-

(a) Source: Table 6-5 from City of Fresno 2015 UWMP. According to communications with City staff in June 2020, the 2016 renegotiated contract with FID limits available allocation 29%, or approximately 123,540 AFY. This allocation limit will be addressed in the City's 2020 UWMP.

(b) Allocations for 2010 and 2015 were provided by FID. Allocation for all other years is based on interpolation between 2015 and SOI buildout at 2056. With General Plan Update SOI buildout has shifted from 2025 to 2056 as reflected here.

Recycled (Non-Potable) Water Facilities

Recycled water is wastewater that has been treated to be used again. Even though the treated water is clean, it is not used for potable water (drinking water) The City operates and maintains a recycled water system that disposes of the treated wastewater (called effluent) by using it for agricultural irrigation of non-food crops. The recycled water system is further discussed in the Sewer and Wastewater Treatment Section, below.

Distribution System Facilities

The City's potable water distribution facilities consist of the following components (West Yost, 2014):

- 4 Quasi-Pressure Zones
- 26 SCADA zones
- 4 Water Storage Tanks
- 8 Booster Pump Stations
- 1,740 miles of Transmission and Distribution Pipelines

The City's four quasi-pressure zones were created to control flow from higher elevation to lower elevation areas of the City. The pressure zones are separated by "gates" of closed or partially closed valves that are named after the street alignment they most closely follow: Shepherd Gate, Sierra Gate, and Highway 41 Gate. These quasi-pressure zones help to regulate minimum and maximum system pressures. The entire West Area falls within the Westside quasi-pressure zone.

The distribution system is monitored and controlled through a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system is split into zones within the quasi-pressure zones where it controls the operation of the system. The City operates groundwater wells using an algorithm that calculates the average pressure over SCADA zones and determines which wells will operate based on cost-efficiency. Zones 1 and 5 serve the current West Area. These zones will need to be expanded, or new zones will be needed to cover the area at buildout.

Treated water storage is provided by four tanks, including 1.5 million gallons (MG) at the NESWTF, 3 MG at the intersection of Clovis Avenue and California Avenue (the Southeast Tank), 3MG at South Clovis Avenue near California Avenue (tank T3) and 3MG at the intersection of H Street and San Benito Street in Downtown (tank T4). There are no potable water storage facilities within the West Area.

There are eight booster pump stations (BPSs) located within the water distribution system. These are the NESWTF Tank BPS, SESWTF Tank BPS, Southeast Tank BPS, T3 BPS, T4 BPS, Booster Pump 1 (BP01), Booster Pump 2 (BP02), and Booster Pump 4 (BP04). Booster Pump 3 was budgeted, but never built. BP01 and BP02 boost water from SCADA Zone 8 to Zone 4. BP04 boosts water from Zone 11 to the eastside of Zone 14 through a dedicated 24-inch diameter pipeline and subsequent 12-, 14-, and 16-inch diameter pipelines. The characteristics of each of these pumping facilities are summarized in Table 5.

Table 5. Existing Booster Pump Station Design Characteristics[a]

Pump Station	Supply Source/ Location	Rated Capacity, mgd	Pumps Capacity, gpm/Power, Hp			
			Unit 1	Unit 2	Unit 3	Unit 4
NESWTF	NESWTF Tank	40	7,000/400	7,000/400	7,000/400	7,000/400
SESWTF	SESWTF Tank	80	13,889/700	13,889/700	13,889/700	13,889/700
SE BPS	Southeast Tank (T1)	7.2	1,000/50	2,000/100	2,000/100	1,000/50
T3 BPS	T3 Tank (Clovis Inter-tie)	6	2,085/100	2,085/100	-	-
T4 BPS	T4 Tank (H Street)	11	2,500/125	2,500/125	2,500/125	-
BP01	Shepherd/Sierra A	6.9	4,800/125	-	-	-
BP02	Shepherd/Sierra A	3.2	2,200/50	-	-	-
BP04	Highway 41	8.6	6,000/200	-	-	-

(a) Source: City of Fresno Water Master Plan, West Yost 2014 and City 2015 UWMP, Provost and Pritchard 2016, gpm = gallons per minute

The City has approximately 9.2 million lineal feet (or about 1,740 miles) of water system pipelines. These pipelines generally range from 6 to 48 inches in diameter and are made up of a variety of materials including asbestos-cement, cast iron, concrete, copper, ductile iron, steel and polyvinyl chloride (PVC). Much of the City's potable water distribution system consists of old steel and cast-iron pipe, with over 20 percent of the pipes greater than 50 years old.

Major Water System Issues and Opportunities

Significant issues and opportunities are discussed below:

Future surface water supply for treatment and groundwater recharge is provided through the purchase and utilization of surface water allocations from the USBR at Friant Dam and FID from the Kings River. However, "Water Made Available" under the City's contracts with Reclamation and FID could affect the amount of surface water delivered.

Groundwater contamination has caused the City to close over 30 wells and to construct well-head treatment facilities to other wells. The city is committed to providing a safe water supply to its residents and businesses. It is possible that additional wells will have to be closed, which would reduce the City's water supply and some wells may need treatment facilities to continue to supply water into the distribution system.

More than 15 percent (42 wells out of 270) of the City's wells were constructed prior to 1960 (over 60 years ago) and almost 40 percent (98 of 270) were constructed prior to 1970 (over 50 years ago). It has been recommended that the wells be replaced after 45 to 50 years; thus, about 40 percent of the City's wells are overdue for replacement. Also, mechanical and electrical well component upgrades are required about every 20 to 25 years. Therefore, it is anticipated that significant well installations, replacements and upgrades may be needed to these systems in the near future to maintain existing groundwater supply capacity and meet increased water demands.

One of the greatest challenges facing the City's water distribution system is conveying water from areas of high water production to areas of high water demand. The water production and distribution system

historically has been a distributed system whereby groundwater wells would be constructed on an as-needed basis in the area where the water was needed. This distributed water system does not require large diameter transmission mains to convey water from one portion of the City to another.

SEWER AND WASTEWATER TREATMENT

The City is the sewer agency for the Fresno-Clovis Metropolitan Area (FCMA). The City also owns and operates the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) (Carollo, 2015) and the North Fresno Wastewater Treatment Facility (NRWTF). The City's current sanitary sewer collection system, the RWRF, and the NRWTF are discussed below.

Wastewater is composed of sanitary flow and Infiltration and Inflow (I&I).

- The sanitary flow is the actual wastewater that is generated in the homes and businesses that are connected to the sewer system. The sewer system (or collection system) is intended to collect and convey all the sanitary flow from the homes and businesses to the wastewater treatment plant. The sanitary flow is often called the Average Dry Weather Flow (ADWF) because it is the primary source of wastewater during dry weather.
- I&I is stormwater that enters the wastewater collection system through flooded maintenance holes; defects in pipes, pipe joints, and sewer structures; or as inflow through illicitly connected downspouts, area drains, and catch basins. Sewer systems are intended to prevent (or minimize) the I&I that enters the sewer system so that the stormwater does not cause the sewer capacities to be exceeded or result in treating stormwater at the wastewater treatment plant. The combined ADWF and I&I is called the peak wet weather flow (PWWF).

Collection System

Collection systems are sized, designed, and constructed to the convey the PWWF to the City's wastewater treatment plants. The City's wastewater collection system has roughly 23,000 manholes, 15 lift stations, 1.7 force mains, and 1,500 miles of gravity sewer pipes (Carollo, 2015). Generally, the collection system flows from northeast to southwest across the entire City. In the West Area, wastewater generally flows from the north to the south. Clovis has four connections to the City's collection system. Each of these connections have flow meters that measure the flow from the Clovis sewer system into the City's sewer system. The City's collection system in and near the West Area is shown on Figure 3.

Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF)

Wastewater treatment plant capacities are typically rated based on the ADWF flow. The RWRF has an ADWF capacity of 92 mgd (California Regional Water Quality Control Board, 2018), however it can treat the PWWF that occurs during storm events, which is higher than the ADWF but lasts for short duration (Carollo, 2010).

Wastewater from the West Area is treated at the RWRF, which has an average annual flow of approximately 56 mgd (Fresno, 2019). The RWRF receives and treats wastewater from three additional service areas, including: the City of Clovis, Pinedale County Water District, and Pinedale Public Utility District. The City of Clovis owns 9.3 mgd of ADWF capacity, while the remaining capacity belongs to the

City. The RWRF is located at the intersection of Jensen and Cornelia Streets in southwest Fresno and is shown on Figure 3.

The facility includes the following major processes/facilities:

- Headworks and Grit Chambers – The screening facilities remove the larger trash and grit from the raw wastewater. From the headworks, the wastewater is pumped into pipes that flow to the primary clarifiers.
- Primary Clarifiers – These six tanks allow finer sediment to settle out of the effluent and skim fats, oils and grease from the top. Wastewater leaving the settling tanks is called primary effluent and either flows to the aeration basins or is diverted for additional screening prior to tertiary treatment.
- Aeration Basins – In the aeration basins air is pumped into the wastewater to increase the growth of bacteria and other micro-organisms that consume the organic waste. From the aeration basins the partially treated wastewater flows to the Secondary Clarifiers.
- Secondary Clarifiers – The secondary clarifiers are basins where the bacteria and micro-organisms settle out of the wastewater. There are 16 secondary clarifiers. Effluent leaving the secondary clarifiers is called secondary effluent, and it flows to storage ponds. There is currently no disinfection system for the secondary effluent.
- Membrane Bioreactor Tanks – Primary effluent designated for tertiary treatment is passed through a fine screen and two pre-aeration basins before entering four membrane bioreactor (MBR) tanks. MBRs combine biological treatment with membrane filtration. Effluent leaving the MBRs flows to ultraviolet (UV) disinfection vessels.
- UV Disinfection – Effluent from the MBRs is exposed to UV light to inactivate pathogens. There are four in-vessel UV disinfection trains. After disinfection, effluent is called tertiary effluent and is sent to recycled water storage.
- Storage Ponds – There are 1,720 acres of storage ponds where the effluent percolates into the groundwater, evaporates, or is pumped for irrigation of non-food crops.
- Solids Treatment – The bacteria and micro-organisms that settle out of the wastewater in the clarifiers are called the solids. Flotation thickeners, digesters, and belt filter presses are used to extract liquid from the solids. The liquid is returned to the settling tanks. The remaining solids are then stored in silos to await disposal.

North Fresno Wastewater Treatment Facility

Located in the north east of the City of Fresno, the NFWTF is a tertiary level wastewater treatment facility that treats wastewater from the northern portion of the City. The plant was constructed with sequencing batch reactor (SBR) technology for secondary treatment, cloth media filtration for tertiary treatment, and sodium hypochlorite for disinfection. The plant produces recycled water at a quality that can be used for irrigation of facilities such as golf courses. The permitted capacity of the plant is 0.71 mgd average monthly flow and 1.07 mgd maximum daily flow. Treatment processes include a sequencing batch reactor for secondary treatment, cloth media filtration for tertiary treatment and sodium hypochlorite for disinfection. The tertiary treated wastewater is currently used for landscaping irrigation (Carollo 2010). Although the NFWTF does not serve the West Area directly, it contributes to the City's total wastewater treatment capacity.

Effluent Disposal and the Recycled Water System

The RWRF includes preliminary, primary, secondary, and tertiary treatment units with disinfection. Secondary treatment consists of three treatment trains with an annual average capacity of 87 mgd, consisting of 30 mgd for Train A and 57 mgd for Trains B and C combined. In 2017, a 5-mgd tertiary treatment system — the Tertiary Treatment and Disinfection Facility — was completed. The system can be expanded to 15 mgd and ultimately to 30 mgd (Water Systems Consulting Inc., 2021).

The City has three primary means of effluent disposal:

1. Undisinfected secondary effluent to on-site and off-site farmland for restricted irrigation
2. Undisinfected secondary effluent to percolation ponds
3. Disinfected tertiary effluent to the recycled water distribution system

The percolated effluent has been deemed equivalent to Title 22 tertiary treated water by the State Water Resources Control Board Division of Drinking Water (DDW). The City has been extracting this water for reuse in areas within and surrounding the RWRF, as well as to FID's canals, through an exchange agreement for delivery to FID agricultural customers.

The discharged effluent is disposed within the City boundaries and just southwest of the metropolitan area. The treated effluent percolation ponds are within the City's SOI and hydrologic sphere that benefit the City's overall regional water budget.

In addition to the RWRF the NFWTF serves the residential and commercial development and golf course in a portion of northeast Fresno. Since the treatment includes filtration and disinfection producing water quality that meets Title 22 tertiary criteria, it is suitable for additional future uses such as landscape irrigation, freeway irrigation, and many industrial water reuse opportunities.

Future Wastewater Flow and Effluent Disposal

The City has the capacity to produce more recycled water than it can currently use. The City will continue to expand the recycled water delivery system. The City's most recent Collection System Master Plan (Carollo, 2015) was based on land uses from the City's 2014 General Plan. At General Plan build-out, the City will encompass approximately 156.6 square miles and is projected to generate 202.4 mgd of future PWWF.

Sewer Collection System and WWTP Issues and Opportunities

Sewer Collection System and WWTP Issues and Opportunities are discussed below:

At build out, the City's wastewater flows are expected to increase substantially. As such, there are some areas of the existing collection system that cannot convey the build out PWWF within the established maximum flow to full flow (q/Q) ratio of 1.15. There are several localized driven improvements needed in the Downtown area (C-1 through C-7), and an additional upsizing for the pipeline along the City's southern border that feeds the RWRF (C-8, C-10).

Four development driven projects (D-26A, D-26B, D-27A, D-27B) are identified within or along the borders of the West Area. Approximately 3.6 miles of public and privately-owned (i.e., homeowner's responsibility) sewer system drainage lines are proposed to serve the West Area at buildout. The City does not currently collect supervisory control and data acquisition (SCADA) data for their lift stations. Were feasible, Collection System Master Plan (Carollo, 2015) recommends that upgrades be performed to allow for proper flow monitoring data acquisition, which will help confirm lift station capacity and monitor lift station performance.

Additional agricultural or urban water reuse in the future is a possibility with additional distribution and/or treatment facilities. The RWRF currently delivers approximately 4,700 AFY (Water Systems Consulting Inc., 2021) of undisinfected secondary effluent to growers of non-food crops within the City. An additional 1,400 acres could be served with an expansion of the conveyance system or the establishment of an exchange agreement with FID. Within the West Area, approximately 6.3 miles of new recycled water distribution pipelines are planned to be constructed by buildout.

The 2010 Recycled Water Master Plan outlines three locations for potential regional recharge areas. Also referenced as a "super recharge basin", one of the regional recharge areas is located partially within the West Area. If the basins are constructed, a portion of the recharge water could be made up of recycled water, provided there is at least 6 months travel time from the super recharge basin to the nearest drinking water well (Carollo, 2010).

STORMWATER AND FLOOD CONTROL

The stormwater and flood control systems are discussed below.

General Description and Summary of the Storm Drain System

The Fresno Metropolitan Flood Control District (FMFCD) has primary responsibility for managing the local stormwater flows for the City, as well as a large area beyond the City's boundaries. The City's stormwater drains to urban stormwater basins, where it is retained for groundwater recharge or pumped to local irrigation canals owned by Fresno Irrigation District (FID) and then conveyed away from the municipal area.

The City of Fresno is located in the alluvial fans of numerous foothill streams and creeks that drain the western slope of the Sierra Nevada foothills. These streams include Big Dry Creek, Alluvial Drain, Pup Creek, Dog Creek, Redbank Creek, Mud Creek, and Fancher Creek. The City has hot dry summers and cool mild winters, with temperatures of mid-90°F in the summer and 60°F in the winter. The precipitation averages 11 inches per year (FMFCD, 2019) and occurs almost entirely in the fall, winter, and spring.

Regionally, the City is protected by the U.S. Army Corps of Engineers' (Corps) Redbank-Fancher Creeks Flood Control Project. This project includes dams, detention basins, and levees designed to control upstream flood flows to approximately the 200-year storm event. Major facilities of this project include levee systems, the Big Dry Creek, Fancher Creek, and Redbank Creek dams and reservoirs, and the Alluvial Drain, Redbank Creek, Pup Creek, Fancher Creek, Big Dry Creek, Pup Creek Enterprise, and Dry Creek Extension detention basins.

Locally, the District's drainage system consists of approximately 680 miles of pipeline and more than 150 stormwater retention basins. The storm drainage pipeline system is designed to accept the peak flow rate of runoff from a two-year intensity storm event (a storm that has a 50 percent probability of occurring in any given year). When storm events occur that exceed the two-year intensity, ponding begins to occur in the streets until the pipeline system can remove the water. In the event of larger storms, "major storm breakover", the District has planned for streets or other conveyance to move the excess runoff to the basins (FMFCD, 2019).

The drainage system discharges to a system of irrigation canals, creeks, and the San Joaquin River, but is designed to retain and infiltrate as much runoff as possible into the underlying groundwater aquifer. The local drainage service area is subdivided into over 160 drainage areas, most of which drain to a retention basin. Drainage channels within the West Area include:

- East Branch Victoria Canal
- Epstein Canal
- Herndon Canal
- Minor Thornton Ditch
- Silvia Ditch
- Teague School Canal
- Tracy Ditch
- West Branch Victoria Canal
- Wheaton Ditch
- Austin Ditch

The West Area is drained by 15 drainage watersheds, six of which are fully within the West Area, and nine of which drain to areas immediately south or west of the West Area. There are seven existing retention basins within the West Area and an additional five that serve the West Area. An additional basin is planned to serve the drainage shed in the far southwestern corner of the West Area. The West Area's storm drain system is shown on Figure 4.

Floodplain Mapping

Flood Hazards in the City are described in the Federal Emergency Management Agency (FEMA)'s January 20, 2016 Flood Insurance Study but are largely based on hydraulic modeling performed in 1981 (FEMA, 2016). Although the West Area's northern boundary is very near the San Joaquin River, the area is not within a Special Flood Hazard Area. Local flooding can occur for events larger than a 2-year event, but runoff is generally contained in the streets or other breakover easements. Such flooding is not reflected on FEMA's maps.

Improvements to storm drainage facilities are accomplished either as a part of privately funded on-site developments or as a part of the master plan, funded by drainage fees. FMFCD maintains an on-going update to the system hydraulic model for flood control and prepares a capital improvement plan update every 5 years.

Climate Change

Climate change is likely to increase the volume, frequency, and intensity of events in the future in the Central Valley (DWR, 2017).

Stormwater and Flood Control Issues and Opportunities

Stormwater and Flood Control Issues and Opportunities are discussed below.

Stormwater represents a water supply opportunity that the City is currently leveraging with its extensive recharge basin system. Infiltration of captured stormwater allows groundwater to be recharged, improves overall water quality, and reduces the need for additional other water supplies.

Since the system is designed to handle approximately a two-year event within the underground drainage system, a significant amount of drainage is conveyed in the streets or through "major storm breakover" conveyances to detention/retention flood basins. This tends to result in shallow flooding over significant areas during larger events, but coupled with large regional flood control projects, the system can handle up to a 200-year, 30-day event.

There is significant storm drainage infrastructure remaining to be constructed to serve the West Area. About 32 miles of additional drainage pipelines is anticipated to be constructed to meet buildout needs.

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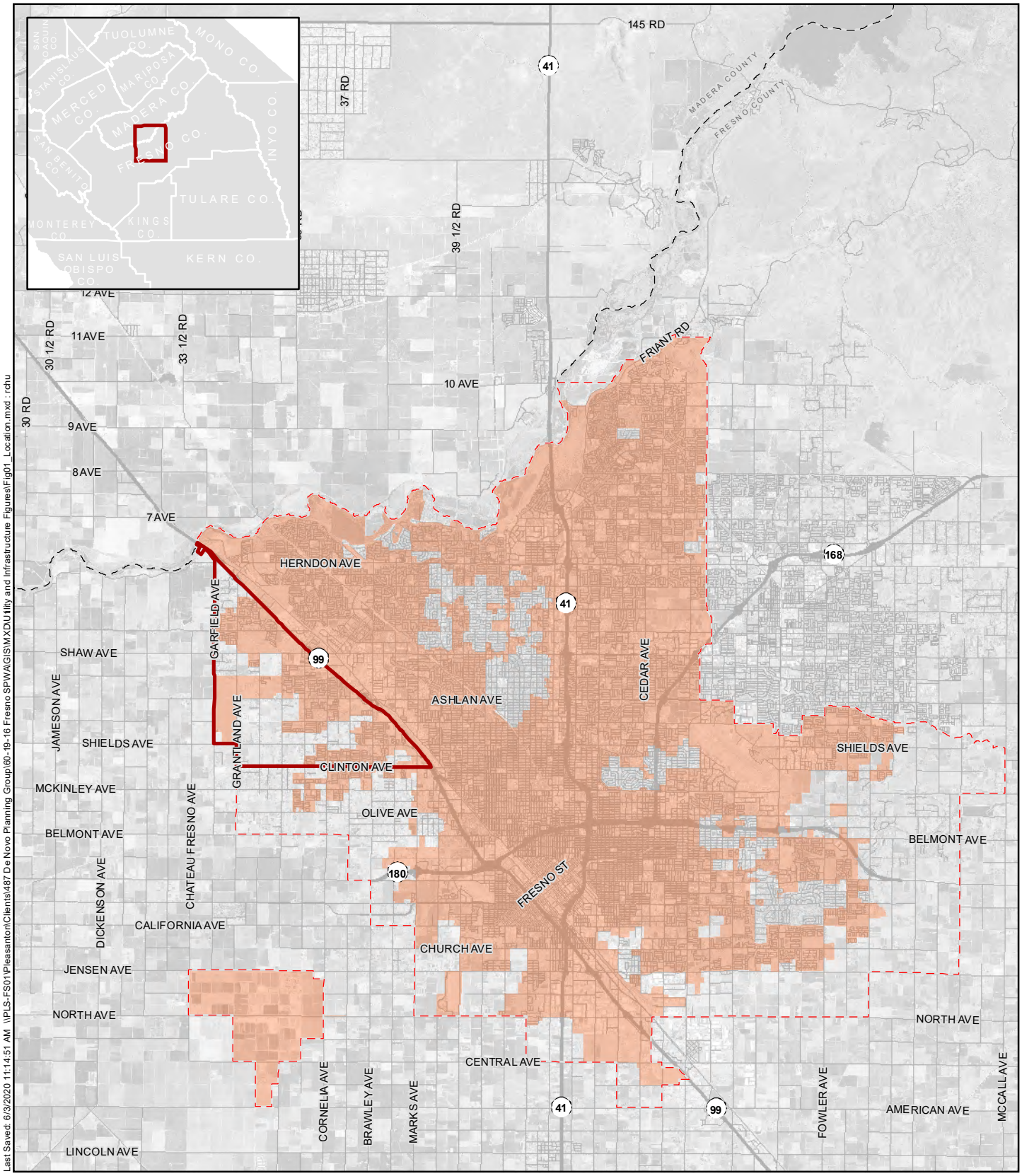

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Symbology

- Fresno West Area Boundary
- Fresno City Limits
- Sphere of Influence
- County Line

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Scale in Miles

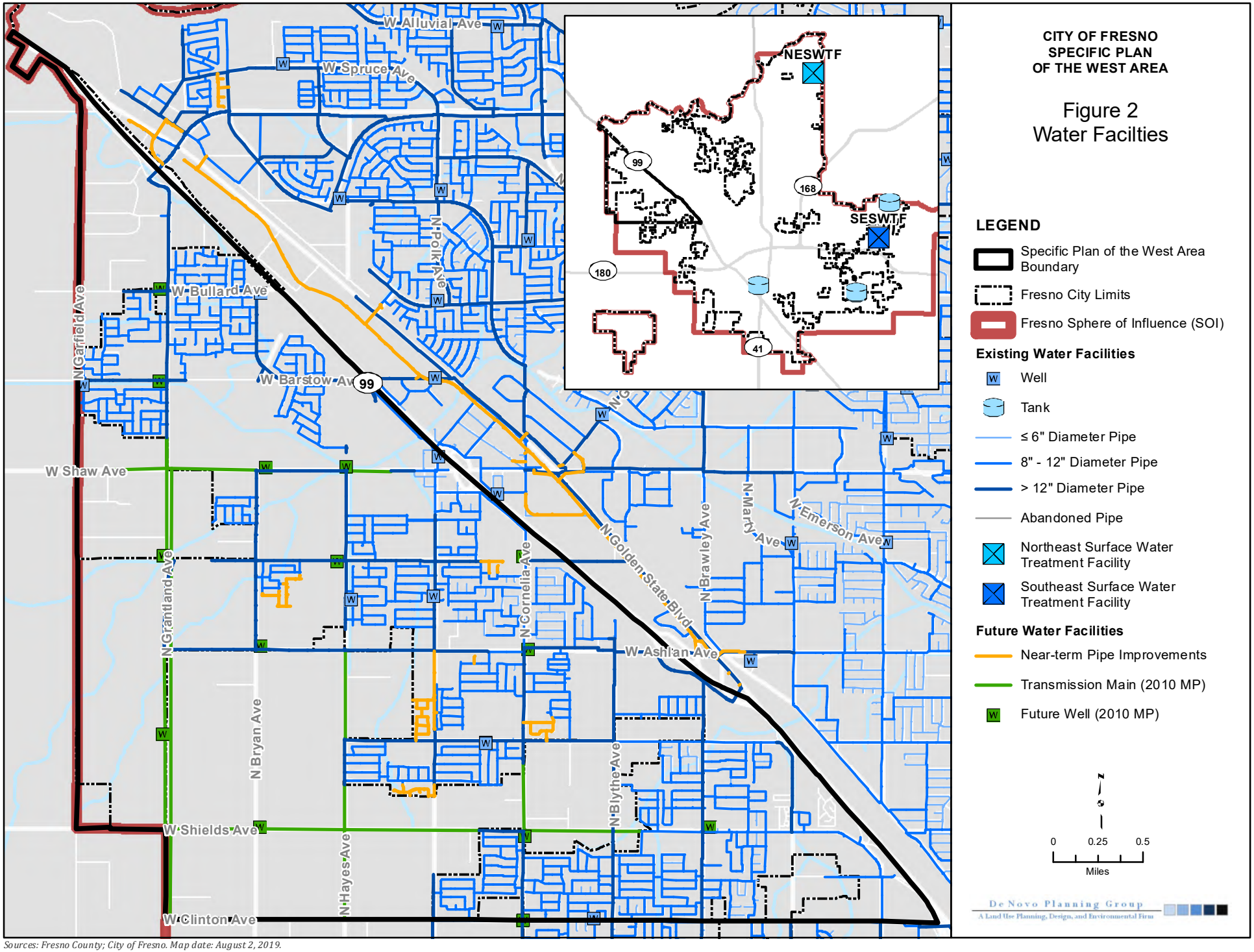
City of FRESNO

WEST YOST

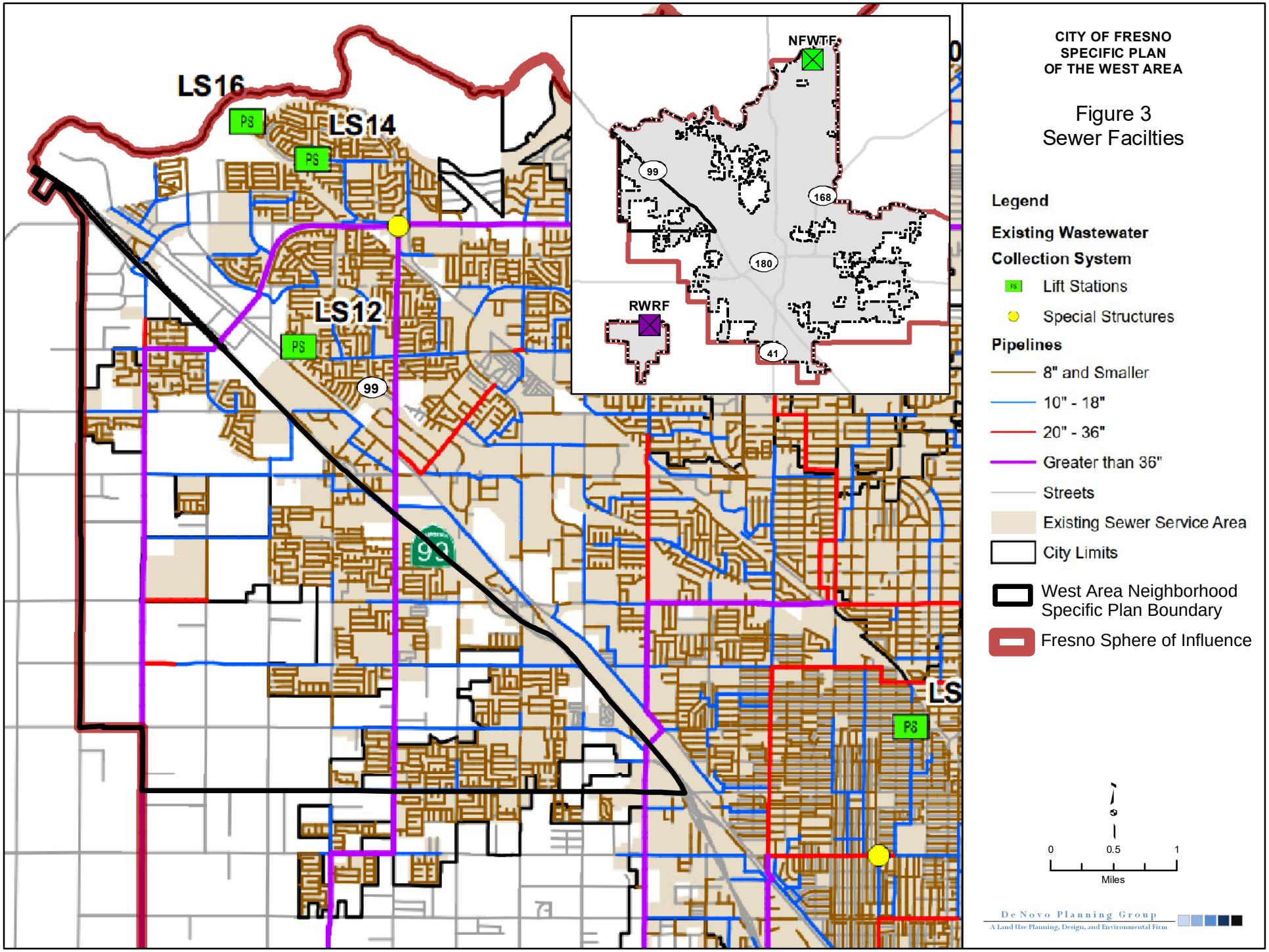
Figure 1

Location Map

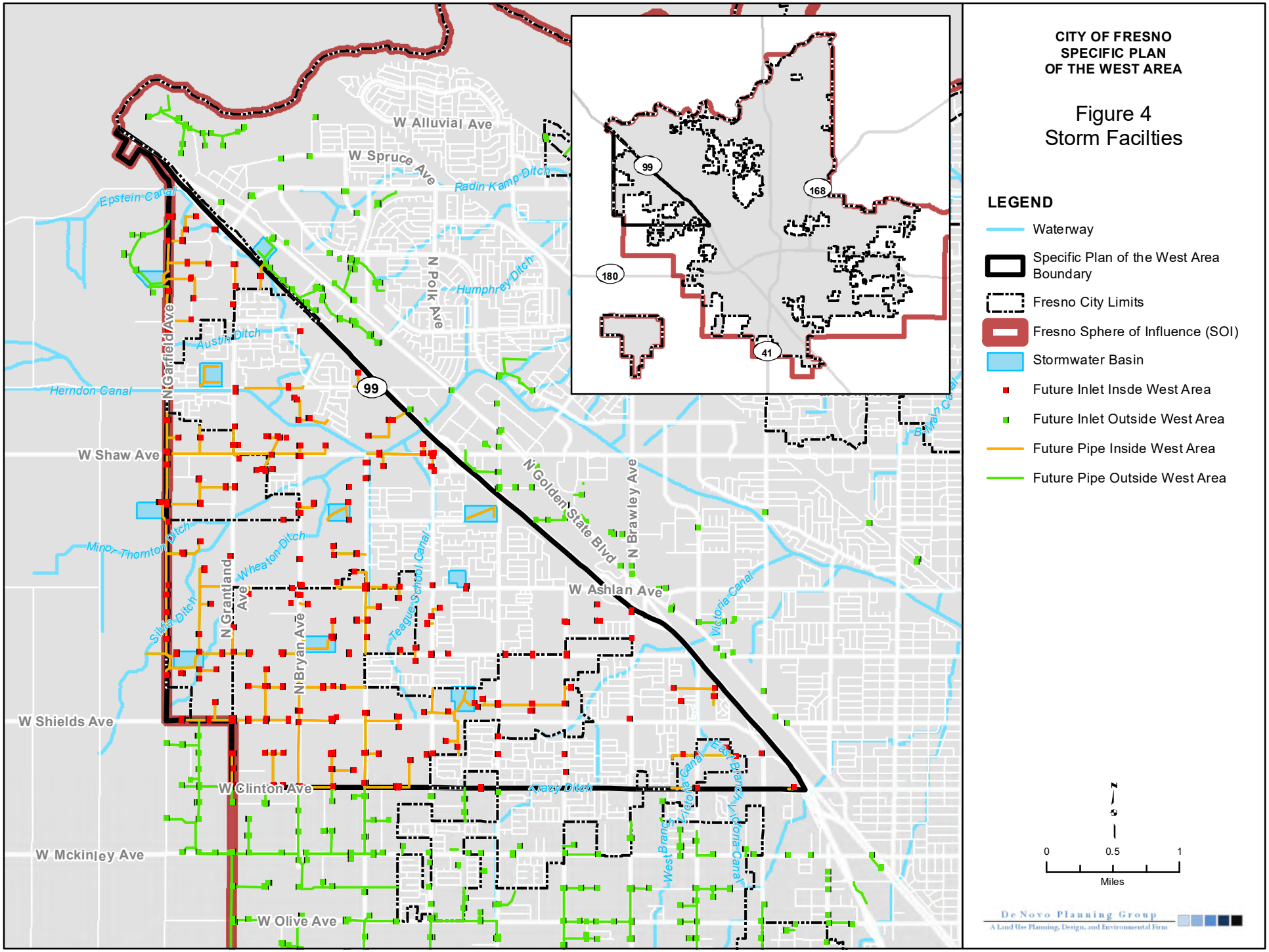
Fresno SPWA



Sources: Fresno County; City of Fresno. Map date: August 2, 2019.



Source: City of Fresno Collection System Master Plan 2015



Sources: Fresno County; City of Fresno; Fresno Metropolitan Flood Control District. Map date: August 7, 2019.

APPENDIX E

Water Supply Assessment

FINAL REPORT | JANUARY 2022

West Area Neighborhood Specific Plan
Water Supply Assessment

PREPARED FOR

City of Fresno

PREPARED BY

WEST YOST
Water. Engineered.

West Area Neighborhood Specific Plan
Water Supply Assessment

Prepared for

City of Fresno

Project No. 487-60-19-16

Project Manager: Jim P. Connell, PE	January 2022 Date
QA/QC Review: Elizabeth T. Drayer, PE	January 2022 Date

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FINAL REPORT | JANUARY 2022

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LIST OF ACRONYMS AND ABBREVIATIONS

af/yr	Acre-Feet Per Year
CASGEM	California Statewide Groundwater Elevation Monitoring
CEQA	California Environmental Quality Act
City	City of Fresno
CVP	Central Valley Project
DWR	Department of Water Resources
EIR	Environmental Impact Report
FARGMP	Fresno Area Regional Groundwater Management Plan
FID	Fresno Irrigation District
FMFCD	Fresno Metropolitan Flood Control District
GSP	Groundwater Sustainability Plan
mgd	Million Gallons Per Day
NESWTF	Northeast Surface Water Treatment Facility
NFWRF	North Fresno Wastewater Reclamation Facility
NKGSA	North Kings Groundwater Sustainability Agency
Proposed Project	Proposed West Area Neighborhood Specific Plan
RWRF	Fresno/Clovis Regional Wastewater Reclamation Facility
SB 221	Senate Bill 221
SB 610	Senate Bill 610
SESWTF	Southeast Surface Water Treatment Facility
SGMA	Sustainable Groundwater Management Act
SOI	Sphere of Influence
SWRCB	State Water Resources Control Board
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan

EXECUTIVE SUMMARY

Purpose of Water Supply Assessment

The purpose of this Water Supply Assessment (WSA) is to perform the evaluation required by California Water Code sections 10910 through 10915, as established by Senate Bill 610 (SB 610), in connection with the City of Fresno's (City) proposed West Area Neighborhood Specific Plan (Proposed Project), and to support the Environmental Impact Report (EIR) being prepared for the Proposed Project. This WSA evaluates the adequacy of the City's total projected water supplies, including existing water supplies and future planned water supplies, to meet the City's existing and projected future water demands, including those future water demands associated with the Proposed Project, under all hydrologic conditions (Normal Years, Single Dry Years, and Multiple Dry Years).

Proposed Project Overview

The Proposed Project is a Specific Plan that includes residential land use at various densities, commercial areas, various public facilities, parks, and light industrial land uses. The Proposed Project area encompasses approximately 7,077 acres within the City of Fresno's Sphere of Influence (SOI) and resides partially within the City Limits. The Proposed Project is located west of State Route 99. It is bounded on the south by West Clinton Avenue and to the west by Grantland and Garfield Avenues. The northern boundary of the Proposed Project is also south of the San Joaquin River.

The Proposed Project meets the definition of a "Project" per California Water Code sections 10910 through 10915, as established by SB 610 in 2001, thus requiring the preparation of this WSA (see Section 3.1 below).

Water Demands and Supply Availability

Projected water demands for buildout of the Proposed Project total approximately 23,349 acre-feet per year (af/yr). This projected water demand is 381 af/yr less than the water demand projected for the Plan Area under the General Plan land use. The water demand for the land use documented in the General Plan was included in the City's 2020 Urban Water Management Plan (UWMP) as part of the general projections for future population and water demand growth.

It is anticipated that the Proposed Project, if approved by the City, would be served from the City's existing and future portfolio of water supplies. The City currently receives water from four water supply sources:

- Surface water that is delivered to the city by two separate sources:
  - Fresno Irrigation District (FID) Agreement for Kings River water.
  - United States Bureau of Reclamation (USBR) Central Valley Project (CVP) Friant Division Contract for San Joaquin River water.
- Groundwater that is pumped from groundwater wells located within the City.
- Recycled water that is treated at the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) and North Fresno Wastewater Reclamation Facility (NFWRF). This water is planned to be used for non-potable uses.

The City has always met system water demand, regardless of regional hydrology. The City expects reductions from normal-year supply during single or multiple dry years but is still projected to meet demands. In the event of a water shortage, the City would implement demand reduction measures as outlined in its Water Shortage Contingency Plan, which would apply to all customers, including those within the Proposed Project area. The projected available water supplies and water demands (including the Proposed Project) through 2045 are shown in Table ES-1. As shown in Table ES-1, available water supplies are more than sufficient to meet the projected water demands for the next 20 years.

Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in this Water Supply Assessment, this Water Supply Assessment demonstrates that the City's existing and additional planned future water supplies are sufficient to meet the City's existing and projected future water demands, including those future water demands associated with the Proposed Project, to the year 2045 under all hydrologic conditions (including Normal Years, Single Dry Years, and Multiple Dry Years).

Table ES-1. City of Fresno Water Demand Versus Water Supply During Hydrologic Normal, Single Dry, and Multiple Dry Years, af/yr

Hydrologic Condition		2025	2030	2035	2040	2045
Normal Year[a]						
Available Water Supply		329,030	341,140	346,610	352,000	357,330
Total Water Demand		199,204	212,756	222,310	231,876	241,447
Potential Surplus (Deficit)		129,826	128,384	124,300	120,124	115,883
Percent Shortfall of Demand		-	-	-	-	-
Single Dry Year[b]						
Available Water Supply		189,852	195,392	200,862	206,252	211,582
Total Water Demand		164,092	176,132	184,174	192,228	200,287
Potential Surplus (Deficit)		25,760	19,260	16,688	14,024	11,295
Percent Shortfall of Demand		-	-	-	-	-
Multiple Dry Years [c]						
Multiple Dry Year 1	Available Water Supply	273,725	279,265	284,735	290,125	295,455
	Total Water Demand	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	74,521	66,509	62,425	58,249	54,008
	Percent Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 2	Available Water Supply	274,626	280,166	285,636	291,026	296,356
	Total Water Demand	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	75,422	67,410	63,326	59,150	54,909
	Percent Shortfall of Demand	-	-	-	-	-

Table ES-1. City of Fresno Water Demand Versus Water Supply During Hydrologic Normal, Single Dry, and Multiple Dry Years, af/yr

Hydrologic Condition		2025	2030	2035	2040	2045
Multiple Dry Year 3	Available Water Supply	217,568	223,108	228,578	233,968	239,298
	Total Water Demand	190,267	193,637	197,736	201,753	205,708
	Potential Surplus (Deficit)	27,301	29,471	30,842	32,215	33,590
	Percent Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 4	Available Water Supply	189,852	195,392	200,862	206,252	211,582
	Total Water Demand	162,551	165,920	170,020	174,036	177,992
	Potential Surplus (Deficit)	27,301	29,472	30,842	32,216	33,590
	Percent Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 5	Available Water Supply	314,840	320,380	325,850	331,240	336,570
	Total Water Demand	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	115,636	107,624	103,540	99,364	95,123
	Percent Shortfall of Demand	-	-	-	-	-

(a) From the City of Fresno 2020 UWMP, Table 7-1.
(b) From the City of Fresno 2020 UWMP, Table 7-2.
(c) From the City of Fresno 2020 UWMP, Table 7-3.

Water Supply Assessment Approval Process

The Fresno City Council must approve this WSA at a regular or special meeting. Furthermore, the City must include this WSA in the Draft EIR that is being prepared for the Proposed Project.

In addition, SB 221 applies to residential subdivisions of over 500 dwelling units and requires that the water supplier provide a written verification that the water supply for the project is sufficient, prior to issuance of the final permits. Because the Proposed Project includes up to 57,891 residential dwelling units, it is subject to the requirements of SB 221 (Government Code section 66473.7).

1.0 INTRODUCTION

1.1 Legal Requirement for Water Supply Assessment

California Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures which sought to promote more collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The purpose of this coordination is to ensure that prudent water supply planning has been conducted, and that planned water supplies are adequate to meet existing demands, anticipated demands from approved projects and tentative maps, and the demands of proposed projects.

SB 610 amended California Water Code sections 10910 through 10915 (inclusive) to require land use led agencies to:

- Identify any public water purveyor that may supply water for a proposed development project; and
- Request a WSA from the identified water purveyor.

The purpose of the WSA is to demonstrate the sufficiency of the purveyor's water supplies to satisfy the water demands of the proposed project, while still meeting the water purveyor's existing and planned future uses. Water Code sections 10910 through 10915 delineate the specific information that must be included in the WSA.

1.2 Need for and Purpose of Water Supply Assessment

The purpose of this WSA is to perform the evaluation required by Water Code sections 10910 through 10915 in connection with the City's Proposed Project. It is not to reserve water, or to function as a "will serve" letter or any other form of commitment to supply water (see Water Code section 10914). The provision of water service will continue to be undertaken in a manner consistent with applicable City policies and procedures, consistent with existing law.

1.3 Water Supply Assessment Preparation, Format and Organization

The format of this WSA is intended to follow Water Code sections 10910 through 10915 to clearly delineate compliance with the specific requirements for a WSA. The WSA includes the following sections:

- Section 1: Introduction
- Section 2: Description of Proposed Project
- Section 3: Required Determinations
- Section 4: City of Fresno Water Service Area
- Section 5: City of Fresno Water Demands
- Section 6: City of Fresno Water Supplies

- Section 7: Determination of Water Supply Sufficiency Based on the Requirements of SB 610
- Section 8: Water Supply Assessment Approval Process
- Section 9: References

Relevant citations of Water Code sections 10910 through 10915 are included throughout this WSA in *italics* to demonstrate compliance with the specific requirements of SB 610.

2.0 DESCRIPTION OF PROPOSED PROJECT

2.1 Proposed Project Location

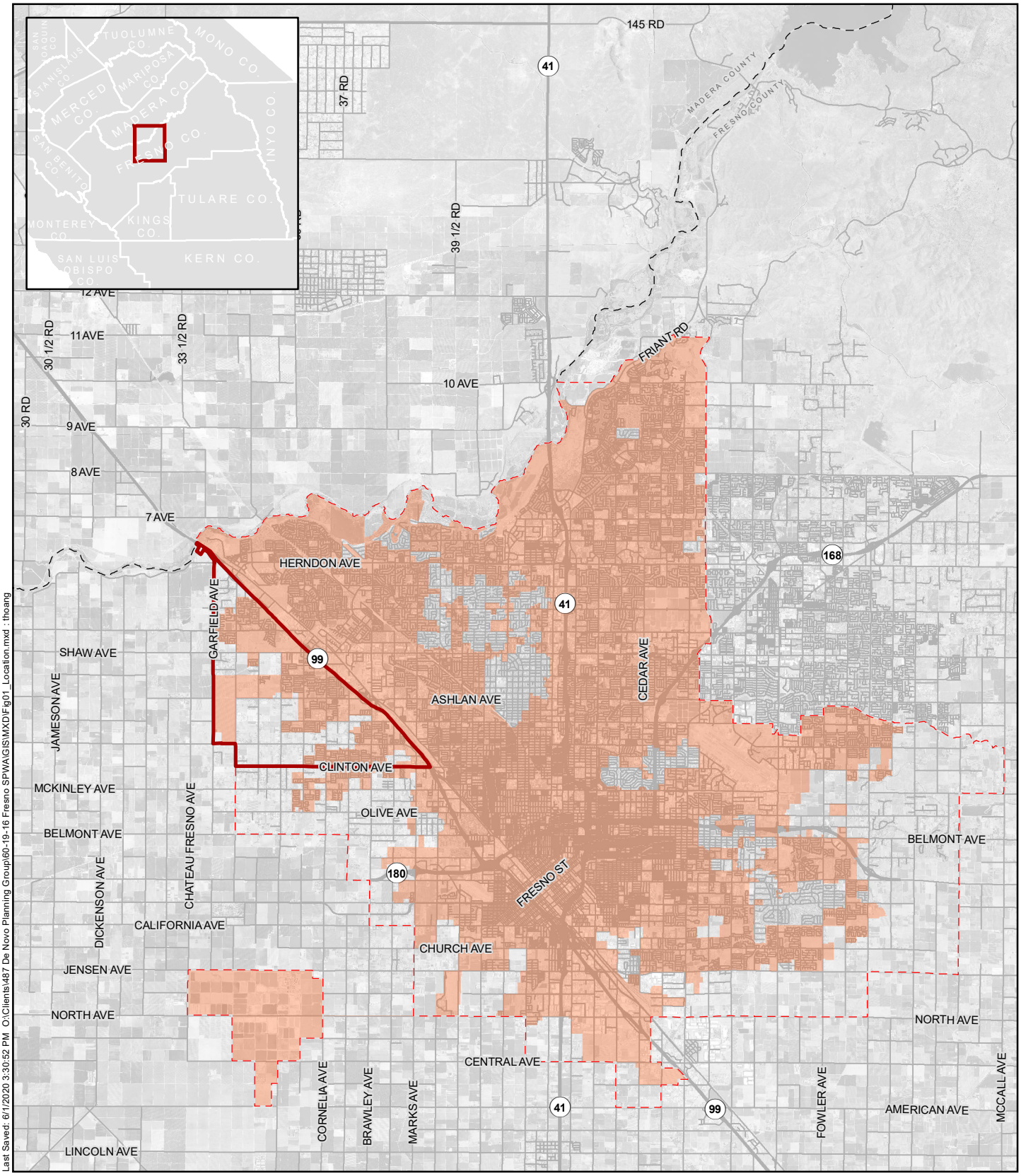
The Proposed Project is located within the City's SOI and partially within the City Limits. The Proposed Project area encompasses approximately 7,077 acres of land, with approximately 63 percent residing within the City Limits. The Proposed Project is located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of the unincorporated community of Highway City adjacent to State Route 99. The Proposed Project is also south of the San Joaquin River. Figure 2-1 depicts the vicinity of the Proposed Project.

Currently, the Proposed Project area consists of both Urban and Built-Up land, farmland, or rural residential lots. The Proposed Project has approximately 3,070 acres of Urban and Built-Up land, 286 acres of Farmland of Statewide Importance, 509 acres of Unique Farmland, 1,563 acres of Farmland of Local Importance, and 1,650 acres of Vacant or Disturbed land and Rural Residential land in the Plan Area (De Novo, 2019).

The Proposed Project seeks to provide for the orderly and consistent development that promotes and establishes the West Area as a complete neighborhood with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. To fulfill this objective the Proposed Project will develop the Plan area for a wide variety of land uses including residential, commercial, office space, parks, and public facilities, as well as the required transportation and utility improvements (De Novo, 2019).

2.2 Proposed Land Uses and Unit Factors

The Proposed project land use plan utilizes the City's existing 2014 General Plan (Dyett & Bhatia 2014) land use designations to maintain or re-designate some parcels in the West Area. However, the land uses in the General Plan don't have assigned water demand factors. To remedy this, land uses from the General Plan were matched to the City's 2014 Water Master Plan (West Yost, 2014) land uses, which have water demand factors, as shown in Table 2-1. These water use factors were derived from existing water consumption by existing land use in the 2007 Metropolitan Water Resources Management Plan Update Phase 1 Baseline System Characterization (West Yost, 2007). The 2025-unit water demand factors were selected for the calculation of water demands, because they are more representative of future demands than the other unit factors from the Master Plan.



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Symbology

- Fresno West Area Boundary
- Fresno City Limits
- Sphere of Influence
- County Line

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Scale in Miles

City of FRESNO

WEST YOST

Figure 2-1

Location Map

Fresno West Area Neighborhood Specific Plan

Table 2-1. Land Use and Unit Factors for the Proposed Project

General Plan Land Use Designation[a]	Water Master Plan Land Use[b]	Water Master Plan 2025 Unit Factor, af/ac/yr[b]
Low, Medium Low, and Medium	Single Family Residential	3.2
Medium High, Urban Neighborhood, High, and Mixed Use	Multi-Family Residential[c]	6.2
Office, Business Park, Mixed Use, and Public Facilities	Commercial/Institutional[c]	1.9
Light Industrial	Industrial	1.9
Pocket Park, Neighborhood Park, Community Park, and Regional Park	Landscape Irrigation	2.9
Open Space and Ponding Basin	Open Space[d]	-

(a) From Notice of Preparation for the Specific Plan of the West Area (De Novo, 2019).
(b) City of Fresno 2014 Water Master Plan, Table 3-5.
(c) Mixed Use land use included in both Multi-Family Residential and Commercial/Industrial Land Uses to account for multiple levels of development.
(d) Open Space does not have a water demands so it does not have a unit demand factor.

2.3 Projected Water Demand

2.3.1 Acreage and Assumptions

The Proposed Project will be a mixed-use development that will include various densities of residential units, commercial areas, various public facilities, parks, and light industrial land uses. The Proposed Project will include up to 57,891 Residential and Mixed-Use dwelling units, 319.1 acres of Commercial, 177.58 acres of Employment, up to 434.56 acres of Mixed-Use, 248.39 acres of Open Space, and 389.06 acres of Public Facilities. The Proposed Project land use differs from the General Plan land use for the Plan Area and is shown in detail in Table 2-2 For Mixed Use it was assumed for both the General Plan and Proposed Project that the area was both Multi-Family Residential and Commercial to provide a conservative estimate of water demands.

Losses were assumed to be 8 percent of total water deliveries, based on raw and potable water use data from the City's 2020 UWMP (UWMP, 2020).

Land uses and water demands for the Plan Area under the General Plan and for the Proposed Project are summarized in Table 2-2. The proposed land uses for the Plan Area under the General Plan are shown on Figure 2-2 and the proposed land uses for the Proposed Project are shown in Figure 2-3.

2.3.2 Water Demand Calculations

Based on the water use factors described above, the projected water demand at buildout of the Proposed Project is shown in Table 2-2 The total water demand for the Proposed Project at buildout is projected to be approximately 23,349 af/yr. The Proposed Project is projected to use 381 af/yr less than the water demand projected using General Plan land uses for the Plan Area.

Table 2-2. Land Uses and Projected Demands for the Proposed Project

Land Use	General Plan, Acres [a,b]	General Plan Demand ac/yr[c]	Specific Plan, acres[a,b]	Specific Plan Demand, ac/yr[c]
Low	817.79	2,616.9	516.57	1,653.0
Medium Low	825.97	2,643.1	1,456.98	4,662.3
Medium	2,357.00	7,542.4	2,065.37	6,609.2
Medium High	349.42	2,166.4	275.55	1,708.4
Urban Neighborhood	428.61	2,657.4	171.64	1,064.2
High	65.76	407.7	51.33	318.2
Subtotal - Residential	4,844.55	18,033.9	4,537.44	16,015.3
Community	138.66	263.5	52.74	100.2
Recreation	41.34	78.5	41.34	78.5
General	143.21	272.1	220.78	419.5
Regional	0.00	0.0	4.24	8.1
Subtotal - Commercial	323.21	614.1	319.10	606.3
Office	7.51	14.3	88.81	168.7
Business Park	77.11	146.5	56.02	106.4
Light Industrial	33.13	0.0	32.75	0.0
Subtotal - Employment	117.75	160.8	177.58	275.1
Neighborhood	0.00	0.0	255.95	2,073.2
Corridor/Center	106.19	860.1	96.00	777.6
Regional	144.72	1,172.2	82.61	669.1
Subtotal - Mixed Use	250.91	2,032.3	434.56	3,519.9
Pocket Park	2.45	7.1	1.55	4.5
Neighborhood Park	83.71	242.8	86.26	250.2
Community Park	38.18	110.7	24.20	70.2
Regional Park	0.00	0.0	0.00	0.0
Open Space	6.79	0.0	6.79	0.0
Ponding Basin	107.18	0.0	129.59	0.0
Subtotal - Open Space	238.31	360.6	248.39	324.9
Public Facility	21.78	41.4	27.42	52.1
Church	11.59	22.0	55.80	106.0
Special School	18.38	34.9	18.38	34.9
Elementary School	81.82	155.5	91.82	174.5

Table 2-2. Land Uses and Projected Demands for the Proposed Project

Land Use	General Plan, Acres [a,b]	General Plan Demand ac/yr[c]	Specific Plan, acres[a,b]	Specific Plan Demand, ac/yr[c]
Elementary/Middle/ High School	145.37	276.2	145.37	276.2
High School	46.95	89.2	46.95	89.2
Fire Station	5.52	10.5	3.32	6.3
Subtotal - Public Facilities	331.41	629.7	389.06	739.2
Losses[d]	-	1,898.4	-	1,867.9
Total	**6,106.14**	**23,729.8**	**6,106.13**	**23,348.6**

(a) From Notice of Preparation for the Specific Plan of the West Area (De Novo, 2019), Table 1.
(b) Totals and Subtotals may differ from the Notice of Preparation due to rounding.
(c) Demands calculated using unit demand factors from Table 2-1.
(d) Losses are assumed to be 8 percent of water use. Based on the City of Fresno 2020 UWMP, Table 4-1 and Section 4.2.2.

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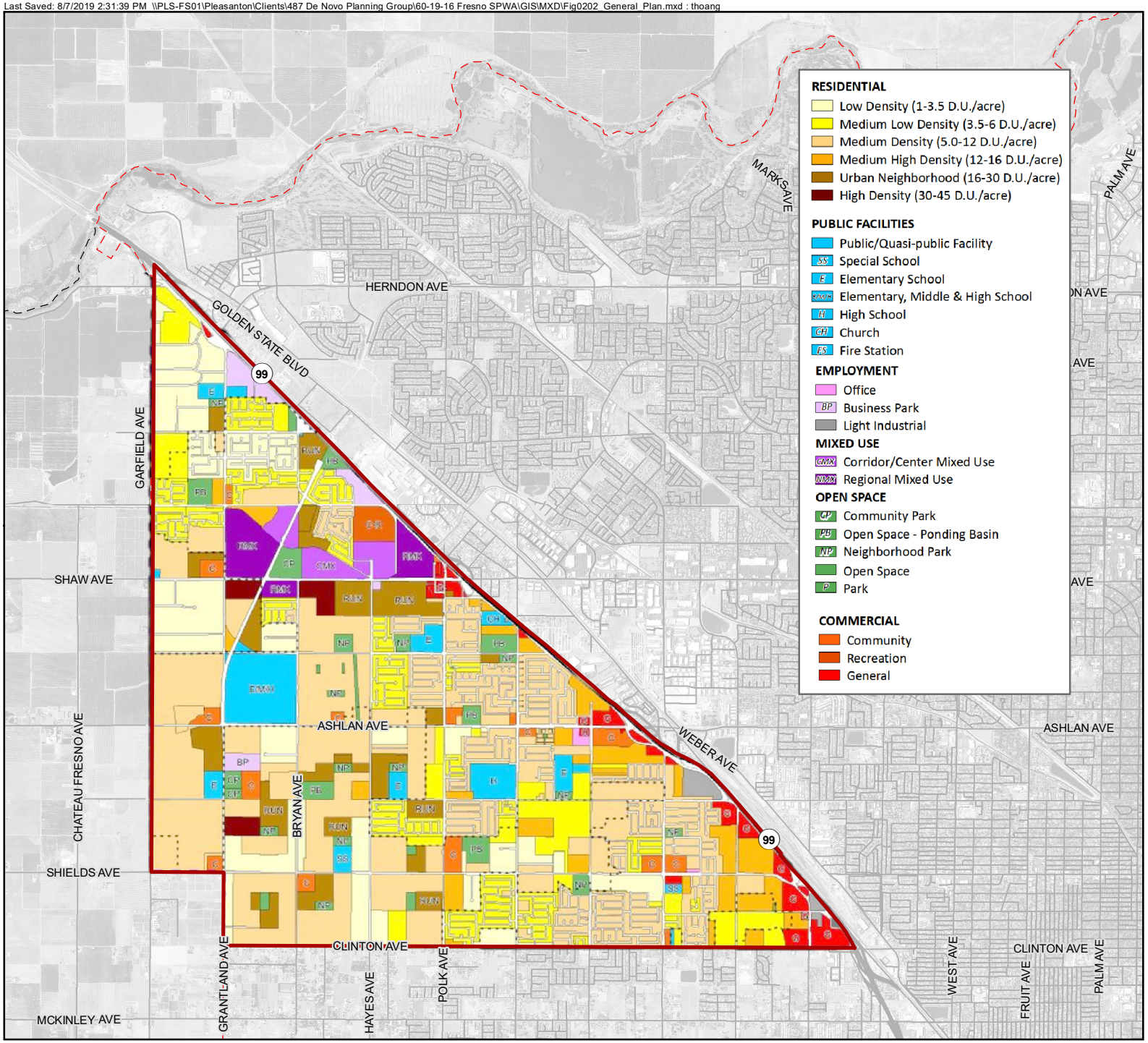

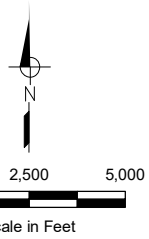

Symbology

- Fresno West Area Boundary
- Sphere of Influence
- County Line

Notes:

1. General Plan land uses and land use type for the West Area come from Figure 4 in the Specific Plan of the West Area, prepared by De Novo, 2019.

City of FRESNO

WEST YOST

Figure 2-2

General Plan Land Uses

Fresno West Area Neighborhood Specific Plan

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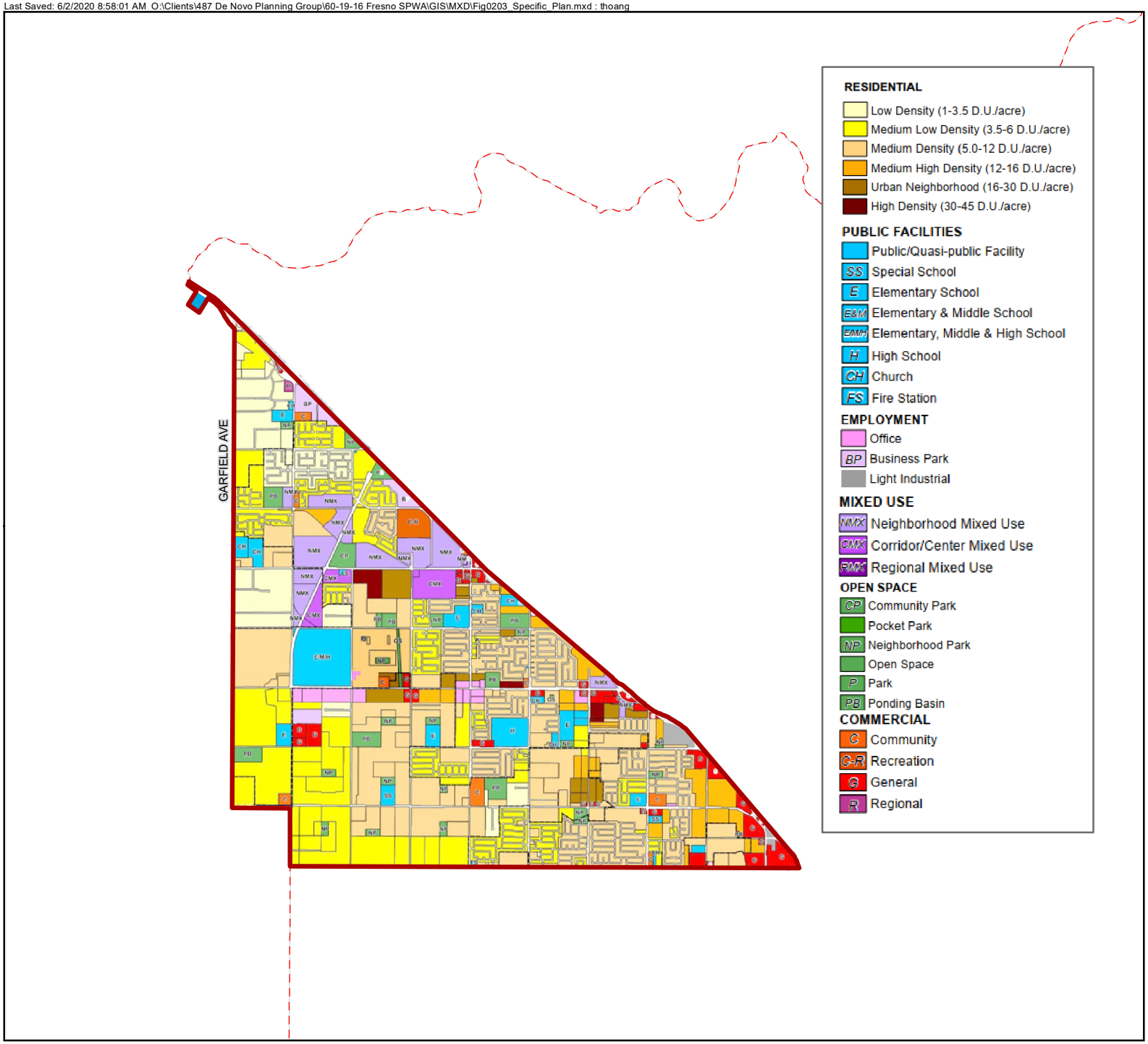

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Scale in Feet

Symbology

- Fresno West Area Boundary
- Sphere of Influence
- County Line

Notes:

1. Specific Plan land uses and land use type for the West Area come from Figure 6 in the Specific Plan of the West Area, prepared by De Novo, 2019.

City of FRESNO

WEST YOST

Figure 2-3

Specific Plan Land Uses

Fresno West Area Neighborhood Specific Plan

3.0 REQUIRED DETERMINATIONS

3.1 Does SB 610 apply to the Proposed Project?

10910 (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

10912 (a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

Based on the following facts, SB 610 does apply to the Proposed Project.

- The City of Fresno has determined that the Proposed Project is subject to the California Environmental Quality Act (CEQA) and that an EIR is required.
- The Proposed Project includes residential, commercial, and light industrial land uses, and therefore is a mixed-use project. The Proposed Project includes up to 57,891 residential dwelling units, up to 52,810,184 sf of retail, and up to 3,868,564 sf of commercial office buildings therefore meets the definition of a "Project" as specified in Water Code section 10912(a) paragraph (1), paragraph (3), and possibly others. The Proposed Project therefore meets the definition of a "Project" as specified in Water Code section 10912(a) paragraph (6) for mixed-use projects.

The Proposed Project has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Therefore, according to Water Code section 10910(a), a WSA is required for the Proposed Project.

3.2 Who is the Identified Public Water System?

10910(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined by Section 10912, that may supply water for the project

10912 (c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections.

As shown on Figure 2-1, the majority of the Proposed Project is located within the City of Fresno's Limits. The City's water system service area includes most areas within the City Limits. Therefore, the City is the identified public water system for the Proposed Project.

3.3 Does the City have an adopted Urban Water Management Plan (UWMP) and does the UWMP include the projected water demand for the Proposed Project?

10910(c)(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

The City's most recently adopted UWMP was adopted by the Fresno City Council in July 2021 and is incorporated by reference into this WSA[1]. The City's 2020 UWMP included water demand projections for current water demands within the City (baseline demand) and anticipated water demands associated with future development projects and planning areas within the City's General Plan SOI through 2045.

Water demands for the Proposed Project are not specifically designated in the City's 2020 UWMP. However, the General Plan planning area (the SOI) was included in the UWMP and the Specific Plan is the implementation of the General Plan with slightly different land use types, so the Proposed Project is included in the City's 2020 UWMP. The City's ability to meet the projected water demands for the Proposed Project is described in Section 7 of this WSA.

[1] City of Fresno 2020 Urban Water Management Plan, prepared by Water Systems Consulting, Inc., July 2021.

4.0 CITY OF FRESNO WATER SERVICE AREA

4.1 Water Service Area

The City of Fresno is located in San Joaquin Valley in Fresno County, California, and was incorporated in 1885. The existing incorporated area of the City encompasses approximately 115 square miles (2020 UWMP). The City's General Plan includes the City's SOI, the area outside of the City limits that the City expects to annex and urbanize in the future.

With a few exceptions, the City's water service area is coterminous with the City Limits. As future developments within the SOI, but outside the City Limits, are approved, they will be annexed into the City and served by the City water system. Figure 2-1 illustrates the current City Limits and the SOI.

4.2 Population

The City experienced rapid growth since it was founded by the Central Pacific Railroad in 1872 up through the mid-1990s, when the City's annual growth rate was typically greater than 2 percent. From 1995 to 2015, the annual growth rate has decreased to an average of 1.3 percent, and since 2015, the rate has not surpassed 1.0 percent.

The population served by the City Water Division is slightly higher than the City's population after adding unincorporated areas served by the City and removing areas within the City limits served by private water companies, special districts, or private wells. The City acquired County service areas and facilities in 1989, which increased the service area population to slightly greater than the City population since 1990.

According to the City's Planning and Development Department, the City's water service area population is anticipated to continue to grow along with the City, with some slightly higher growth years anticipated within the next 10 years due to multiple large developments planned for completion in the near term. The long-term water service area population annual growth rate is expected to be 1.44 percent between 2020 and 2056 to account for absorbing these areas into the City's water system. Population buildout is expected by 2056.

Table 4-1 shows the City's projected population in five-year increments to the year 2045.

Table 4-1. City of Fresno Existing and Projected Population

Years	2020	2025	2030	2035	2040	2045
Population Projection[(a)]	550,217	609,433	674,677	719,327	765,278	812,529

(a) From the City of Fresno 2020 UWMP, Table 3-3.

4.3 Climate

The City's service area is in California's San Joaquin Valley in Fresno County along Highway 99. The climate of the area is best described as Mediterranean, characterized by hot dry summers and cool winters. Precipitation in the area averages around 11 inches per year, as shown in Table 4-2. As shown by the average evapotranspiration (ET_o) and temperature values in Table 4-2, the City's water use in the summer months is significantly higher than in the winter, reflecting increased water use for irrigation purposes during the hot, dry summers.

Table 4-2. City of Fresno Climate Data[(a)]

Month	Average ET_o, inches	Average Rainfall, inches	Average Min Temperature, F	Average Max Temperature, F
January	1.17	2.33	56.9	37.4
February	1.98	1.8	62.6	39.8
March	3.73	1.99	68.4	43.6
April	5.43	0.99	73.7	46.9
May	7.33	0.54	81.3	53.2
June	8.41	0.19	89.6	59.1
July	8.8	0.02	95.7	63.8
August	7.82	0.01	94.6	62.5
September	5.69	0.07	89.6	57.9
October	3.68	0.59	79.3	49.3
November	1.85	0.98	66.2	40.6
December	1.1	1.83	56.5	36.1
Annual Totals/Average	**56.99**	**11.34**	**76.2**	**49.2**

(a) From the City of Fresno 2020 UWMP, Table 3-2.

5.0 CITY OF FRESNO WATER DEMANDS

10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

The descriptions provided below for the City's water demands have been taken, for the most part, from the City's 2020 UWMP, which was adopted in July 2021. Supplemental information from other available reports has been included to provide the most recent data available and to meet the specific requirements of SB 610.

5.1 Historical and Existing Water Demand

The City's water demand has decreased as a result of the economic downturn of 2008 through 2011, water use reductions in response to recent drought conditions, and metering of residential properties. Since 2013, all water services in the City's water service area have been metered. Single family residential water use has decreased since the Single-Family Metering Program was completed in 2013. Landscape irrigation demands did decrease in 2015 and 2016, likely due to the drought restrictions, and continue to recover after the drought ended in 2017. Table 5-1 shows the City's historical water demands for 2005, 2010, and 2013-2020.

Table 5-1. Historical Water Demand, af/yr

	2013[a]	2014[a]	2015[a]	2016[a]	2017[a]	2018[a]	2019[a]	2020[b]
Total Potable and Raw Water Demand	133,692	122,191	102,308	103,045	110,525	110,725	106,500	121,993

(a) City of Fresno 2020 UWMP, Figure-4-1.
(b) City of Fresno 2020 UWMP, Table 4-2.

5.2 Future Water Demand

The City's 2045 projected water demand at buildout (based on existing water demand, the projected demands for the West Area under the General Plan, the difference in demands for the West Area between the Specific Plan and the General Plan, and undefined future developments) is summarized in Table 5-2. The General Plan is expected to be built out by 2056, but for the purposes of this WSA the West Area was assumed to be annexed and built out by 2045. The City's preliminary water demand projections for the West Area under the General Plan were higher than for the Specific Plan, resulting in a negative value if the Proposed Project is built instead of the General Plan.

Table 5-2. Projected Future Water Demand at 2045	
Units, af/yr	Water Demand
Current (2020) Water Demand[a]	121,993
General Plan for West Area[b]	23,730
Subtotal (without Project)	145,723
Project (West Area Neighborhood Specific Plan)[b,c]	-381
Subtotal (with Project)	145,723
Undefined Future Developments[d]	95,724
Total Water Demand	**241,447**

(a) Data from Table 5-1 of this WSA.
(b) Data from Table 2-2 of this WSA.
(c) Difference between West Area Neighborhood Specific Plan and General Plan for West Area.
(d) Balance between Subtotal (with Project) and Total Water Demand.

5.3 Dry Year Water Demand

As shown in Table 5-1, the City's 2015 water demand was significantly lower than the 2013 demand in response to the drought and the Governor's April 2015 Executive Order B-29-15 mandating 25 percent water conservation statewide. To reduce water use by 25 percent statewide, the State Water Resources Control Board (SWRCB) adopted a regulation which placed each urban water supplier into one of nine tiers which are assigned a conservation standard, ranging between 4 percent and 36 percent. Each month, the SWRCB compared every urban water suppliers' water use with their use for the same month in 2013 to determine if they were on track for meeting their conservation standard. The City of Fresno was initially placed into Tier 7 with a water conservation standard of 28 percent as compared to 2013 use (the City's conservation standard was reduced to 25 percent in early 2016) (SWRCB, 2015; SWRCB, 2016).

The City has adopted a set of restrictions on water usage that helps promote water conservation and overall water use consumption. The City Municipal Code contains sections on water conservation that are to take place under normal water supply conditions. These measures are mandated year-round and can be found in detail in Section 6-520(a) of the City's Municipal Code. The City's Water Shortage Contingency Plan, outlined in Section 8 and Appendix J of the City's 2020 UWMP, includes a five-stage plan describing specific actions to reduce water demand more than 50 percent in the event of a water supply shortage or emergency. Demand is expected to decrease as the City implements water conservation measures in response to multiple dry years or other supply changes (City of Fresno 2020 UWMP).

Table 5-3 presents the projected future dry year potable water demand.

Table 5-3. Projected Future Dry Year Water Demand, af/yr

Hydrologic Condition	2025	2030	2035	2040	2045
Single Dry Year[a]	164,092	176,132	184,174	192,228	200,287
Multiple Dry Year First Year[b]	199,204	212,756	222,310	231,876	241,447
Multiple Dry Years Second Year[b]	199,204	212,756	222,310	231,876	241,447
Multiple Dry Years Third Year[b]	190,267	193,637	197,736	201,753	205,708
Multiple Dry Years Fourth Year[b]	162,551	165,920	170,020	174,036	177,992
Multiple Dry Years Fifth Year[b]	199,204	212,756	222,310	231,876	241,447

(a) From the City of Fresno 2020 UWMP, Table 7-2.
(b) From the City of Fresno 2020 UWMP, Table 7-3.

6.0 CITY OF FRESNO WATER SUPPLIES

10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f) and (g).

10910(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts

10910(d)(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

10910(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contract-holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

It is anticipated that the Proposed Project, if approved by the City, would be served from City's existing and future portfolio of water supplies. The inclusion of existing and planned future water supplies is specifically allowed by the Water Code:

Water Code section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

The water supply for the Proposed Project will have the same water supply reliability and water quality as the water supply available to the City's other existing and future water customers. Proponents of individual developments within the Proposed Project area will provide their proportionate share of required funding to the City for the acquisition and delivery of treated potable and recycled water supplies to the Proposed Project area.

The water supplies needed to serve the Proposed Project (together with existing water demands and planned future uses) are described in the City's 2020 UWMP. Therefore, the descriptions provided below for the City's water supplies have been taken, for the most part, from the City's 2020 UWMP, which was adopted in July 2021. Supplemental information from other available reports has also been included to provide the most recent data available and to meet the specific requirements of SB 610.

6.1 Existing Water Supplies

The City currently receives water supplies from four sources:

- Surface water contract water that is delivered to the City by two separate sources:
  - FID Agreement for Kings River water.
  - USBR Central Valley Project (CVP) Friant Division Contract for San Joaquin River water.
- Groundwater that is pumped from groundwater wells located within the City.
- Recycled water that is treated at the RWRF and NFWRF. This water may only be used for non-potable uses.

Each of these existing supplies is described below.

6.1.1 Surface Water Contracts

The cumulative supply these contracts bring to the City provide the opportunity to construct surface water treatment facilities and optimize the use of these supplies. This conjunctive use approach continues the process of allowing the groundwater system to recover. Each of the surface water supplies is summarized in the following two sections (City of Fresno 2020 UWMP).

6.1.1.1 Surface Water Supplies through FID Agreement

In May of 1976 the City of Fresno and FID executed an agreement that stipulated that as land is annexed to the City, the City will receive a pro rata share of FID's Kings River entitlement; this agreement was revised, amended, and restated in December, 2016[2]. The pro rata share is based on the area annexed to the City, and within FID's boundaries, as compared to the total area of FID's water service area. The agreement stipulates the allocation amount will be reviewed each year by the two agencies to address new annexations to the City. So, as the City annexes new areas the allocation will increase up to the limits stipulated in the 2016 agreement. Utilizing GIS, there will be approximately 71,925 acres of land within the SOI and within FID's water service boundaries at SOI buildout, excluding Bakman Water Company, CSU Fresno, and County islands.

As the City incorporates new land area into its service area, the percentage of FID supply increases. However, the 2016 FID Agreement sets the maximum percentage as 29.0 percent, although the City's service area is anticipated to expand and encompass more than 29.0 percent of FID's service area between 2025 and 2030. In 2020, the City's percentage of overall FID Kings deliveries was 25.79 percent. The supply projections in this plan limit the City's FID supply with the 29.0 percent cap, but if the agreement were revised in the future the City's FID allocation percentage could grow beyond 29.0 percent as the water service area expands (City of Fresno 2020 UWMP).

6.1.1.2 Surface Water Supplies through USBR Contract

The City, through an agreement originally executed in January of 1961, secured a surface water supply from USBR CVP - Friant Division. This agreement, for an annual water supply of 60,000 af of Class 1 water, was last renewed in 2010 as a Section 9(d) Contract that provides water from the San Joaquin River in perpetuity. The USBR CVP – Friant Division facilities generally include: Friant Dam (Millerton Reservoir);

[2] Revised, Amended, and Restated Cooperative Agreement between Fresno Irrigation District and City of Fresno for Water Utilization and Conveyance, dated December 20, 2016.

the Friant Kern Canal; and the Madera Canal. The Friant-Kern Canal is maintained and operated by the Friant Water Authority. The USBR water supply is a wholesale supply.

Class 1 water was intended to be a supply that would be dependable in practically every year, regardless of the type of hydrologic water year. Class 2 water is essentially excess water available as determined by USBR and less reliable than Class 1 water. Class 1 water has historically been very reliable until the San Joaquin River Restoration Settlement and more recently by the restrictions on diversions from the Delta due to concerns over the declining health of Delta ecosystem (City of Fresno 2020 UWMP).

6.1.2 Groundwater

10910(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment.

10910(f)(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

10910(f)(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

10910(f)(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

10910(f)(4) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

6.1.2.1 Groundwater Overview

The City pumps groundwater from a portion of the Kings Subbasin underlying the City. The City's 2020 UWMP states that the City has a network of over 270 municipal wells and currently operates approximately 202 municipal supply wells within the Kings Subbasin. Groundwater quality is a concern because the groundwater basin has several major contaminant plumes involving organic compounds, inorganic compounds, solvents, pesticides, and other contaminants. A number of the City's wells are currently being treated or blended to address various contaminants. The total well capacity, when the City's WMP was written, was approximately 460 mgd.

6.1.2.2 Basin Description

The City's wells are located within the northern part of the Kings Subbasin of the San Joaquin Valley Groundwater Basin. The following section describes the Kings Subbasin, including its water-bearing formations, water levels, and water quality. Much of the following information has been incorporated from the City's 2020 UWMP. Except where noted, the description of the sub-basin is based largely on information provided in the 2016 Department of Water Resources (DWR) Bulletin 118 Interim Update, in which the groundwater basin description was last updated in December 2016.

The Kings Subbasin is not adjudicated and there are no legal restrictions to groundwater pumping. The Kings Subbasin is generally bounded: on the north by the San Joaquin River; on the west by the Fresno Slough; on the south by the Kings River and Cottonwood Creek; and on the east by the Sierra foothills. The upper several hundred feet within the Kings Subbasin generally consists of highly permeable, coarse-grained deposits, which are termed older alluvium. Coarse-grained stream channel deposits, associated with deposits by the ancestral San Joaquin and Kings Rivers, underlie much of the northwest portions of the City. Below the older alluvium to depths ranging from about 600 to 1,200 feet below ground surface, the finer-grained sediments of the Tertiary-Quaternary continental deposits are typically encountered. Substantial groundwater has been produced and utilized from these depths by the City; however, deeper deposits located in the southeastern and northern portions of the City have produced less groundwater. There are also reduced deposits in the northern and eastern portions of the City, at depths generally below 700 or 800 feet, which are associated with high concentrations of iron, manganese, arsenic, hydrogen sulfide, and methane gas. Groundwater at these depths does not generally provide a significant source for municipal supply wells. The City's average groundwater depth in 2015 is approximately 130 below the ground surface.

6.1.2.3 Conditions of Overdraft

The Sustainable Groundwater Management Act (SGMA) directs DWR to identify groundwater basins and subbasins that are in conditions of critical overdraft. This designation is determined based upon the presence of "undesirable impacts" such as seawater intrusion, land subsidence, groundwater depletion, and chronic lowering of groundwater levels. Per DWR's current list of critically overdrafted basins, finalized in February 2019, the Kings Subbasin is designated as a critically overdrafted basin.

As part of the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, DWR is required to prioritize California groundwater basins to help identify, evaluate, and determine the need for additional groundwater level monitoring. Per the current CASGEM draft prioritization, completed in April 2019, the Kings Subbasin is a high priority subbasin (DWR, 2019).

The City has long made efforts toward offsetting the decline of groundwater levels and minimizing overdraft conditions through an active intentional recharge program that started in 1971. Through cooperative agreements with Fresno Metropolitan Flood Control District (FMFCD) and FID, the City has access to not only City-owned basins, but also those of these two agencies. The City has averaged over 60,000 af/yr the previous five years and plans to gradually increase recharge by about 540 af/yr each year. However, during wet years the City will recharge more water when it is available to allow to the City to draw on additional groundwater during dry years when surface water is not available.

6.1.2.4 Groundwater Management

As part of a partnership of local municipal water purveyors, irrigation districts, a flood control district, and the overlying county, the Fresno Area Regional Groundwater Management Plan (FARGMP) was prepared in conformance with AB 3030 and SB 1938. The objectives of the FARGMP have been developed to

monitor, protect, and sustain groundwater within the region. The City of Fresno and the other participating agencies subsequently adopted the groundwater management plan in 2006 (City of Fresno 2020 UWMP). The City of Fresno falls within the North Kings Groundwater Sustainability Agency (NKGSA). The NKGSA prepared and submitted its GSP on January 28, 2020 and is awaiting completion of DWR's review (DWR SGMA Portal GSP Status Summary).

6.1.2.5 Historical Groundwater Use

As discussed previously, the City has a network of over 270 municipal wells and currently operates approximately 202 municipal supply wells within the Kings Subbasin, according to the 2020 UWMP. The City's groundwater production over the last 18 years is provided in Table 6-1.

Table 6-1. City of Fresno Historical Groundwater Production, af/yr

Year	Total Groundwater Production
2003	165,200
2004	160,000
2005	141,500
2006	136,000
2007	146,300
2008	148,700
2009	138,200
2010	128,600
2011	119,900
2012	119,500
2013	123,200
2014	106,800
2015	82,500
2016	99,100
2017	105,200
2018	76,800
2019	54,600
2020	55,000

(a) From the City of Fresno 2020 UWMP, Figure-6-7.

6.1.2.6 Projected Future Groundwater Use

The amount of groundwater pumped during dry years is not projected to differ from the amount pumped during normal years. The City's projected future groundwater production through 2045 is provided in Table 6-2.

Table 6-2. City of Fresno Projected Future Groundwater Production in Normal and Dry Years[a], af/yr

	2025	2030	2035	2040	2045
Total Groundwater Production During a Normal Year[a]	138,090	143,630	149,100	154,490	159,820
Total Groundwater Production During Dry Years[b]	138,090	143,630	149,100	154,490	159,820

(a) From the City of Fresno 2020 UWMP, Table 7-1.
(b) From the City of Fresno 2020 UWMP, Table 7-2.

6.1.2.7 Groundwater Sufficiency

The City's 2020 UWMP addressed the sufficiency of the City's groundwater supplies, in conjunction with the City's other existing and additional water supplies, to meet the City's existing and planned future uses. Based on the information provided above and that included in the City's 2020 UWMP, the City's groundwater supply, together with the City's other existing and additional planned future water supplies, is sufficient to meet the water demands of the Proposed Project, in addition to the City's existing and planned future uses. See Section 7 for a detailed determination of the sufficiency of the City's water supply portfolio, including groundwater, to meet the demands of the Proposed Project.

6.2 Future Water Projects

The inclusion of planned future water supplies in this WSA is specifically allowed by the Water Code:

> *Water Code section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

The City has a number of future capital improvement projects planned to maintain and upgrade existing water supply and distribution facilities. The City is also undergoing a large capital improvement program outlined in their 2014 Metropolitan Water Resources Management Plan (Metro Plan). The timing for groundwater recharge capacity expansion will be examined as part of the Metro Plan update and is assumed to increase to allow for an additional 540 af/yr of recharge to occur on average each year. The City has constructed an 80 mgd surface water treatment plant, called the Southeast Surface Water Treatment Facility (SESWTF). The City upgraded their Northeast Surface Water Treatment Facility (NESWTF) from 30 mgd to 60 mgd. The City expects to implement construction on the final portion of the Southwest recycled water distribution system in 2021. The completed distribution system will allow an additional 5,000 AF of recycled water use in the City to offset potable demands that can be used in all hydrological year types. The expansion is projected to be completed by 2025. In addition, the City is evaluating future beneficial transfers and exchanges of the City's USBR water in normal water years when available water supplies exceed demands.

6.3 Summary of Existing and Additional Planned Future Water Supplies

Table 6-3 provides a summary of the City's 2020 actual water supply deliveries and projected future available water supply available. A discussion of the future anticipated availability of these existing and additional planned future water supplies during dry years is provided in the next section.

Table 6-3. City of Fresno Historical and Projected Water Supplies

Units: af/yr	2020[a]	2025[b]	2030[b]	2035[b]	2040[b]	2045[b]
Groundwater	55,028	138,090	143,630	149,100	154,490	159,820
USBR CVP	37,447	60,000	60,000	60,000	60,000	60,000
FID Kings River	71,292	125,030	131,600	131,600	131,600	131,600
Total Potable Water Supply	**163,767**	**323,120**	**335,230**	**340,700**	**346,090**	**351,420**
Recycled Water, RWRF	858	5,800	5,800	5,800	5,800	5,800
Recycled Water, NFWRF	54	110	110	110	110	110
Total Recycled Water Supply	**912**	**5,910**	**5,910**	**5,910**	**5,910**	**5,910**
Total Water Supply	**164,679**	**329,030**	**341,140**	**346,610**	**352,000**	**357,330**

(a) From City of Fresno 2020 UWMP, Table 6-7.
(b) From City of Fresno 2020 UWMP, Table 6-8.

6.4 Water Supply Availability and Reliability

Water Code section 10910 (c)(4) requires that a WSA include a discussion with regard to "whether total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses." Accordingly, this WSA addresses these three hydrologic conditions through the year 2045.

Also, in response to historical drought conditions and the (now expired) State of Emergency proclaimed by Governor Brown, first in January 2014 and most recently in April 2015, this WSA provides a discussion of the availability and reliability of the City's available water supplies to meet the City's water demands in the event that the City's surface water supplies are limited under emergency water supply conditions.

6.4.1 Normal, Single Dry, and Multiple Dry Years

The reliability of each of the City's existing and additional planned water supplies and their projected availability during normal, single dry, and multiple dry years, as described in Section 7 of the City's 2020 UWMP, is described below and summarized in Table 6-4. The City expects to meet system water demand, regardless of regional hydrology (City of Fresno 2020 UWMP).

The City's surface water supply could face constraints during dry years.

Water supplied from the FID contract is most susceptible to annual hydrologic conditions. The annual variability of precipitation, snowpack, and river flow conditions will then influence, and may constrain, the City's allocation from this source. Another factor that may constrain the availability of Kings River water supply is scheduled maintenance of FID's vast canal network. FID typically terminates water deliveries to the City's water treatment facilities in the months of November and/or December so they may perform necessary infrastructure repairs and maintenance. To ensure year-round delivery of water to the SESWTF a raw water pipeline is being constructed.

The City also has a contract for 60,000 af/yr of Class 1 water from the USBR's CVP, which is affected by required downstream flows for the San Joaquin River and the imposed restrictions on water diversions from the Delta. These restrictions have resulted in years where the CVP - Friant Division contractors, such as the City of Fresno, receives zero allocations. The water supply is also restricted by maintenance of infrastructure, which results in termination of water supply during the months of November and/or December. To improve delivery reliability and to protect the source water from deleterious impacts from environmental and other malicious acts, the City completed a 4.6-mile long raw water pipeline that will permit the delivery of USBR water from the Friant-Kern Canal directly to the NESWTF (Recharge Fresno 2019).

Groundwater has long been the primary water supply source for the City. The continued use of groundwater is key to the sustainable use of all supplies, which is inclusive of surface water and recycled water. The groundwater supply has declined over the last eighty years, requiring new deeper wells and the lowering of pumps in existing wells. A constraint to lowering the pumps in existing wells is the limited depth of numerous existing municipal water wells. If the declining groundwater trend isn't reversed, it may cause a reduction in pumping capacity of the City's water system. Another constraint to the use of groundwater is the negative impacts from contamination. To ensure the continued beneficial use of the groundwater supply, the City will have to remain proactive in pursuing responsible parties so the proper remediation is conducted to preserve the groundwater system as a viable and sustainable resource in perpetuity. Despite these concerns, groundwater supply during normal and dry years was assumed to be constant, as shown in Table 6-2.

The supply of recycled water produced by the City's recycled water facilities is expected to be unaffected by single or multiple dry years. While the supply of wastewater used to produce the recycled water may decrease somewhat if voluntary or mandatory conservation measures are enacted.

Table 6-4. Multiple Dry Year Water Supply, af-ft/yr

	2025	2030	2035	2040	2045
Normal Year[a]	329,030	341,140	346,610	352,000	357,330
Single Dry Year[b]	189,852	195,392	200,862	206,252	211,582
Multiple Dry Year 1[c]	273,725	279,265	284,735	290,125	295,455
Multiple Dry Year 2[c]	274,626	280,166	285,636	291,026	296,356
Multiple Dry Year 3[c]	217,568	223,108	228,578	233,968	239,298
Multiple Dry Year 4[c]	189,852	195,392	200,862	206,252	211,582
Multiple Dry Year 5[c]	314,840	320,380	325,850	331,240	336,570

(a) City of Fresno 2020 UWMP, Table 7-1.
(b) City of Fresno 2020 UWMP, Table 7-2.
(c) City of Fresno 2020 UWMP, Table 7-3.

6.4.2 Emergency Water Supply Conditions

In addition to the water conservation measures outlined in Section 6-520 of the Fresno Municipal Code, the City's 2020 UWMP includes a Water Shortage Contingency Plan (WSCP) to address situations when catastrophic water supply interruptions occur due to regional power outage, earthquake, or other disasters; and when drought occurs. The City's WSCP includes an analysis of existing and projected water demands and supplies, a water conservation and rationing plan with mandatory prohibitions and penalties, and an analysis of projected revenues and expenditures. The WSCP outlines five stages of action to be undertaken in response to water supply shortages, including more than 50 percent reduction in water supply and an outline of specific water supply conditions that are applicable to each stage. The City also has a Water Quality Emergency Notification Plan in place to coordinate the City's response in the event of a catastrophic water supply interruption.

Triggering from one stage to the next is done based on water supply conditions. Factors to take into consideration include decreases in surface water from USBR and FID, from reductions in infrastructure capacity related to the water treatment plants or pipelines, decrease in groundwater levels in 30 key wells, or climate or state political conditions that would impact the allotment of water supply. Consumption reduction methods outlined in the WSCP include limiting or prohibiting the watering of lawns and other landscape areas, restricting water use at outdoor facilities, restrictions on water use for decorative water features, and prohibiting car washes or laundries which do not use recycled or recirculated water. Rate changes and fees may be implemented to penalize excessive water use or violation of water use ordinances (City of Fresno 2020 UWMP).

If an emergency were to occur, requiring the City to implement its WSCP, all of the City's customers, including those within the Proposed Project area, would be subject to the same water conservation measures and water use restrictions as included in City's WSCP.

7.0 DETERMINATION OF WATER SUPPLY SUFFICIENCY BASED ON THE REQUIREMENTS OF SB 610

Water Code section 10910 states:

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*

Pursuant to Water Code section 10910(c)(4) and based on the technical analyses described in this Water Supply Assessment, the City finds that the total projected water supplies determined to be available for the Proposed Project during Normal, Single Dry, and Multiple Dry water years during a 20-year projection will meet the projected water demand associated with the Proposed Project, in addition to existing and planned future uses.

Table 7-1 summarizes the projected availability of the City's existing and planned future potable water supplies and the City's projected water demands in normal, single dry and multiple dry years through 2045. As shown in Table 7-1, demand within the City's service area is not expected to exceed the City's supplies in any normal, single dry, or multiple dry year between 2020 and 2045.

Table 7-1. City of Fresno Water Demand Versus Water Supply During Hydrologic Normal, Single Dry, and Multiple Dry Years, af/yr

Hydrologic Condition		2025	2030	2035	2040	2045
Normal Year[a]						
Available Water Supply		329,030	341,140	346,610	352,000	357,330
Total Water Demand		199,204	212,756	222,310	231,876	241,447
Potential Surplus (Deficit)		129,826	128,384	124,300	120,124	115,883
Percent Shortfall of Demand		-	-	-	-	-
Single Dry Year[b]						
Available Water Supply		189,852	195,392	200,862	206,252	211,582
Total Water Demand		164,092	176,132	184,174	192,228	200,287
Potential Surplus (Deficit)		25,760	19,260	16,688	14,024	11,295
Percent Shortfall of Demand		-	-	-	-	-
Multiple Dry Years[c]						
Multiple Dry Year 1	Available Water Supply	273,725	279,265	284,735	290,125	295,455
	Total Water Demand	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	74,521	66,509	62,425	58,249	54,008
	Percent Shortfall of Demand	-	-	-	-	-

Table 7-1. City of Fresno Water Demand Versus Water Supply During Hydrologic Normal, Single Dry, and Multiple Dry Years, af/yr

Hydrologic Condition		2025	2030	2035	2040	2045
Multiple Dry Year 2	Available Water Supply	274,626	280,166	285,636	291,026	296,356
	Total Water Demand	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	75,422	67,410	63,326	59,150	54,909
	Percent Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 3	Available Water Supply	217,568	223,108	228,578	233,968	239,298
	Total Water Demand	190,267	193,637	197,736	201,753	205,708
	Potential Surplus (Deficit)	27,301	29,471	30,842	32,215	33,590
	Percent Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 4	Available Water Supply	189,852	195,392	200,862	206,252	211,582
	Total Water Demand	162,551	165,920	170,020	174,036	177,992
	Potential Surplus (Deficit)	27,301	29,472	30,842	32,216	33,590
	Percent Shortfall of Demand	-	-	-	-	-
Multiple Dry Year 5	Available Water Supply	314,840	320,380	325,850	331,240	336,570
	Total Water Demand	199,204	212,756	222,310	231,876	241,447
	Potential Surplus (Deficit)	115,636	107,624	103,540	99,364	95,123
	Percent Shortfall of Demand	-	-	-	-	-

(a) From the City of Fresno 2020 UWMP, Table 7-1.
(b) From the City of Fresno 2020 UWMP, Table 7-2.
(c) From the City of Fresno 2020 UWMP, Table 7-3.

8.0 WATER SUPPLY ASSESSMENT APPROVAL PROCESS

> *10910 (g)(1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.*
>
> *10911 (b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.*

The Fresno City Council must approve this WSA at a regular or special meeting. Furthermore, the City must include this WSA in the Draft EIR that is being prepared for the Proposed Project.

In addition, SB 221 applies to residential subdivisions of over 500 dwelling units and requires that the water supplier provide a written verification that the water supply for the project is sufficient, prior to issuance of the final permits. Because the Proposed Project includes up to 57,891 residential dwelling units, it is subject to the requirements of SB 221 (Government Code section 66473.7).

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APPENDIX F

Noise Impact Study

West Area Specific Plan

Noise Impact Study

City of Fresno, CA

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1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This noise assessment was prepared to evaluate the potential noise impacts for the project study area and to recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. The assessment was conducted and compared to the noise standards set-forth by the Federal, State and Local agencies. Consistent with the City's Noise Guidelines, the project must demonstrate compliance to the applicable noise criterion as outlined within the City's Noise Element and Municipal Code.

The following is provided in this report:

- A description of the study area and the proposed project
- Information regarding the fundamentals of noise
- A description of the local noise guidelines and standards
- An analysis of traffic noise impacts to and from the project site
- An analysis of stationary noise impacts to and from the project site
- An analysis of construction noise impacts

1.2 Site Location and Study Area

The Specific Plan of the West Area (also-known-as "Specific Plan", "West Area") encompasses approximately 7,077 acres (or a little more than 11 square miles) in the City of Fresno city limits and unincorporated Fresno County. The footprint of the Specific Plan is referred to as the "Plan Area." Of the eleven square miles within the Plan Area, 6.9 square miles are in the city limits and 4.1 square miles are in the growth area. The growth area is land outside the city limits but within the City's Sphere of Influence (SOI) boundary, which is the adopted limit for future growth.

The Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue and to the west by Grantland and Garfield Avenues. The Plan Area includes the southwest portion of Highway City adjacent to State Route 99. See Exhibit A for the Regional Location map and Exhibit B for the West Area Specific Plan Land Use Plan.

The Plan Area is relatively flat with a natural gentle slope near State Route 99. The Plan Area topography ranges in elevation from approximately 283 to 315 feet above mean sea level. A large amount of land in the Plan Area is either farmland or rural residential lots with large, uneven, and underutilized parcels.

1.3 Existing Land Uses

The Plan Area has eight different existing land uses which include the following:

- Rural/Estate Residential: Approximately 27 percent, or 1,911 acres, of the existing land uses within the Plan Area are currently used as rural/estate residential. Of the 6,109 acres of developable lands within the Plan Area, 1,640.68 acres are low-density single-family homes on two to nine acre lots.

- Multiple Family Residential: Approximately two percent, or 141 acres, of the Plan Area are occupied by multi-family residential development. These uses are primarily located adjacent to arterial roads with easy access to State Route 99 and Fresno Area Express (FAX) service lines.

- Single-Family Residential: Approximately 21 percent of the existing uses within the Plan Area are currently developed with single-family residential uses, which are located primarily within the city limits.

- Vacant Land: Approximately 15 percent of the land in the Plan Area, or 911.34 acres, are occupied by vacant lands. Vacant lands are located throughout the Plan Area, in both the city limits and SOI. Vacant areas within the Plan Area's densest neighborhoods represent infill opportunities .

- Public/Government Facilities: Approximately six percent, or 337.83 acres, of land within the Plan Area contain public or government facilities. These land uses include Central Unified School District facilities, churches, the Dante Club, and the Hacienda facility.

- Open Space/Agricultural Land: Approximately 25 percent, or 1,554.06 acres, in the Plan Area contain open space or agricultural land. While there are some open space land uses within the City, most of these uses are primarily located in the SOI. These uses also include parks and ponding basins.

- Industrial Uses: Approximately one percent, or 57.33 acres, of the Plan Area are occupied by industrial uses. The largest industrial land use in the Plan Area contains an agricultural business located at the intersection of West Dakota Avenue and North Grantland Avenue.

- Commercial Uses: Approximately three percent, or 219.76 acres, of the Plan Area are occupied by commercial uses. Commercial uses are spread throughout the eastern and southeastern portions of the Plan Area, closer to State Route 99.

Surrounding land uses include State Route 99, the unincorporated communities of Herndon, Highway City, and Muscatel, and incorporated areas of the City of Fresno to the north (including mostly industrial uses), incorporated areas of the City of Fresno to the east (also including mostly industrial uses), unincorporated Fresno County and incorporated areas of the City of Fresno to the south (including farmland uses, rural residential uses, low density residential uses, and underutilized parcels) and unincorporated Fresno County to the west (including farmland and rural residential uses).

1.4 Proposed Project Description

The proposed Specific Plan refines the General Plan's land use vision for the West Area. The draft land use map proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The Specific Plan would result in an increase in land designated for employment, mixed use, open space and public facilities uses and a decrease in land designated for residential and commercial uses.

1.5 Revisions to Core Goals

In addition to the proposed land use plan, the following are revisions to the core goals provided in the General Plan for the West Area:

West Shaw Avenue Town Center: The West Shaw Avenue Town Center (the Town Center) will extend from State Route 99 to the east side of Grantland Avenue and is envisioned to be mixed-use development supported by enhanced transit service. Land on the south side of West Shaw Avenue will provide additional neighborhood and commercial mixed-use opportunities.

Catalytic Corridors: The proposed Specific Plan designates higher density land uses along corridors with the purpose of providing easy access to major arterials and streets, retail centers, and community amenities. Catalytic corridors will include transit services. The corridors are designed to include neighborhood and pocket parks, commercial and retail uses, educational facilities, multi-family dwelling units, and professional offices. The corridors are located on the following streets:

a) West Shaw Avenue, from State Route 99 to the east side of Grantland Avenue;

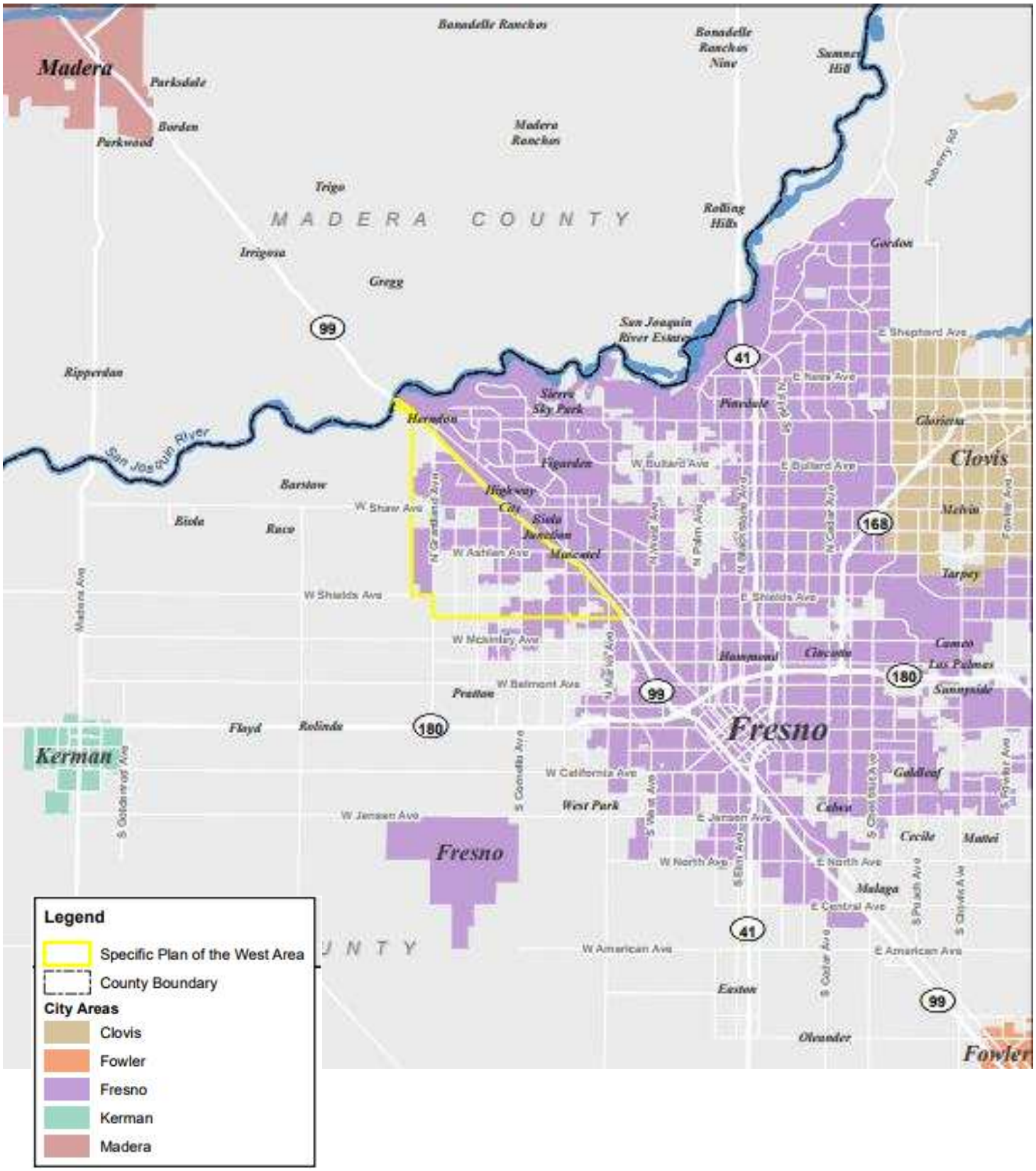
b) West Ashlan Avenue, from State Route 99 to the commercial nodes located on the west side of Grantland Avenue;

c) North Blythe Avenue, from West Shields to West Ashlan Avenue;

d) West Clinton Avenue, from State Route 99 to North Brawley Avenue; and

e) Veterans Boulevard, from West Gettysburg Avenue to West Barstow Avenue.

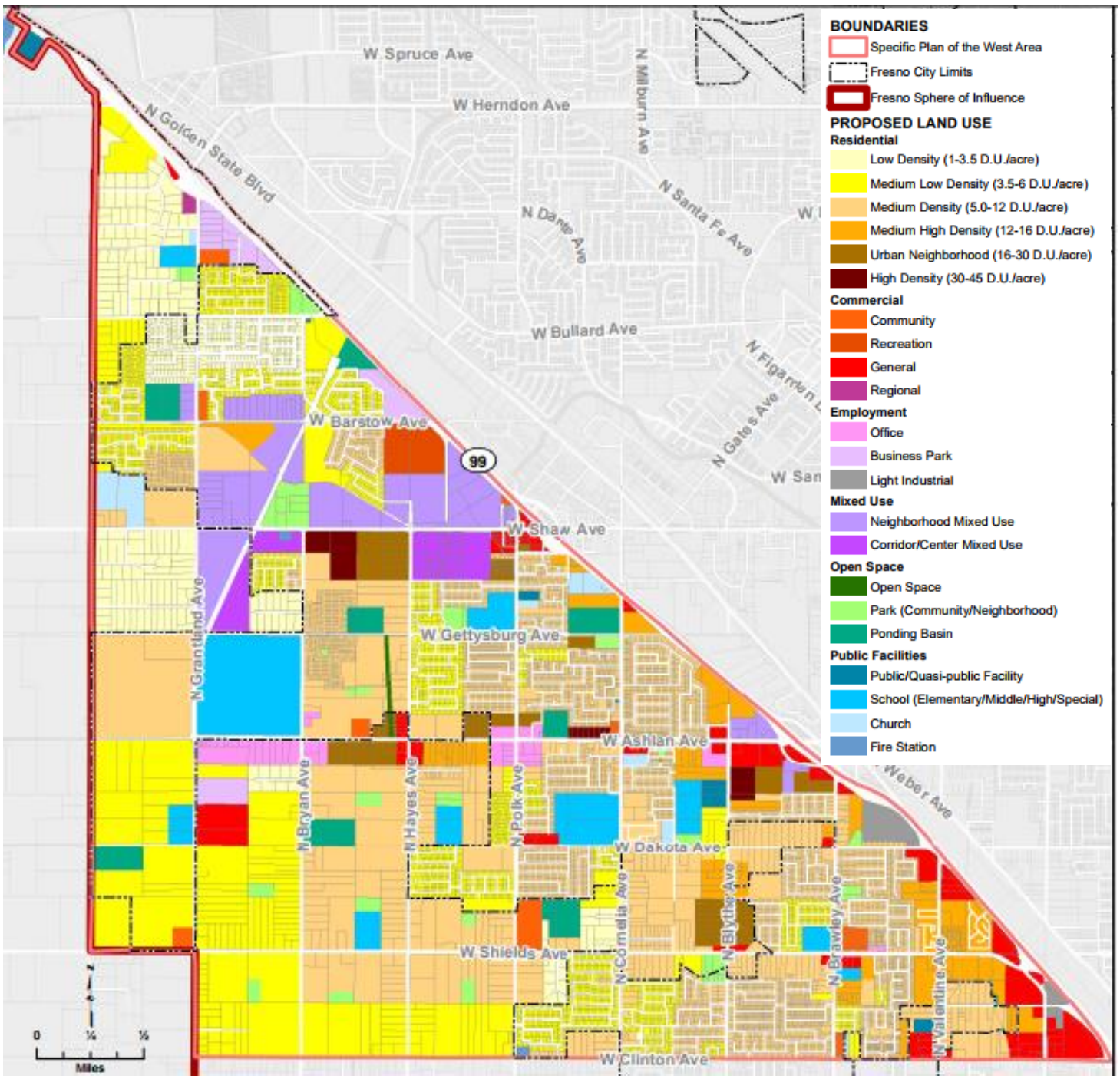
Exhibit A
Location Map



Sources: Fresno County; Madera County, Cal Atlas.
Map date: May 7, 2019. Revised May 29, 2020.

Exhibit A

West Area Specific Plan
Proposed Land Uses



Sources: Fresno County
Map date: May 11, 2019. Revised May 28, 2020.

2.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

2.1 Sound, Noise and Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic, or stationary noise, the medium of concern is air. *Noise* is defined as sound that is loud, unpleasant, unexpected, or unwanted.

2.2 Frequency and Hertz

A continuous sound is described by its *frequency* (pitch) and its *amplitude* (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting out at 20 Hz all the way to the high pitch of 20,000 Hz.

2.3 Sound Pressure Levels and Decibels

The *amplitude* of a sound determines it loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure amplitude is measure in units of micro-Newton per square inch meter (N/m2), also called micro-Pascal (µPa). One µPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels abbreviated dB.

2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds or equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound. When combining sound levels, estimates shown in Table 1 may be utilized.

Table 1: Decibel Addition

When Two Decibel Values Differ by:	Add This Amount	Example
0 or 1 dB	3 dB	70+69=73 dB
2 or 3 dB	2 dB	74+71=76 dB
4 to 9 dB	1 dB	66+60=67 dB
10 dB or more	0 dB	65+55=65 dB
Source: Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol. Caltrans, 2013a		

2.5 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, A-scale weighting is typically used and is reported in terms of the A-weighted decibel (dBA). The A-scale was designed to account for the frequency-dependent sensitivity of the human ear. Typical A-weighted noise levels are shown in Table 2. In general, the human ear can barely perceive a change in noise level of 3 dB. As shown in Table 3, a change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Table 2: Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor
	110	Rock Band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck at 50 feet at 50 mph	80	Food blender at 3 feet
		Garbage disposal at 3 feet
Noisy urban area, daytime	70	Vacuum cleaner at 3 feet
Gas lawnmower, 100 feet		
Commercial area	60	Normal speech at 3 feet
Heavy traffic at 300 feet		
	50	Large Business Office
Quiet urban daytime		Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural nighttime	20	Bedroom at night, concert hall (background)
	10	Broadcasting studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing
Source: Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol. Caltrans, 2013a.		

<Table 3, next page>

Table 3: Perceived Changes in Noise Levels

Changes in Intensity Level, dBA	Changes in Apparent Loudness
1	Not perceptible
3	Just perceptible
5	Clearly noticeable
10	Twice (or half) as loud
Source: Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol. Caltrans, 2013a.	

2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels.

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly, L50, L90 and L99, etc.

Noise: *A*ny unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

2.7 Tonal Sounds

A pure tone sound is a sound produced at or near a single frequency. Laboratory tests have shown the humans are more perceptible to changes in sound levels of a pure tone (Caltrans 1998). For a noise source to contain a “pure tone,” there must be a significantly higher A-weighted sound energy in a given frequency band than in the neighboring bands, thereby causing the noise source to “stand out” against other noise sources. A pure tone occurs if the sound pressure level in the one-third octave band with the tone exceeds the average of the sound pressure levels of the two contagious one-third octave bands by: 5 dB for center frequencies of 500 Hertz (Hz) and above; by 8 dB for center frequencies between 160 and 400 Hz; and by 15 dB for center frequencies of 125 Hz or less.

2.8 Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The

sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet from a noise source. Wind, temperature, air humidity and turbulence can further impact have far sound can travel.

2.9 Ground Absorption

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt, or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet from a noise source. Wind, temperature, air humidity, and turbulence can further impact how far sound can travel.

2.10 Sound Attenuation

Noise-related land use issues are typically composed of three basic elements: (1) the noise source, (2) a transmission path, and (3) a receiver.

The appropriate acoustical treatment for a given project should consider the nature of the noise source and the sensitivity of the receiver. When the potential for a noise-related problem is present, either avoidance of the noise-related problem or noise control techniques should be selected to provide an acceptable noise environment for the receiver while remaining consistent with local aesthetic standards and practical structural and economic limits. Fundamental noise control options are described below.

2.10.1 Noise Barriers

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. For a noise barrier to work, it must be high enough and long enough to block the view of a road. A noise barrier is most effective when placed close to the noise source or receiver. A noise barrier can achieve a 5-dBA noise level reduction when it is tall enough to not allow a line-of-sight view of the road. When the noise barrier is an earthen berm instead of a wall, the noise attenuation can be increased by another 3 dBA.

2.10.2 Setbacks

Noise exposure may be reduced by increasing the setback distance between the noise source and the receiving use. Setback areas can take the form of open space, frontage roads, recreational areas, and storage yards. The available noise attenuation from this technique is limited by the characteristics of the noise source, but generally ranges between 4 and 6 dBA.

2.10.3 Site Design

Buildings can be placed on a property to shield other structures or areas affected by noise and to prevent an increase in noise levels caused by reflections. The use of one building to shield another can significantly reduce overall noise control costs, particularly if the shielding structure is insensitive to noise. An example would be placing a detached garage nearest the noise source to shield the house or backyard. Site design should guard against creating reflecting surfaces that may increase onsite noise levels. For example, two buildings placed at an angle facing a noise source may cause noise levels within that angle to increase by up to 3 dBA. The open end of U-shaped buildings should point away from noise sources for the same reason. Landscaping walls or noise barriers located within a development may inadvertently reflect noise back to a noise-sensitive area unless carefully located.

2.10.4 Building Facades

When interior noise levels are of concern in a noisy environment, noise reduction may be obtained through acoustical design of building facades. Standard construction practices provide a noise reduction of 10–15 dBA for building facades with open windows, and a noise reduction of approximately 25 dBA when windows are closed (Table 4). An exterior-to-interior noise reduction of 25 dBA can be obtained by requiring that building design include adequate ventilation systems, which would allow windows facing a noise source to remain closed, even during periods of excessively warm weather.

<Table 3, next page>

Table 4: Noise Reduction Afforded by Common Building Construction

Construction Type	Typical Occupancy	General Description	Range of Noise Reduction (dB)[1]
1	Residential, Commercial, Schools	Wood frame, stucco or wood sheathing exterior. Interior drywall or plaster. Sliding glass windows, with windows partially open.	15-20
2	Same as 1 above	Same as 1 above, but with widows closed.	25-30
3	Commercial, Schools	Same as 1 above, but with fixed 0.25-inch plate glass windows.	30-35
4	Commercial, Industrial	Steel or concrete frame, curtain wall, or masonry exterior wall. Fixed 0.25-inch plate glass windows.	35-40
Source: California Airport Land Use Planning Handbook, 2002.			

Where greater noise reduction is required, acoustical treatment of the building facade may be necessary. Reducing relative window area is the most effective control technique, followed by providing acoustical glazing (e.g., thicker glass or increased air space between panes) within frames with low air infiltration rates, using fixed (i.e., non-movable) acoustical glazing, or eliminating windows altogether. Noise transmitted through walls can be reduced by increasing wall mass (e.g., using stucco or brick in lieu of wood siding), or isolating wall members by using double or staggered stud walls, while noise transmitted through doorways can be lessened by reducing door area, using solid-core doors, or sealing door perimeters with suitable gaskets. Noise-reducing roof treatments include using plywood sheathing under roofing materials.

2.10.5 Landscaping

While the use of trees and other vegetation is often thought to provide significant noise attenuation, approximately 100 feet of dense foliage – with no visual path extending through the foliage – is required to achieve a 5-dBA attenuation of traffic noise. Thus, the use of vegetation as a noise barrier is not considered a practical method of noise control unless large tracts of dense foliage are part of the existing landscape.

Vegetation can be used, however, to acoustically “soften” intervening ground between a noise source and a receiver, increasing ground absorption of sound, and thus, increasing the attenuation of sound with distance. Planting trees and shrubs also offers aesthetic and psychological value, and it may reduce adverse public reaction to a noise source by removing the source from view, even though noise levels would be largely unaffected.

3.0 Ground-Borne Vibration Fundamentals

3.1 Vibration Descriptors

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude.

PPV – Known as the peak particle velocity (PPV) which is the maximum instantaneous peak in vibration velocity, typically given in inches per second.

RMS – Known as root mean squared (RMS) can be used to denote vibration amplitude

VdB – A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration. To counter the effects of ground-borne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, fragile buildings can be exposed to ground-borne vibration levels of 0.3 inches per second without experiencing structural damage.

3.3 Vibration Propagation

There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be

effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 Regulatory Setting

The proposed project is located in the City of Fresno and noise regulations are addressed through the efforts of various federal, state and local government agencies. The agencies responsible for regulating noise are discussed below.

4.1 Federal Regulations

4.1.1 Noise Control Act of 1972

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows:

- The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies.
- The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports.
- The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system.
- The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdiction use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being constructed adjacent to a highway, or alternatively that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement Codes and land use planning.

4.2 State Regulations

4.2.1 State of California General Plan Guidelines

Though not adopted by law, the State of California General Plan Guidelines (2017), published by the California Governor’s Office of Planning and Research (OPR) (OPR Guidelines), provide guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the Normally Acceptable outdoor exposure of noise-sensitive uses. The OPR Guidelines include a Noise and Land Use Compatibility Matrix identifies acceptable and unacceptable community noise exposure limits for various land use categories.

The City of Fresno has adopted their own version of this matrix which is discussed below under Section 4.3.

4.2.2 Title 24 of the Uniform Building Code

Section 1206.4 of the California Building Code (2019), Title 24, Part 2, Chapter 12 (Interior Environment), establishes an interior noise criteria of 45 dBA CNEL for "dwelling units". Per California Building Code, Title 24, Part 2, Chapter 2 (Definitions), a residential dwelling unit is intended to be used as a residence that is primarily long-term in nature. Residential dwelling units do not include transient lodging, inpatient medical care, licensed long-term care, and detention or correctional facilities.

California Building Code (2019), Title 24, Part 2, Chapter 5 (Nonresidential Mandatory Measures), applies to all proposed buildings that people may occupy but are not residential dwelling units, with the exception of factories, stadiums, storage, enclosed parking structures, and utility buildings. Section 5.507.4.1 requires wall and roof-ceiling assemblies exposed to the noise source making up the building, or addition envelope or altered envelope, shall meet a composite Sound Transmission Class (STC) rating of at least 50 or a composite Outdoor to Indoor Transmission Class (OITC) rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30.

4.2.3 California Environmental Quality Act

The California Environmental Quality Act Guidelines (Appendix G) establishes thresholds for noise impact analysis as presented below:

(a) Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project <u>in excess of standards</u> established in the local general plan or noise Code, or applicable standards of other agencies?

<u>Discussion/Explanation</u>

Substantial increases in ambient noise levels are usually associated with project construction noise (temporary), and project on-site and off-site operational noise (permanent).

<u>Project Construction Noise (temporary):</u> Construction noise sources are regulated within the City of Fresno Municipal Code Section 10.24.020, Definitions and Examples of Prohibited Noise, which states that the erection or demolition of buildings (excluding owner resident additions or remodeling), and the grading and excavation of land including the use of blasting, the start-up and use of heavy equipment such as dump trucks and graders, and the use of jack hammers, are prohibited, except on week days Monday through Friday between the hours of 7:00 a.m. and 6:00 p.m. and on Saturdays 8:00 a.m. to 5:00 p.m. The City Manager may waive any or all of the provisions of this subsection in cases of urgent necessity, or in the interest of public health and safety. The provisions of this subsection may also be waived or modified pursuant to a Conditional Use Permit or other development entitlement processed and issued in accordance with the applicable City requirements and procedures. The City does not have explicit limits on the sound levels of construction equipment.

Therefore, temporary substantial increases in ambient noise levels that occur within the allowed hours of operation (Monday through Friday between the hours of 7:00 a.m. and 6:00 p.m. and on Saturdays 8:00 a.m. to 5:00 p.m.) are not considered to be significant.

Project Operational Noise (permanent): Development projects that may occur with implementation of the proposed General Plan may result in permanent increases in ambient noise levels. For stationary noise sources, Sections 10-102-109 of the City of Fresno Municipal Code will apply. If it is likely that the project may result in regular violations of the noise standards, the project is likely to result in long-term substantial increases in ambient noise levels.

City of Fresno General Plan Noise Element Policy NS-1-j (Significance Threshold), states that a threshold of significance should be developed for the City's environmental review process, specifically a significant increase in ambient noise levels should be assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL or more above the ambient noise limits established in this General Plan Update. For clarity, the following threshold will be utilized for analysis purposed in this noise and vibration study.

> For project generated off-site noise, i.e. project generated vehicle trips, the impact is considered substantial if it results in an increase of at least 3 dBA CNEL and: (1) the existing noise levels already exceed the applicable land use compatibility standard (See Table 6) for the affected sensitive receptors set forth in the Noise Element of the City's General Plan; or (2) the project increases noise levels by at least 3 dBA CNEL and raises the ambient noise level from below the 65 dBA CNEL standard to above 65 dBA CNEL.

b) Generate excessive ground-borne vibration or ground-borne noise levels?

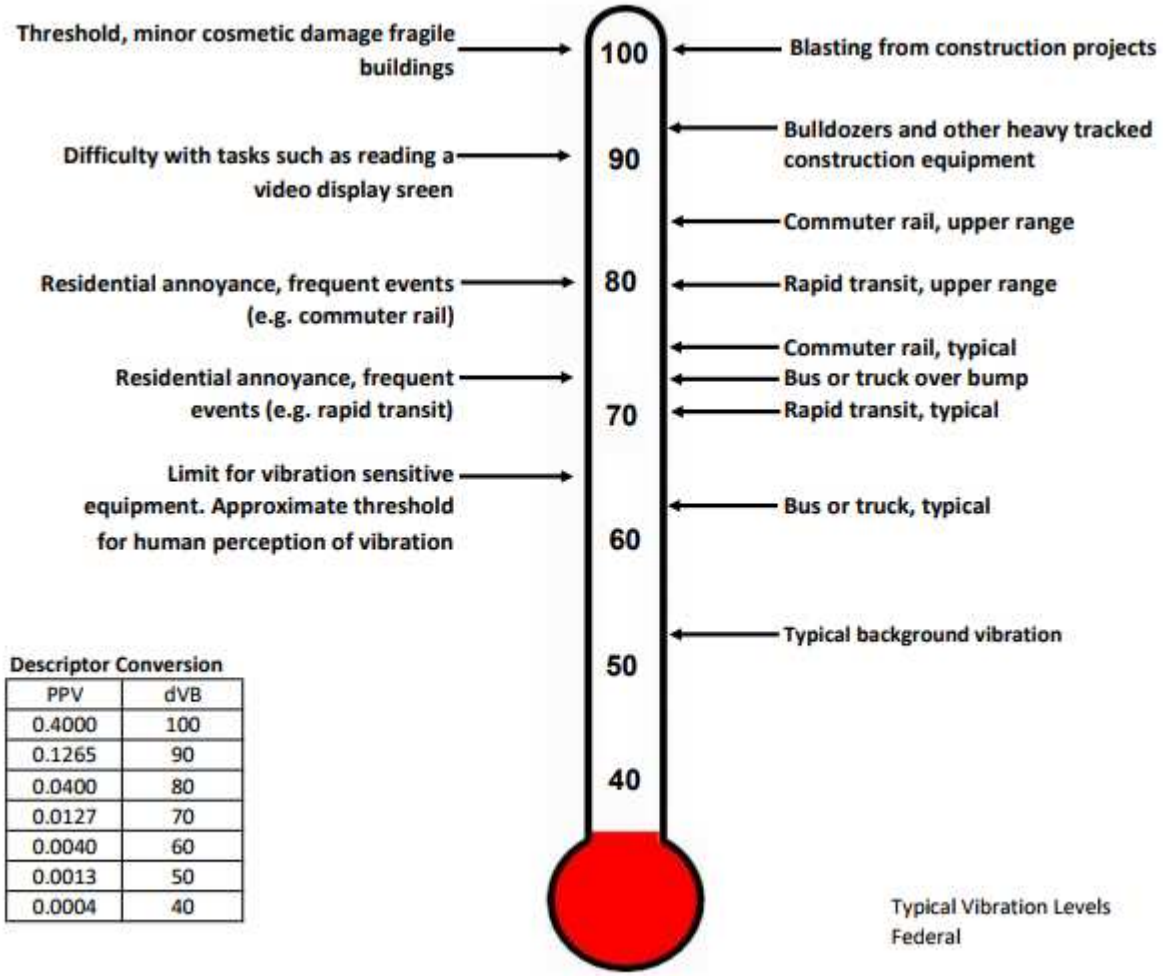
Exhibit C illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the exhibit, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.

As shown in Table 5, a peak particle velocity (PPV) of 0.20 is the threshold at which there is a risk to "architectural" damage to normal dwellings. It also the level at which ground-borne vibration are annoying to people in buildings. Impacts would be significant if construction activities result in ground-borne vibration of 0.20 or higher at a sensitive receptor.

<Exhibit C, next page>

Exhibit C

Typical Ground-Borne Vibration Levels



Descriptor Conversion

PPV	dVB
0.4000	100
0.1265	90
0.0400	80
0.0127	70
0.0040	60
0.0013	50
0.0004	40

Table 5: Typical Human Reaction and Effect on Buildings Due to Ground-Borne Vibration

Vibration Level Peak Particle Velocity (PPV)	Human Reaction	Effect on Buildings
0.006–0.019 in/sec	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08 in/sec	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10 in/sec	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings
0.20 in/sec	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6 in/sec	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage
Source: California Department of Transportation, 2013b		

4.3 City of Fresno

Planning policies and noise regulations applicable to noise within the City of Fresno are presented in the Noise Element of the City of Fresno General Plan and within the City of Fresno Municipal Code. Applicable goals, policies, and regulations are presented below.

4.3.1 City of Fresno General Plan

The City of Fresno General Plan Noise Element sets forth noise standards for transportation noise sources. Ideally, proposed land uses would be developed in areas where future noise levels due to transportation noise sources (except aircraft) would not exceed those presented in Table 6.

<Table 6, next page>

Table 6: Transportation (Non-Aircraft Noise Sources)

Noise Sensitive Land Use	Outdoor Activity Areas[1-3]	Interior Spaces	
	Ldn/CNEL, dB	Ldn/CNEL, dB	Leq dB[2]
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

Source: City of Fresno General Plan Noise Element Table 9-2, 2014.
Notes:
1. Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.
2. Excludes front or side yard areas, and front or side porches. Balconies or roof decks facing front and side yards shall be included in designated areas to be protected from noise where these spaces are used to calculate compliance with required outdoor living area as required by adopted development standards.
3. Residential and noise sensitive uses located along Bus Rapid Transit corridors or within Activity Centers as identified in the City of Fresno General Plan, are exempt from exterior noise standards where it is determined application of noise mitigation measures will be detrimental to the realization of the General Plan's mixed use policies. Interior noise level standards shall still apply.
4. As determined for a typical worst-case hour during periods of use.

The City of Fresno General Plan Element also includes standards for stationary noise sources to regulate noise emanating from one property to another. Stationary Noise Standards are presented in Table 7.

Table 7: Stationary Noise Source Standards

	Daytime (7:00 AM - 10:00 PM	Nighttime (10:00 PM -7:00 AM)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	60

Notes:
1. The Department of Development and Resource Management Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.
2. As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dBA.

In addition to the noise guidelines presented above in Tables 6 and 7, the City has adopted Objectives and Policies as part of their General Plan to minimize noise impacts in the community, as follows.

NS-1 Protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise.

NS-1-a Desirable and Generally Acceptable Exterior Noise Environment.

Establish 65 dBA Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA

Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise sensitive uses. Maintain 65 dBA Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.

Commentary: The Noise Ordinance will define usable exterior areas for single family and multiple family residential and noise sensitive uses to include rear yards and other outdoor areas intended to accommodate leisure or active use, excluding front or side yard areas, and front or side porches. Balconies or roof decks facing front and side yards shall be included in designated areas to be protected from noise where these spaces are used to calculate compliance with required outdoor living area as required by adopted development standards.

NS-1-b Conditionally Acceptable Exterior Noise Exposure Range.

Establish the conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB Ldn or require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 9-2 (Table 6 in this report).

NS-1-c Generally Unacceptable Exterior Noise Exposure Range.

Establish the exterior noise exposure of greater than 65 dB Ldn or CNEL to be generally unacceptable for residential and other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise-sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally desirable or generally acceptable exterior noise level and the required 45 dB interior noise level standards set in Table 9-2 (Table 6 in this report) as conditions of permit approval.

NS-1-d Allowable Exterior Noise Environment for Bus Rapid Transit and Activity Centers.

Exclude residential and noise sensitive uses located along Bus Rapid Transit corridors or within Activity Centers identified by this General Plan, from exterior noise standards in Policies NS-1-a through NS-1-c where it is determined application of noise mitigation measures will be detrimental to the realization of the General Plan's mixed use policies.

Commentary: Interior noise level standards of Table 9-2 (Table 6 in this report) will still apply.

NS-1-e Update Noise Ordinance.

Update the Noise Ordinance to ensure that noise exposure information and specific standards for both exterior and interior noise and measurement criteria are consistent with this General Plan and changing conditions within the city and with noise control regulations or policies enacted after the adoption of this element.

NS-1-f Performance Standards.

Implement performance standards for noise reduction for new residential and noise sensitive uses exposed to exterior community noise levels from transportation sources above 65 dB Ldn or CNEL, as shown on Exhibit NS-3: Future Noise Contours, or as identified by a project-specific acoustical analysis based on the target acceptable noise levels set in Table 9-2 (Table 6 in this report) and Policies NS-1-a through NS-1-c.

NS-1-g Noise Mitigation Measures.

Noise mitigation measures which help achieve the noise level targets of this plan include, but are not limited to, the following:

- Façades with substantial weight and insulation;
- Installation of sound-rated windows for primary sleeping and activity areas;
- Installation of sound-rated doors for all exterior entries at primary sleeping and activity areas;
- Greater building setbacks and exterior barriers;
- Acoustic baffling of vents for chimneys, attic and gable ends;
- Installation of mechanical ventilation systems that provide fresh air under closed window conditions.

The aforementioned measures are not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

NS-1-h Interior Noise Level Requirement.

Comply with the State Code requirement that any new multifamily residential, hotel, or dorm buildings must be designed to incorporate noise reduction measures to meet the 45 dB Ldn interior noise criterion, and apply this standard as well to all new single-family residential and noise sensitive uses.

NS-1-i Mitigation by New Development.

Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by Tables 9-2 and 9-3 (Tables 6 and 7 in this report) to determine impacts, and require developers to mitigate these impacts in conformance Tables 6 and 7 in this report as a condition of permit approval through appropriate means. Noise mitigation measures may include:

- The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;
- Providing increased setbacks for noise sources from adjacent dwellings;
- Installation of walls and landscaping that serve as noise buffers;
- Installation of soundproofing materials and double-glazed windows; and
- Regulating operations, such as hours of operation, including deliveries and trash pickup.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified acoustical consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.

NS-1-j Significance Threshold.
Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL or more above the ambient noise limits established in this General Plan Update.

Commentary: When an increase in noise would result in a "significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed.

By setting a specific threshold of significance in the General Plan, this policy facilitates making a determination of environmental impact, as required by the California Environmental Quality Act. It helps the City determine whether (1) the potential impact of a development project on the noise environment warrants mitigation, or (2) a statement of overriding considerations will be required.

NS-1-k Proposal Review.
Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.

NS-1-l Enforcement.
Continue to enforce applicable State Noise Insulation Standards and Uniform Building Code noise requirements, as adopted by the City.

NS-1-m Transportation Related Noise Impacts.
For projects subject to City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise sensitive land uses.

NS-1-n Best Available Technology.
Require new noise sources to use best available control technology to minimize noise emissions.

Commentary: Noise from mechanical equipment can be reduced by soundproofing materials and sound-deadening installation; controlling hours of operation will also reduce noise impacts during the morning or evening.

NS-1-o Sound Wall Guidelines.
Acoustical studies and noise mitigation measures for projects shall specify the heights, materials, and design for sound walls and other noise barriers. Aesthetic considerations shall also be addressed in these studies and mitigation measures such as variable noise barrier heights, a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor, with a maximum allowable height of 15 feet. The City will develop guidelines for aesthetic design measures of sound walls, and may commission area wide noise mitigation studies that can serve as templates for acoustical treatment that can be applied to similar situations in the urban area.

Commentary: While acoustical studies need to be site-specific in order to appropriately assess particular settings, having prototypical design measures and noise control templates that can be applied for similar situations and contexts can facilitate infill and other development. These can be provided in this noise report and carried forward into the Specific Plan.

NS-1-p Airport Noise Compatibility.
Implement the land use and noise exposure compatibility provisions of the adopted Fresno Yosemite International Airport Land Use Compatibility Plan, the Fresno Chandler Executive Airport Master and Environs Specific Plan, and the Sierra Sky Park Land Use Policy Plan to assess noise compatibility of proposed uses and improvements within airport influence and environs areas.

4.3.2 West Area Community Plan

The City of Fresno is divided into nine community planning areas. The project site is within the West Area Community Plan Area. The West Area Community Plan includes a few land use related policies that encourage good design and avoidance of potential noise issues. These policies are presented below.

W-7-e. Policy: All loading spaces shall be located not less than 150 feet from the boundary of any residential property; however, the proximity of loading areas may be reduced when adequate design and operational measures (such as restricted hours for loading activities) are approved to mitigate noise, lights, and other nuisances associated with loading areas, in order to protect adjacent residential uses. In all cases, loading areas shall be screened from view of adjoining property zoned, planned, or approved for residential uses. This screening shall be accomplished by either placing loading docks and areas on the sides of buildings that face away from residential property, or by a combination of landscape planting and a solid masonry wall. Where possible, loading areas should not be visible from, nor take access from, local streets with residential frontage.

W-7-f. Policy: Roof-mounted and detached mechanical equipment for commercial and office uses should be screened from view of adjacent residential areas, and acoustically baffled to prevent the noise level

rating for the equipment from exceeding the applicable city standard for ambient noise at residential property lines.

4.3.3 City of Fresno Noise Ordinance

The City of Fresno has adopted several ordinances to regulate unwanted sounds. Those applicable to this analysis are presented below.

SEC. 10-102. Definitions.

(b) Ambient Noise. "Ambient noise" is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far. For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than what is presented in Table 8 for the applicable type of land use, the sound level presented in Table 8, shall be deemed to be the ambient noise level for that location.

Table 8: Ambient Noise

District	Time	Sound Level Decibels
Residential	10:00 PM to 7:00 AM	50
	7:00 PM to 10:00 PM	55
	7:00 AM to 7:00 PM	60
Commercial	10:00 PM-7:00 AM	60
	7:00 AM to 10:00 PM	65
Industrial	Anytime	70
Source: Fresno Municipal Code Section 10-102(b)		

Section 10-105. Excessive Noise Prohibited. No person shall make, cause, or suffer or permit to be made or caused upon any premises or upon any public street, alley, or place within the city, any sound or noise which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing or working in the area, unless such noise or sound is specifically authorized by or in accordance with this article. The provisions of this section shall apply to, but shall be limited to, the control, use, and operation of the following noise sources:

(a) Radios, musical instruments, phonographs, television sets, or other machines or devices used for the amplification, production, or reproduction of sound or the human voice.

(b) Animals or fowl creating, generating, or emitting any cry or behavioral sound.

(c) Machinery or equipment, such as fans, pumps, air conditioning units, engines, turbines, compressors, generators, motors or similar devices, equipment, or apparatus.

(d) Construction equipment or work, including the operation, use or employment of pile drivers, hammers, saws, drills, derricks, hoists, or similar construction equipment or tools.

Section 10-107. School, Hospitals, and Churches. No person shall create any noise on any street, sidewalk, or public place adjacent to any school, institution of learning, or church while the same is in use, or adjacent to any hospital, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such street, sidewalk, or public place indicating the presence of a school, church, or hospital.

Section 10-109. Exceptions. The provisions of this article shall not apply to:

(a) Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

(b) Emergency work.

(c) Any act or acts which are prohibited by any law of the State of California or the United States.

5.0 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

5.1 Noise Measurement Procedure and Criteria

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement locations and receptors:

- Locations expected to receive the highest noise impacts, such as first row of houses
- Locations that are acoustically representative and equivalent of the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

MD conducted the sound level measurements in accordance to the City and CalTrans technical noise specifications. All measurements equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). The following gives a brief description of the Caltrans Technical Noise Supplement procedures for sound level measurements:

- Microphones for sound level meters were placed 5-feet above the ground for all measurements
- Sound level meters were calibrated (Larson Davis CAL 200) before and after each measurement
- Following the calibration of equipment, a wind screen was placed over the microphone
- Frequency weighting was set on “A” and slow response
- Results of the long-term noise measurements were recorded on field data sheets
- During any short-term noise measurements any noise contaminations such as barking dogs, local traffic, lawn mowers, or aircraft fly-overs were noted
- Temperature and sky conditions were observed and documented

5.2 SoundPLAN Noise Modeling

SoundPLAN acoustical modeling software was utilized to create existing and existing plus project plus cumulative traffic noise level contours for all General Plan designated roadways. Model parameters included average daily traffic volumes, day/evening/night split, roadway classification, width, speed, and truck mix. Surfaces adjacent to all modeled roadways were assumed to have a “hard site” to predict worst-case, conservative noise levels. A hard site, such as pavement, is highly reflective and does not attenuate noise as quickly as grass or other soft sites. Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis. Roadway modeling assumptions utilized for the technical study are provided in Table 9 (Existing Conditions) and Table 10 (Existing Plus Project Plus Cumulative Conditions) and in Appendix A.

A summary of the model parameters and REMEL adjustments are presented below.

- Roadway classification – (e.g. freeway, major arterial, arterial, secondary, collector, etc.),
- Roadway Active Width – (distance between the center of the outer most travel lanes on each side of the roadway)
- Average Daily Traffic Volumes (ADT), Travel Speeds, Percentages of automobiles, medium trucks and heavy trucks
- Roadway grade and angle of view
- Site Conditions (e.g. soft vs. hard)
- Percentage of total ADT which flows each hour through-out a 24-hour period

Rail noise was modeled using the Create Freight Noise and Vibration Model/Spreadsheet. CREATE assumptions include one rail yard, two locomotives per train, 43,100 feet of rail cars, and an average speed of 45 mph. Current data shows that approximately 14 trains travel along this rail line during each 24-hour period. The Create Noise Model output was entered into the SoundPLAN noise model as a line source. SoundPLAN input and output is provided in Appendix A.

5.3 FHWA Traffic Noise Prediction Model

The FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) was utilized to model and to compare existing traffic noise levels to existing plus project plus cumulative traffic noise levels. The FHWA model arrives at the predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Roadway modeling assumptions utilized for the technical study are provided in Table 9 (Existing Conditions) and Table 10 (Existing Plus Project Plus Cumulative Conditions) indicates the roadway parameters and vehicle distribution utilized for this study.

<Table 9, next page>

Table 9: Roadway Segment Modeling Assumptions - Existing Conditions

Roadway	Segment Limits	Existing ADT[1,2]	Speed[3]	West Area Plan Designation[4]
State Route 99	W. Herndon Ave to W. Shaw Ave	81,000	65	Freeway
State Route 99	W. Shaw Ave to W. Ashlan Ave	77,000	65	Freeway
State Route 99	W. Ashlan Ave to W. Dakota Ave	105,000	65	Freeway
State Route 99	W. Dakota Ave to W. Shields Ave	104,000	65	Freeway
State Route 99	W. Shields Ave to W. Clinton Ave	107,000	45	Freeway
W. Herndon Ave	N. Garfield Ave to N. Parkway Drive	No Data	35	Collector
W. Bullard Ave	N Garfield Ave to N. Grantland Ave	600	35	Collector
W. Bullard Ave	N. Grantland Ave to N. Bryan Ave	2,900	35	Collector
W. Bullard Ave	N. Bryan Ave to SR-99	No Data	45	Collector
W. Barstow Ave	N Garfield to N. Grantland Ave	1,200	45	Collector
W. Barstow Ave	N. Grantland Ave to N. Bryan Ave	800	35	Collector
W. Barstow Ave	N. Bryan Ave to N. Contessa Ave	No Data	50	Collector
W. Barstow Ave	N. Contessa Ave to N. Island Waterpark Drive	No Data	45	Collector
W. Shaw Ave	N Garfield Ave to N. Grantland Ave	6,000	35	Arterial
W. Shaw Ave	N. Grantland Ave to N. Bryan Ave	7,100	35	Arterial
W. Shaw Ave	N. Bryan Ave to 1,300 ft east of N. Hayes Ave	8,250	35	Arterial
W. Shaw Ave	1,300 ft east of N. Hayes Ave to N. Polk Ave	9,200	45	Arterial
W. Shaw Ave	N. Polk Ave to State Route 99	18,200	45	Arterial
W. Gettysburg Ave	1,300 ft west of N. Bryan Ave to Bryan Ave	1,200	35	Collector
W. Gettysburg Ave	N. Bryan Ave to N. Hayes Ave	1,700	35	Collector
W. Gettysburg Ave	N. Hayes Ave to N. Polk Ave	1,950	35	Collector
W. Gettysburg Ave	N. Polk Ave to N. Barcus	1,200	45	Collector
W. Ashlan Ave	N. Garfield to N. Grantland	No Data	45	Arterial
W. Ashlan Ave	N. Grantland Ave to N. Bryan Ave	3,200	45	Arterial
W. Ashlan Ave	N. Bryan Ave to N. Hayes Ave	3,100	35	Arterial
W. Ashlan Ave	N. Hayes Ave to N. Polk Ave	2,050	35	Arterial
W. Ashlan Ave	N. Polk Ave to N. Cornelia Ave	6,500	35	Arterial
W. Ashlan Ave	N. Cornelia Ave to N. Blythe Ave	16,350	35	Arterial
W. Ashlan Ave	N. Blythe Ave to State Route 99	23,600	35	Arterial
W. Dakota Ave	N. Hayes Ave to N. Barcus Ave	1,950	35	Collector
W. Dakota Ave	N. Barcus Ave to N. Polk Ave	1,950	45	Collector
W. Dakota Ave	N. Polk Ave to N. Cornelia Ave	5,100	35	Collector
W. Dakota Ave	N. Cornelia Ave to N. Blythe Ave	4,250	35	Collector
W. Dakota Ave	N. Blythe Ave to N Brawley Ave	3,150	35	Collector
W. Dakota Ave	N Brawley Ave to N. Parkway Drive	2,400	35	Collector
W. Shields Ave	N. Garfield Ave to Grantland Ave	2,700	35	Collector
W. Shields Ave	N. Grantland Ave to N. Bryan Ave	2,750	35	Collector

Table 9: Roadway Segment Modeling Assumptions - Existing Conditions

Roadway	Segment Limits	Existing ADT[1,2]	Speed[3]	West Area Plan Designation[4]
W. Shields Ave	N. Bryan Ave to N. Hayes Ave	3,550	35	Collector
W. Shields Ave	N. Hayes Ave to N. Polk Ave	3,250	35	Collector
W. Shields Ave	N. Polk Ave to N. Dante Ave	3,750	45	Collector
W. Shields Ave	N. Dante Ave to N. Cornelia Ave	3,750	45	Collector
W. Shields Ave	N. Cornelia Ave to N. Blythe Ave	4,600	35	Collector
W. Shields Ave	N. Blythe Ave to N. Brawley Ave	4,400	35	Collector
W. Shields Ave	N Brawley Ave to N. Valentine Ave	5,800	35	Collector
W. Shields Ave	N. Valentine Ave to N. Marks Ave	6,900	35	Collector
W. Clinton Ave	N. Grantland Ave to N. Bryan Ave	400	35	Super Arterial
W. Clinton Ave	N. Bryan Ave to N. Hayes Ave	700	35	Super Arterial
W. Clinton Ave	N. Hayes Ave to N. Polk Ave	1,050	35	Super Arterial
W. Clinton Ave	N. Polk Ave to 1900 ft east of N. Polk Ave	1,050	35	Super Arterial
W. Clinton Ave	1900 east of N. Polk Ave to N. Cornelia Ave	3,400	45	Super Arterial
W. Clinton Ave	N. Cornelia Ave to N. Milburn Ave	6,400	50	Super Arterial
W. Clinton Ave	N. Milburn Ave to N. Blythe Ave	6,400	45	Super Arterial
W. Clinton Ave	N. Blythe Ave to N Sonora Ave	9,300	50	Super Arterial
W. Clinton Ave	N. Sonora Ave to N Brawley Ave	9,300	45	Super Arterial
W. Clinton Ave	N Brawley Ave to N. Knoll Ave	9,850	45	Super Arterial
W. Clinton Ave	N. Knoll Ave to 850 ft east of N. Knoll Ave	9,850	45	Super Arterial
W. Clinton Ave	850 east of N. Knoll Ave to N. Valentine Ave	9,850	35	Super Arterial
W. Clinton Ave	N. Valentine Ave to N. Marks Ave	11,300	45	Super Arterial
W. Clinton Ave	N. Marks Ave to W. Vassar Ave	20,000	50	Super Arterial
N Garfield Ave	W. Herndon Ave to W. Bullard Ave	No Data	35	Super Arterial
N Garfield Ave	W. Bullard Ave to W. Barstow Ave	No Data	35	Super Arterial
N Garfield Ave	W. Barstow Ave to 1,000 ft south of W. Barstow Ave	No Data	45	Super Arterial
N Garfield Ave	1,000 ft south of W. Barstow Ave to W. Shaw Ave	No Data	45	Super Arterial
N Garfield Ave	W. Shaw Ave to W. Gettysburg Ave	No Data	35	Super Arterial
N Garfield Ave	W. Gettysburg Ave to W. Ashlan Ave	5,381	35	Super Arterial
N Garfield Ave	W. Ashlan Ave to W. Dakota Ave	No Data	35	Super Arterial
N Garfield Ave	W. Dakota Ave to W. Shields Ave	4,998	35	Super Arterial
N. Parkway Drive	N Herndon Ave to W. Herndon Ave	No Data	35	Arterial
N. Grantland Ave	N. Parkway Drive to W. Bullard Ave	No Data	35	Collector
N. Grantland Ave	W. Bullard Ave to W. Barstow Ave	No Data	45	Arterial
N. Grantland Ave	W. Barstow Ave to W. Shaw Ave	6,700	45	Arterial
N. Grantland Ave	W. Shaw Ave to W. Gettysburg Ave	3,900	35	Arterial
N. Grantland Ave	W. Gettysburg Ave to W. Ashlan Ave	4,000	45	Super Arterial
N. Grantland Ave	W. Ashlan Ave to W Dakota Ave	3,050	45	Super Arterial

Table 9: Roadway Segment Modeling Assumptions - Existing Conditions

Roadway	Segment Limits	Existing ADT[1,2]	Speed[3]	West Area Plan Designation[4]
N. Grantland Ave	W. Dakota Ave to W. Shields Ave	No Data	45	Super Arterial
N. Grantland Ave	W Shields Ave to W. Clinton Ave	2,300	45	Super Arterial
N. Bryan Ave	W. Shaw Ave to W. Santa Ana Ave	2,400	35	Collector
N. Bryan Ave	W. Santa Ana Ave to W. Gettysburg Ave	2,400	35	Collector
N. Bryan Ave	W. Gettysburg Ave to W. Ashlan Ave	3,100	45	Collector
N. Bryan Ave	W. Ashlan Ave to W. Dakota Ave	1,750	45	Collector
N. Bryan Ave	W. Dakota Ave to W Shields Ave	1,750	35	Collector
N. Bryan Ave	W Shields Ave to W. Clinton Ave	650	35	Collector
N. Hayes Ave	W. Shaw Ave to W. Santa Ana Ave	2,700	45	Collector
N. Hayes Ave	W. Santa Ana Ave to W. Gettysburg Ave	2,700	45	Collector
N. Hayes Ave	W. Gettysburg Ave to W. Swift Ave	1,700	45	Collector
N. Hayes Ave	W. Swift Ave to W. Ashlan Ave	1,700	35	Collector
N. Hayes Ave	W. Ashland Ave to W. Dakota Ave	2,400	35	Collector
N. Hayes Ave	W. Dakota Ave to 1,300 ft South of W. Dakota Ave	2,150	35	Collector
N. Hayes Ave	1,300 ft South of W. Dakota Ave to W Shields Ave	2,150	45	Collector
N. Hayes Ave	W Shields Ave to W. Clinton Ave	1,650	35	Collector
N. Polk Ave	North of W. Shaw Ave	4,400	45	Arterial
N. Polk Ave	W. Shaw Ave to W. Acacia Ave	7,300	45	Arterial
N. Polk Ave	W. Acacia Ave to W. Gettysburg Ave	7,300	45	Arterial
N. Polk Ave	W. Gettysburg Ave to W. Ashlan Ave	4,850	35	Arterial
N. Polk Ave	W. Ashland Ave to W. Griffith Way	5,600	35	Arterial
N. Polk Ave	W. Griffith Way to W. Dakota Ave	5,600	45	Arterial
N. Polk Ave	W. Dakota Ave to W Shields Ave	4,900	35	Arterial
N. Polk Ave	W Shields Ave to W. Clinton Ave	3,750	35	Arterial
N. Cornelia Ave	N. Parkway Drive to W. Gettysburg Ave	5,700	45	Collector
N. Cornelia Ave	W. Gettysburg to W. Ashlan Ave	5,700	45	Collector
N. Cornelia Ave	W. Ashland Ave to W. Bellaire Way	7,800	45	Collector
N. Cornelia Ave	W. Bellaire Way to W. Dakota Ave	7,800	45	Collector
N. Cornelia Ave	W. Dakota Ave to W Shields Ave	5,800	35	Collector
N. Cornelia Ave	W Shields Ave to W. Clinton Ave	5,600	45	Collector
N. Blythe Ave	W. Ashlan Ave to W. Dakota Ave	6,700	35	Arterial
N. Blythe Ave	W. Dakota Ave to W Shields Ave	4,750	35	Collector
N. Blythe Ave	W Shields Ave to W. Clinton Ave	4,900	35	Collector
N Brawley Ave	N. Parkway Drive to W. Dakota Ave	6,600	35	Collector
N Brawley Ave	W. Dakota Ave to W. Dayton Ave	6,350	35	Collector
N Brawley Ave	W. Dayton Ave to W. Cortland Ave	6,350	45	Collector
N Brawley Ave	W. Cortland Ave to W. Shields Ave	6,350	35	Collector

Table 9: Roadway Segment Modeling Assumptions - Existing Conditions

Roadway	Segment Limits	Existing ADT[1,2]	Speed[3]	West Area Plan Designation[4]
N Brawley Ave	W Shields Ave to W. Clinton Ave	6,000	35	Collector
N. Valentine Ave	N. Parkway Drive to W Shields Ave	2,600	35	Collector
N. Valentine Ave	W Shields Ave to W. Clinton Ave	2,100	35	Collector
N. Marks Ave	W Princeton Ave to W. Clinton Ave	9,100	35	Collector

Notes:

1) Traffic Study for the West Area Specific Plan, Kittleson Associates, 2020

2) Traffic volumes and vehicle mix for State Route 99 source: https://dot.ca.gov/programs/traffic-operations/census.

3) Speed was modeled as posted.

4) West Area Planned Circulation Network, City of Fresno West Area Specific Plan Existing Conditions Report, March 2018

Table 10: Road Segment Modeling Assumptions – Existing Plus Project Plus Cumulative

Roadway	Segment Limits	Existing Plus Project Plus Cumulative ADT[1,2]	Speed[3]	West Area Plan Designation[4]
State Route 99	W. Herndon Ave to W. Shaw Ave	81,000	65	Freeway
State Route 99	W. Shaw Ave to W. Ashlan Ave	77,000	65	Freeway
State Route 99	W. Ashlan Ave to W. Dakota Ave	105,000	65	Freeway
State Route 99	W. Dakota Ave to W. Shields Ave	104,000	65	Freeway
State Route 99	W. Shields Ave to W. Clinton Ave	107,000	65	Freeway
W. Herndon Ave	N. Garfield Ave to N. Parkway Drive	No Data	35	Collector
W. Bullard Ave	N Garfield Ave to N. Grantland Ave	6,683	35	Collector
W. Bullard Ave	N. Grantland Ave to N. Bryan Ave	9,706	35	Collector
W. Bullard Ave	N. Bryan Ave to SR-99	No Data	45	Collector
W. Barstow Ave	N Garfield to N. Grantland Ave	1,310	45	Collector
W. Barstow Ave	N. Grantland Ave to N. Bryan Ave	14,804	35	Collector
W. Barstow Ave	N. Bryan Ave to N. Contessa Ave	No Data	50	Collector
W. Barstow Ave	N. Contessa Ave to N. Island Waterpark Drive	No Data	45	Collector
W. Shaw Ave	N Garfield Ave to N. Grantland Ave	16,820	35	Arterial
W. Shaw Ave	N. Grantland Ave to N. Bryan Ave	47,627	35	Arterial
W. Shaw Ave	N. Bryan Ave to 1,300 ft east of N. Hayes Ave	45,973	35	Arterial
W. Shaw Ave	1,300 ft east of N. Hayes Ave to N. Polk Ave	54,592	45	Arterial
W. Shaw Ave	N. Polk Ave to State Route 99	88,601	45	Arterial
W. Gettysburg Ave	1,300 ft west of N. Bryan Ave to Bryan Ave	6,954	35	Collector
W. Gettysburg Ave	N. Bryan Ave to N. Hayes Ave	11,025	35	Collector
W. Gettysburg Ave	N. Hayes Ave to N. Polk Ave	18,739	35	Collector

Table 10: Road Segment Modeling Assumptions – Existing Plus Project Plus Cumulative

Roadway	Segment Limits	Existing Plus Project Plus Cumulative ADT[1,2]	Speed[3]	West Area Plan Designation[4]
W. Gettysburg Ave	N. Polk Ave to N. Barcus	9,002	45	Collector
W. Ashlan Ave	N. Garfield to N. Grantland	14,056	45	Arterial
W. Ashlan Ave	N. Grantland Ave to N. Bryan Ave	46,920	45	Arterial
W. Ashlan Ave	N. Bryan Ave to N. Hayes Ave	40,410	35	Arterial
W. Ashlan Ave	N. Hayes Ave to N. Polk Ave	44,366	35	Arterial
W. Ashlan Ave	N. Polk Ave to N. Cornelia Ave	43,099	35	Arterial
W. Ashlan Ave	N. Cornelia Ave to N. Blythe Ave	58,827	35	Arterial
W. Ashlan Ave	N. Blythe Ave to State Route 99	66,788	35	Arterial
W. Dakota Ave	N. Hayes Ave to N. Barcus Ave	16,139	35	Collector
W. Dakota Ave	N. Barcus Ave to N. Polk Ave	16,139	45	Collector
W. Dakota Ave	N. Polk Ave to N. Cornelia Ave	14,878	35	Collector
W. Dakota Ave	N. Cornelia Ave to N. Blythe Ave	14,338	35	Collector
W. Dakota Ave	N. Blythe Ave to N Brawley Ave	13,124	35	Collector
W. Dakota Ave	N Brawley Ave to N. Parkway Drive	7,448	35	Collector
W. Shields Ave	N. Garfield Ave to Grantland Ave	No Data	35	Collector
W. Shields Ave	N. Grantland Ave to N. Bryan Ave	13,365	35	Collector
W. Shields Ave	N. Bryan Ave to N. Hayes Ave	15,656	35	Collector
W. Shields Ave	N. Hayes Ave to N. Polk Ave	12,337	35	Collector
W. Shields Ave	N. Polk Ave to N. Dante Ave	21,436	45	Collector
W. Shields Ave	N. Dante Ave to N. Cornelia Ave	21,436	45	Collector
W. Shields Ave	N. Cornelia Ave to N. Blythe Ave	19,552	35	Collector
W. Shields Ave	N. Blythe Ave to N. Brawley Ave	21,141	35	Collector
W. Shields Ave	N Brawley Ave to N. Valentine Ave	19,787	35	Collector
W. Shields Ave	N. Valentine Ave to N. Marks Ave	19,278	35	Collector
W. Clinton Ave	N. Grantland Ave to N. Bryan Ave	2,448	35	Arterial
W. Clinton Ave	N. Bryan Ave to N. Hayes Ave	10,251	35	Arterial
W. Clinton Ave	N. Hayes Ave to N. Polk Ave	11,239	35	Arterial
W. Clinton Ave	N. Polk Ave to 1900 ft east of N. Polk Ave	13,878	35	Arterial
W. Clinton Ave	1900 east of N. Polk Ave to N. Cornelia Ave	21,298	45	Arterial
W. Clinton Ave	N. Cornelia Ave to N. Milburn Ave	24,727	50	Arterial
W. Clinton Ave	N. Milburn Ave to N. Blythe Ave	29,368	45	Arterial
W. Clinton Ave	N. Blythe Ave to N Sonora Ave	24,727	50	Arterial
W. Clinton Ave	N. Sonora Ave to N Brawley Ave	24,727	45	Arterial
W. Clinton Ave	N Brawley Ave to N. Knoll Ave	29,368	45	Arterial
W. Clinton Ave	N. Knoll Ave to 850 ft east of N. Knoll Ave	29,368	45	Arterial

Table 10: Road Segment Modeling Assumptions – Existing Plus Project Plus Cumulative

Roadway	Segment Limits	Existing Plus Project Plus Cumulative ADT[1,2]	Speed[3]	West Area Plan Designation[4]
W. Clinton Ave	850 east of N. Knoll Ave to N. Valentine Ave	29,368	35	Arterial
W. Clinton Ave	N. Valentine Ave to N. Marks Ave	39,715	45	Arterial
W. Clinton Ave	N. Marks Ave to W. Vassar Ave	58,312	50	Arterial
N Garfield Ave	W. Herndon Ave to W. Bullard Ave	4,249	35	Arterial
N Garfield Ave	W. Bullard Ave to W. Barstow Ave	4,862	35	Arterial
N Garfield Ave	W. Barstow Ave to 1,000 ft south of W. Barstow Ave	5,253	45	Arterial
N Garfield Ave	1,000 ft south of W. Barstow Ave to W. Shaw Ave	5,253	45	Arterial
N Garfield Ave	W. Shaw Ave to W. Gettysburg Ave	5,702	35	Arterial
N Garfield Ave	W. Gettysburg Ave to W. Ashlan Ave	5,381	35	Arterial
N Garfield Ave	W. Ashlan Ave to W. Dakota Ave	No Data	35	Arterial
N Garfield Ave	W. Dakota Ave to W. Shields Ave	4,998	35	Arterial
N. Parkway Drive	N Herndon Ave to W. Herndon Ave	4,166	35	Arterial
N. Grantland Ave	N. Parkway Drive to W. Bullard Ave	No Data	35	Collector
N. Grantland Ave	W. Bullard Ave to W. Barstow Ave	11,947	45	Arterial
N. Grantland Ave	W. Barstow Ave to W. Shaw Ave	15,386	45	Arterial
N. Grantland Ave	W. Shaw Ave to W. Gettysburg Ave	45,056	35	Arterial
N. Grantland Ave	W. Gettysburg Ave to W. Ashlan Ave	55,863	45	Arterial
N. Grantland Ave	W. Ashlan Ave to W Dakota Ave	No Data	45	Arterial
N. Grantland Ave	W. Dakota Ave to W. Shields Ave	40,268	45	Arterial
N. Grantland Ave	W Shields Ave to W. Clinton Ave	25,521	45	Arterial
N. Bryan Ave	W. Shaw Ave to W. Santa Ana Ave	21,311	35	Collector
N. Bryan Ave	W. Santa Ana Ave to W. Gettysburg Ave	21,311	35	Collector
N. Bryan Ave	W. Gettysburg Ave to W. Ashlan Ave	18,216	45	Collector
N. Bryan Ave	W. Ashlan Ave to W. Dakota Ave	No Data	45	Collector
N. Bryan Ave	W. Dakota Ave to W Shields Ave	18,966	35	Collector
N. Bryan Ave	W Shields Ave to W. Clinton Ave	13,631	35	Collector
N. Hayes Ave	W. Shaw Ave to W. Santa Ana Ave	22,778	45	Collector
N. Hayes Ave	W. Santa Ana Ave to W. Gettysburg Ave	22,778	45	Collector
N. Hayes Ave	W. Gettysburg Ave to W. Swift Ave	25,950	45	Collector
N. Hayes Ave	W. Swift Ave to W. Ashlan Ave	25,950	35	Collector
N. Hayes Ave	W. Ashland Ave to W. Dakota Ave	29,995	35	Collector
N. Hayes Ave	W. Dakota Ave to 1,300 ft South of W. Dakota Ave	21,197	35	Collector
N. Hayes Ave	1,300 ft South of W. Dakota Ave to W Shields Ave	21,197	45	Collector
N. Hayes Ave	W Shields Ave to W. Clinton Ave	17,552	35	Collector
N. Polk Ave	North of W. Shaw Ave	6,568	45	Arterial

Table 10: Road Segment Modeling Assumptions – Existing Plus Project Plus Cumulative

Roadway	Segment Limits	Existing Plus Project Plus Cumulative ADT[1,2]	Speed[3]	West Area Plan Designation[4]
N. Polk Ave	W. Shaw Ave to W. Acacia Ave	25,762	45	Arterial
N. Polk Ave	W. Acacia Ave to W. Gettysburg Ave	25,762	45	Arterial
N. Polk Ave	W. Gettysburg Ave to W. Ashlan Ave	31,612	35	Arterial
N. Polk Ave	W. Ashland Ave to W. Griffith Way	31,840	35	Arterial
N. Polk Ave	W. Griffith Way to W. Dakota Ave	31,840	45	Arterial
N. Polk Ave	W. Dakota Ave to W Shields Ave	23,801	35	Arterial
N. Polk Ave	W Shields Ave to W. Clinton Ave	21,944	35	Arterial
N. Cornelia Ave	N. Parkway Drive to W. Gettysburg Ave	9,222	45	Collector
N. Cornelia Ave	W. Gettysburg to W. Ashlan Ave	22,141	45	Collector
N. Cornelia Ave	W. Ashland Ave to W. Bellaire Way	15,700	45	Collector
N. Cornelia Ave	W. Bellaire Way to W. Dakota Ave	15,700	45	Collector
N. Cornelia Ave	W. Dakota Ave to W Shields Ave	17,844	35	Collector
N. Cornelia Ave	W Shields Ave to W. Clinton Ave	15,071	45	Collector
N. Blythe Ave	W. Ashlan Ave to W. Dakota Ave	17,215	35	Arterial
N. Blythe Ave	W. Dakota Ave to W Shields Ave	17,269	35	Collector
N. Blythe Ave	W Shields Ave to W. Clinton Ave	16,106	35	Collector
N Brawley Ave	N. Parkway Drive to W. Dakota Ave	20,943	35	Collector
N Brawley Ave	W. Dakota Ave to W. Dayton Ave	16,396	35	Collector
N Brawley Ave	W. Dayton Ave to W. Cortland Ave	16,396	45	Collector
N Brawley Ave	W. Cortland Ave to W. Shields Ave	16,396	35	Collector
N Brawley Ave	W Shields Ave to W. Clinton Ave	16,935	35	Collector
N. Valentine Ave	N. Parkway Drive to W Shields Ave	12,354	35	Collector
N. Valentine Ave	W Shields Ave to W. Clinton Ave	11,825	35	Collector
N. Marks Ave	W Princeton Ave to W. Clinton Ave	15,475	35	Collector

Notes:

1) Traffic Study for the West Area Specific Plan, Kittleson Associates, 2020

2) Traffic volumes and vehicle mix for State Route 99 source: https://dot.ca.gov/programs/traffic-operations/census.

3) Speed was modeled as posted.

4) West Area Planned Circulation Network, City of Fresno West Area Specific Plan Existing Conditions Report, March 2018

6.0 Existing Noise Environment

6.1 Noise Sources in the Plan Area

6.1.1 General Land Use Noise

Existing land uses within the Plan Area include single and multiple family residential development, commercial, recreational, and industrial land uses. Noise sources associated with existing land uses include residential maintenance, parking lot noise, heating and cooling system (HVAC) noise, property maintenance noise, trash truck noise, loading and unloading noise, and recreational noise.

6.1.2 Roadway Noise

The primary noise source in the community is vehicle traffic traveling on surface streets and on State Route 99. Existing modeled and measured noise levels associated with acoustically significant roadways within the Plan Area are shown on Exhibit D. The modeled noise levels do not take into account factors such as existing buildings, walls, etc. that may reduce or in some cases, amplify noise sources. The measured noise levels do take into account existing structures as well as other noise sources.

Those areas in the City that currently experience sound levels greater than 60 dBA Ldn are typically near major vehicular traffic corridors. Highway traffic noise levels typically depend on three factors: (1) the volume of traffic, (2) the average speed of traffic, and (3) the vehicle mix (i.e., the percentage of trucks versus automobiles in the traffic flow). Vehicle noise includes noises produced by the engine, exhaust, tires, and wind generated by taller vehicles. Other factors that affect the perception of traffic noise include the distance from the highway, terrain, vegetation, and natural and structural obstacles. While tire noise from automobiles is generally located at ground level, some truck noise sources may emanate from 12 feet or more above the ground.

Vehicle traffic generated noise associated with State Route 99 is the dominant noise source in the eastern portion of the Plan Area with average daily vehicle trips (ADTs) ranging between 77,000-107,000 adjacent to the Plan Area. Existing modeled noise contours shown in Exhibit D show that traffic noise associated with SR-99 dominates the noise environment of the easternmost portion of the Plan Area. Most noise sensitive land uses adjacent to State Route 99 are shielded by existing sound walls, topography, or buildings, however, the attenuation provided by them is not represented in the noise contour map.

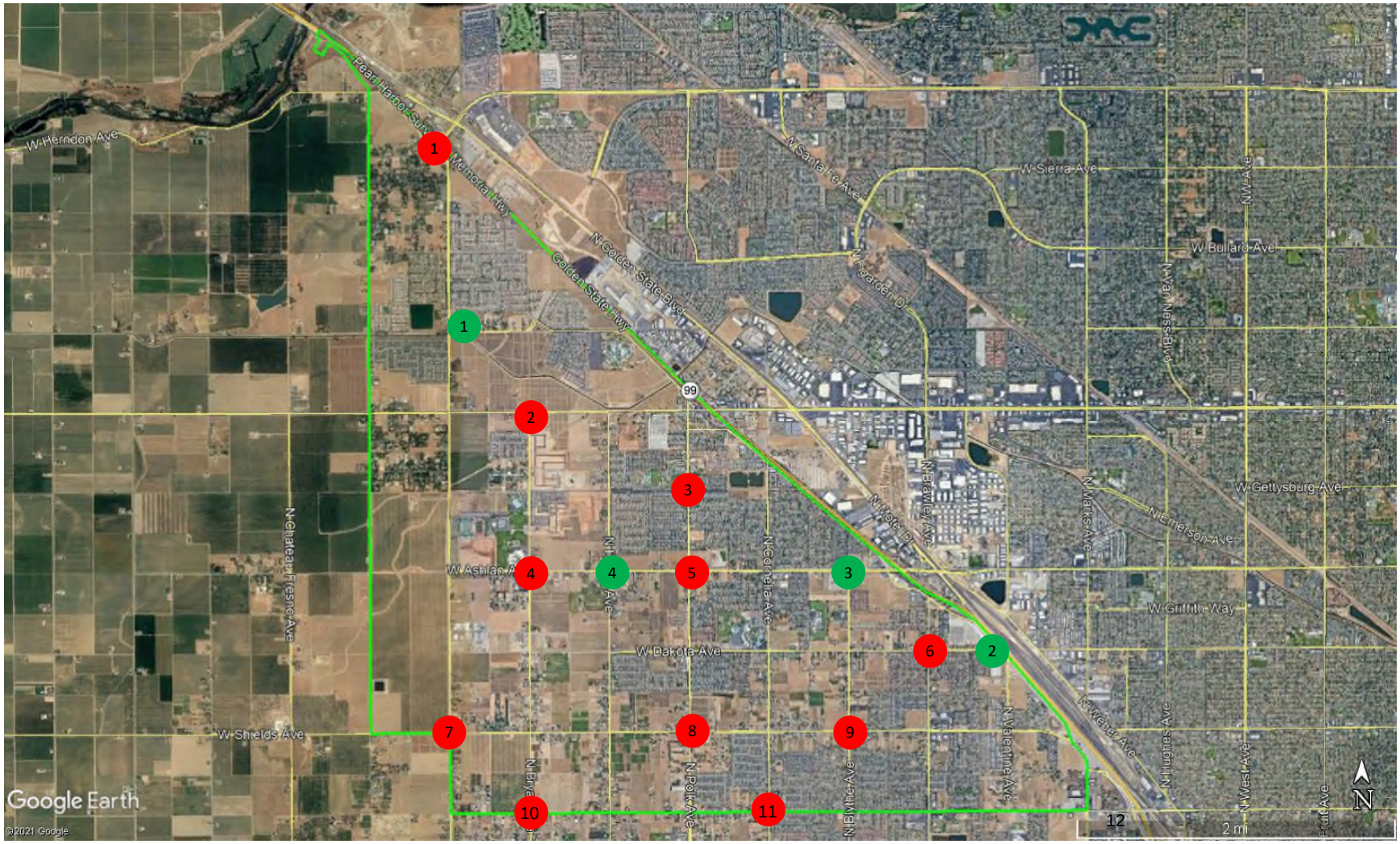
<Exhibit D, next page>

= West Area Specific Plan Boundary

1 = Long Term measurement (24-Hour)

1 = Short Term measurement (10-Minute)

Exhibit D
Noise Measurement Location Map



6.1.3 Rail Noise

Noise associated with the existing Union Pacific Railroad (UPRR) line that generally runs parallel to State Route 99 also contributes to noise in the Plan Area. The Union Pacific Railroad extends in a southeast/northwest direction ranging between 320 and 2,100 feet east of the project area. Based on count data available provided by the Federal Railroad Administration (FRA 2020) fourteen train trips per day (split evenly between daytime and nighttime hours) utilize the rail lines located east of the project area and State Route 99 and north of West Ashlan Avenue. There are existing residential land uses located within the project area as close as 380 feet to the rail lines north of West Ashlan Avenue and 380 feet from the rail lines south of West Ashlan Avenue. There is a rail yard east of State Route 99 that extends from approximately 450 feet north of Clinton Avenue to West Ashlan Avenue. Noise level contours associated with the UPRR are shown in Exhibit E.

6.1.4 Airport/Aircraft Noise

There are no airports located within the Plan Area and the Plan Area is not located within any airport noise contours (City of Fresno 2014). The Plan Area is however, affected by fly-over noise associated with the Fresno Yosemite International airport, the Fresno-Chandler Downtown airport, and the Sierra Sky Park Airport. Commercial jet aircraft operations are limited to the Fresno Yosemite International Airport. The Air National Guard is also stationed there and operates military jets and other aircraft. Private and commercial operations with smaller aircraft use the Fresno Chandler Downtown Airport, while only small private aircraft use the Sierra Sky Park Airport.

6.1.4 Agricultural Noise

The project area is also exposed agricultural noise including field and crop maintenance, hauling, and crop dusting from small aircraft. The noise from these sources mostly occurs within the confines of the agricultural fields, and is seasonal. A characteristic of agricultural noise is short periods of noisy activities separated by long periods of little or no noise-producing activities. The FAA regulates noise associated with aircraft once they leave the ground. FAA regulations require that all aircraft maintain a height of at least 500 feet above ground or objects on the ground, like a house. A crop duster can go below this height only to operate to apply chemicals and for no other reason.

6.2 Noise Measurement Results

Four (4) long-term 24-hour noise measurements and twelve (12) short-term noise measurements were conducted throughout the Plan Area to document the existing noise environment. Noise measurement locations are shown in Exhibit F.

6.2.1 Short-Term Noise Measurements

Measured noise levels within the Plan Area ranged between 54.4 and 74.8 dBA Leq. Vehicle noise associated with surface streets, State Route 99, the existing rail line were the primary sources of ambient noise. Secondary noise sources included typical residential activities and landscaping equipment. Noise measurement results are presented in Table 11. Field notes and meter output are provided in Appendix B.

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Table 11: Short-Term Noise Measurement Summary

Noise Measurement Location	Approximate Address	Date	Time	A-Weighted Sound Level (dBA)						
				Leq	Lmax	Lmin	L2	L8	L25	L50
1	Herndon Avenue & N. Parkway Drive	June 3, 2020	9:28 AM	67.6	78.3	54.5	74.7	71.3	68.0	65.6
2	N. Bryan Avenue & W Shaw Avenue	June 3, 2020	9:48 AM	69.5	84.1	40.9	78.3	75.8	69.4	60.4
3	N Polk Avenue and W Gettysburg Avenue	June 3, 2020	10:15 AM	61.5	82.5	41.3	68.1	62.2	58.8	54.2
4	N. Bryan Avenue & W. Ashlan Avenue	June 3, 2020	10:32 AM	54.4	69.5	37.8	63.1	58.4	53.7	50.0
5	N. Polk Avenue & W. Ashlan Avenue	June 3, 2020	12:13 PM	64.6	86.5	45.4	71.6	67.7	64.3	60.8
6	N. Dakota Avenue & W. Brawley Avenue	June 3, 2020	2:19 PM	74.8	99.8	50.2	79.2	72.6	67.5	64.3
7	N. Grantland Avenue & W. Shields Avenue	June 3, 2020	12:38 PM	72.8	93.4	37.5	81.4	74.7	65.0	56.2
8	N. Polk Avenue & W. Shields Avenue	June 3, 2020	12:54 PM	66.1	86.3	51.5	75.5	70.1	62.6	58.9
9	N. Blythe Avenue & W. Shields Avenue	June 3, 2020	1:09 PM	64.4	79.9	48.1	73.5	68.9	63.4	59.5
10	N. Bryan Avenue & W. Clinton Avenue	June 3, 2020	1:26 PM	59.6	79.5	31.9	70.4	61.6	52.7	43.8
11	N. Cornelia Avenue & W. Clinton Avenue	June 3, 2020	1:42 PM	65.8	85.0	44.7	73.4	68.7	64.7	60.4
12	N. Marks Avenue & W. Clinton Avenue	June 3, 2020	2:00 PM	68.8	85.2	55.2	75.9	72.7	69.6	65.6

Notes:
dBA = A-weighted decibels
Leq = equivalent noise level
Lmax = maximum noise level
Lmin = minimum noise level
Ln = noise level exceeded n percent of the measurement period

6.2.2 Long-Term Noise Measurements

Four (4) long-term noise measurements (24 consecutive hours) were taken in order to document the Community Noise Equivalent Level (CNEL) at different locations throughout the Plan Area. As shown in Table 12, the measured CNEL ranged between 60.5 and 70.2 dBA. The primary noise source was vehicle traffic. Table 12 also outlines the daytime (7AM to 7PM), evening (7PM to 10PM), and nighttime (10PM to 7AM) Leq levels at each location. These represent the average level over each time period (day/evening/night). Field notes and meter output are provided in Appendix B.

Table 12: Long-Term Noise Measurement Summary

Noise Measurement Location	Approximate Address	Date	Description	A-Weighted Sound Level (dBA)			
				Daytime Leq	Evening Leq	Nighttime Leq	CNEL
LT1	N. Grantland Avenue & W. Barstow Avenue	6/3/20 - 6/4/20	Vehicle traffic traveling on N. Valentine Avenue and SR-99	58.8	56.1	52.7	60.7
LT2	N. Valentine Avenue & W. Shields Avenue	6/3/20-6/4/20	Vehicle traffic traveling on N. Grantland Avenue and W. Barstow Avenue	65.4	62.1	63.4	70.8
LT3	N. Blythe Avenue & W. Ashlan Avenue	6/4/20-6/5/20	Vehicle traffic traveling on N. Blythe Avenue and W. Ashlan Avenue	67.3	65.5	61.5	69.1
LT4	N. Hayes Avenue & W. Ashlan Avenue	6/3/20-6/4/20	Vehicle Noise traveling on N. Hayes Avenue and W. Ashlan Avenue	65.8	61.3	58.6	67.1

Notes:
dBA = A-weighted decibels
Leq = equivalent noise level
Lmax = maximum noise level
Lmin = minimum noise level
Ln = noise level exceeded n percent of the measurement period

Exhibit E

Existing Roadway Noise Level Contours (CNEL)

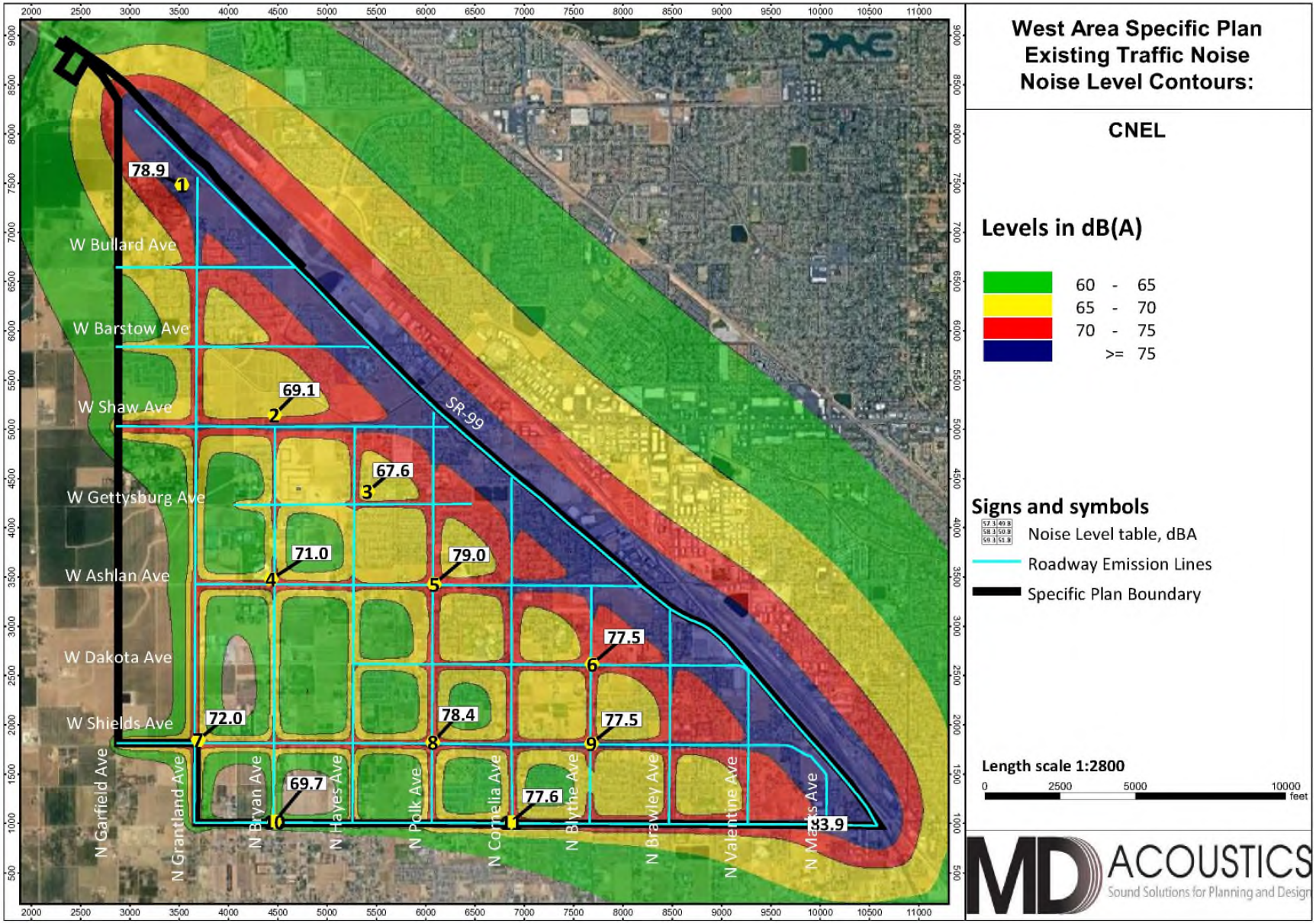
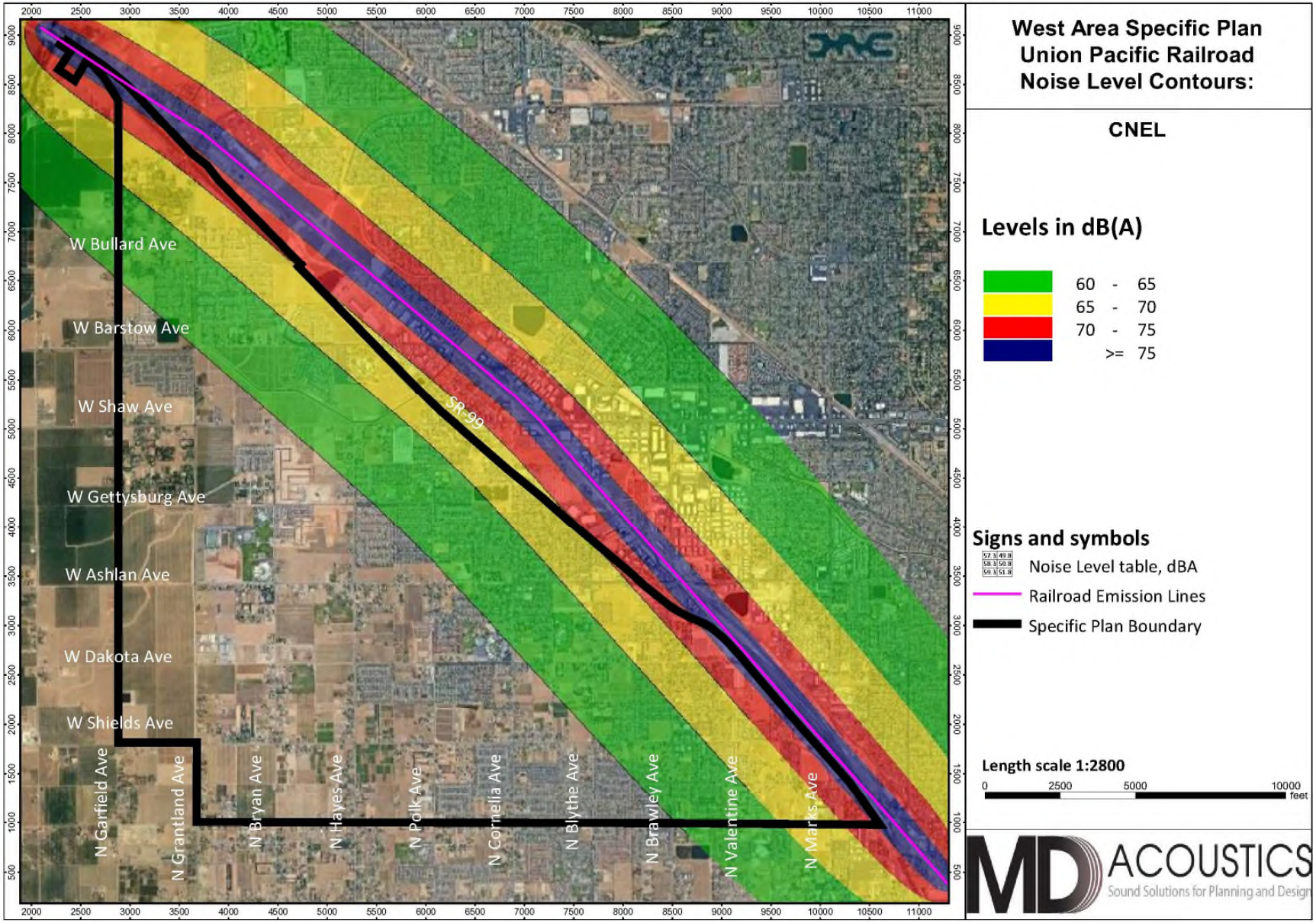


Exhibit F

Union Pacific Railroad Noise Level Contours (CNEL)



6.3 Vibration Sources in the Plan Area

The main sources of vibration in the project area are related to vehicles, rail, and construction. Typical roadway traffic, including heavy trucks, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage. However, there have been cases in which heavy trucks traveling over potholes or other discontinuities in the pavement have caused vibration high enough to result in complaints from nearby residents. These types of issues typically can be resolved by smoothing the roadway surface (Caltrans 2013b).

Construction activities that produce vibration that can be felt by adjacent land uses include the use vibratory equipment, large bull dozers, and pile drivers. The primary source of vibration during construction is usually from a bull dozer. A large bull dozer has a peak particle velocity of 0.089 inches per second at 25 feet.

7.0 Future Noise Environment Impacts and Mitigation

This assessment analyzes future noise impacts to and from the project compares the results to the City's Noise Standards. The analysis details the estimated exterior noise levels associated with traffic from adjacent roadways and from on-site stationary noise sources.

7.1 Future Exterior Noise

Each future noise source related to the project was evaluated in light of applicable City of Fresno and West Area Specific Plan policies and ordinances and programmatic mitigation measures are provided as applicable.

7.1.1 Stationary General Land Use Noise

The West Area Plan proposes the relocation of higher density land uses away from the most western and southwestern portions of the Plan Area where they are distant from public transit and community amenities and transfers those higher density land use designations to major corridors. The Specific Plan would result in an increase in land designated for employment, mixed use, open space and public facilities uses and a decrease in land designated for residential and commercial uses. Typical stationary noise sources and associated noise levels as measured ten-feet from the source are presented below[1].

- Parking lot noise 50-75 dBA
- HVAC 55-100 dBA
- Property maintenance 75-95 dBA
- Trash truck 85-90 dBA
- Loading/unloading 65-82 dBA
- Recreational noise 50-90 dBA
- Amplified music 80-105 dBA
- Car wash 85-100 dBA
- Event venue 65-75 dBA
- Idling heavy truck 72 dBA

Due to the suburban/rural nature of the Plan Area, development of the West Area Specific Plan will result in a substantial increase in existing ambient noise conditions. Enforcement of the Sections 10-105 through 10-109 of the City's Noise Ordinance and analysis of noise producing projects, along with any needed mitigation measures, will reduce noise impacts associated with future development. Increases in ambient noise levels associated with existing and future stationary noise impacts may result in

[1] The noise ranges presented are intended to give a general idea of typical urban/suburban stationary noise sources. Depending on the number of patrons and the specific activity, i.e. outdoor winery concert vs. a rock band, noise levels will vary.

significant impacts. The following measures should be implemented to reduce impacts associated with stationary noise sources in the Plan Area.

Mitigation Measures for Traffic Noise Impacts- Exterior Environment

1. Avoid the placement of new noise-producing uses in proximity to noise-sensitive land uses.

2. Apply noise level performance standards provided in Table 6 to proposed new noise producing uses.

3. Require new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards presented in Table 6.

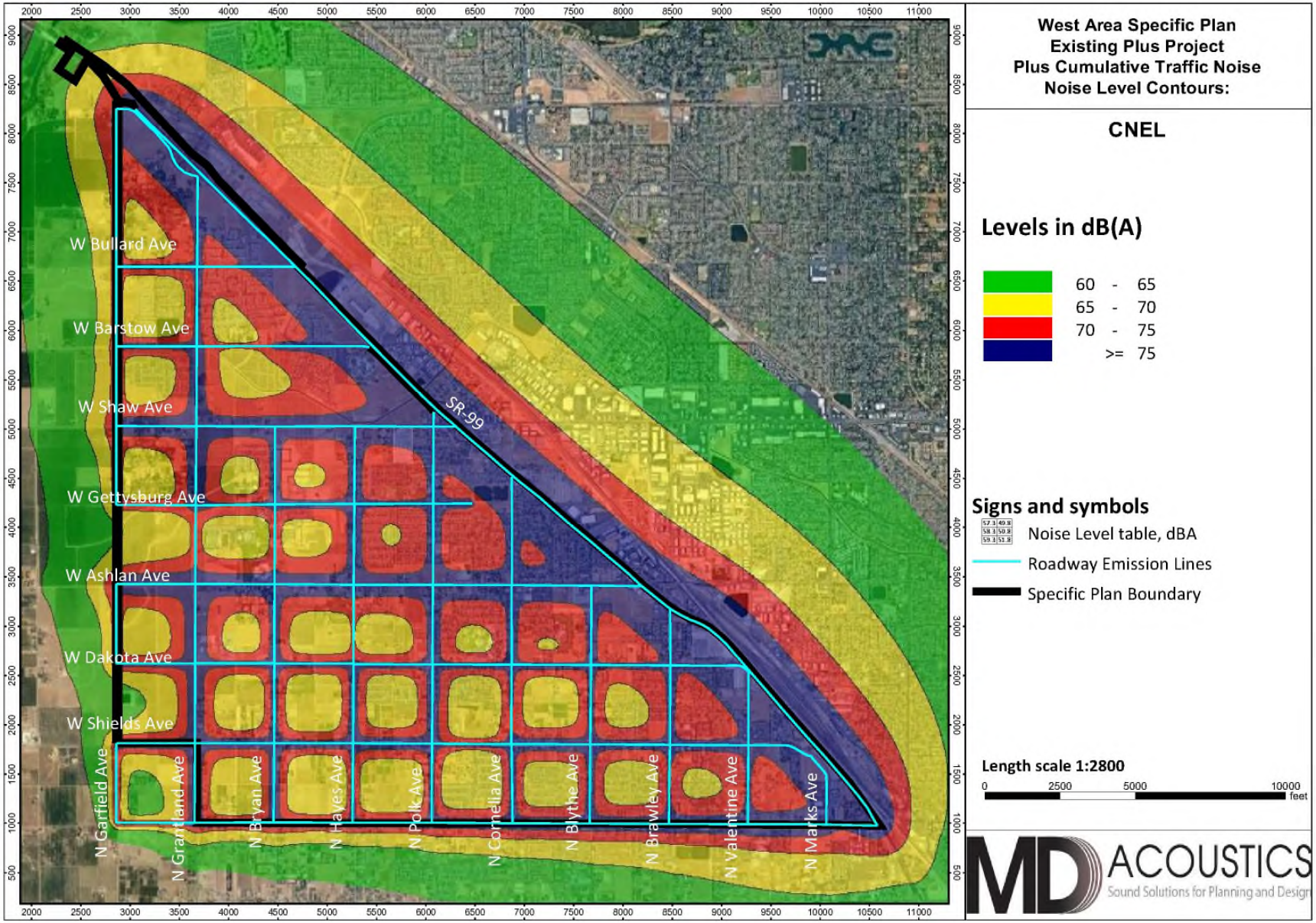
7.1.2 Roadway Noise

The primary noise source in the community will continue to be vehicle traffic traveling on surface streets and on State Route 99. Future noise levels associated with acoustically significant roadways within the Plan Area are shown on Exhibit G. Vehicle traffic generated noise associated with State Route 99 will continue to be the dominant noise source in the eastern portion of the Plan Area with ADTs ranging between 77,000-107,000 adjacent to the Plan Area.

Although most noise sensitive land uses adjacent to State Route 99 are shielded by existing sound walls, topography or buildings, there are still some noise sensitive land uses where existing plus project plus cumulative noise levels will exceed the City's 60 dBA Ldn noise standard. Noise levels in the Plan Area are expected to exceed 65 dBA CNEL in most areas where shielding from traffic noise is not provided. This is a significant impact and will require mitigation. Mitigation measures are provided at the end of this impact discussion.

Exhibit G

Existing Plus Project Plus Cumulative Roadway Noise Level Contours (CNEL)



Buildout of the Plan Area will also result in substantial increases in ambient noise levels. Existing exterior noise levels along Plan Area roadways are presented in Table 13, Existing plus project, plus cumulative traffic noise levels are presented in Table 14 and a comparison of the two conditions is presented in Table 15.

Table 13: Existing Exterior Noise Levels Along Roadways (dBA, CNEL)

Roadway	Segment Limits	Distances to Contour:				
		@100 ft	70	65	60	55
State Route 99	W. Herndon Ave to W. Shaw Ave	83	695	1,497	3,225	6,948
State Route 99	W. Shaw Ave to W. Ashlan Ave	82	672	1,447	3,118	6,718
State Route 99	W. Ashlan Ave to W. Dakota Ave	84	826	1,780	3,834	8,261
State Route 99	W. Dakota Ave to W. Shields Ave	84	821	1,768	3,810	8,208
State Route 99	W. Shields Ave to W. Clinton Ave	82	615	1,324	2,852	6,145
W. Herndon Ave	N. Garfield Ave to N. Parkway Drive	No Data	No Data	No Data	No Data	No Data
W. Bullard Ave	N Garfield Ave to N. Grantland Ave	48	3	7	16	33
W. Bullard Ave	N. Grantland Ave to N. Bryan Ave	55	10	21	44	96
W. Bullard Ave	N. Bryan Ave to SR-99	23	0	0	0	1
W. Barstow Ave	N Garfield to N. Grantland Ave	53	8	17	37	79
W. Barstow Ave	N. Grantland Ave to N. Bryan Ave	49	4	9	19	41
W. Barstow Ave	N. Bryan Ave to N. Contessa Ave	No Data	No Data	No Data	No Data	No Data
W. Barstow Ave	N. Contessa Ave to N. Island Waterpark Drive	No Data	No Data	No Data	No Data	No Data
W. Shaw Ave	N Garfield Ave to N. Grantland Ave	59	19	41	89	193
W. Shaw Ave	N. Grantland Ave to N. Bryan Ave	60	22	46	100	215
W. Shaw Ave	N. Bryan Ave to 1,300 ft east of N. Hayes Ave	61	24	51	110	238
W. Shaw Ave	1,300 ft east of N. Hayes Ave to N. Polk Ave	63	36	77	166	358
W. Shaw Ave	N. Polk Ave to State Route 99	66	57	124	266	574
W. Gettysburg Ave	1,300 ft west of N. Bryan Ave to Bryan Ave	51	5	11	25	53
W. Gettysburg Ave	N. Bryan Ave to N. Hayes Ave	52	7	14	31	67
W. Gettysburg Ave	N. Hayes Ave to N. Polk Ave	53	7	16	34	73
W. Gettysburg Ave	N. Polk Ave to N. Barcus	54	8	17	37	80
W. Ashlan Ave	N. Garfield to N. Grantland	No Data	No Data	No Data	No Data	No Data
W. Ashlan Ave	N. Grantland Ave to N. Bryan Ave	59	18	38	82	177
W. Ashlan Ave	N. Bryan Ave to N. Hayes Ave	56	12	27	58	124
W. Ashlan Ave	N. Hayes Ave to N. Polk Ave	55	9	20	44	94
W. Ashlan Ave	N. Polk Ave to N. Cornelia Ave	60	20	44	94	203
W. Ashlan Ave	N. Cornelia Ave to N. Blythe Ave	64	38	81	174	376

Table 13: Existing Exterior Noise Levels Along Roadways (dBA, CNEL)

Roadway	Segment Limits	Distances to Contour:				
		@100 ft	70	65	60	55
W. Ashlan Ave	N. Blythe Ave to State Route 99	65	48	103	223	480
W. Dakota Ave	N. Hayes Ave to N. Barcus Ave	53	7	16	34	73
W. Dakota Ave	N. Barcus Ave to N. Polk Ave	56	11	24	51	109
W. Dakota Ave	N. Polk Ave to N. Cornelia Ave	57	14	30	65	139
W. Dakota Ave	N. Cornelia Ave to N. Blythe Ave	56	12	27	57	123
W. Dakota Ave	N. Blythe Ave to N Brawley Ave	55	10	22	47	101
W. Dakota Ave	N Brawley Ave to N. Parkway Drive	54	8	18	39	84
W. Shields Ave	N. Garfield Ave to Grantland Ave	54	9	20	42	91
W. Shields Ave	N. Grantland Ave to N. Bryan Ave	54	9	20	43	92
W. Shields Ave	N. Bryan Ave to N. Hayes Ave	56	11	24	51	109
W. Shields Ave	N. Hayes Ave to N. Polk Ave	55	10	22	48	103
W. Shields Ave	N. Polk Ave to N. Dante Ave	58	17	36	78	169
W. Shields Ave	N. Dante Ave to N. Cornelia Ave	58	17	36	78	169
W. Shields Ave	N. Cornelia Ave to N. Blythe Ave	57	13	28	60	130
W. Shields Ave	N. Blythe Ave to N. Brawley Ave	57	13	27	59	126
W. Shields Ave	N Brawley Ave to N. Valentine Ave	58	15	33	70	152
W. Shields Ave	N. Valentine Ave to N. Marks Ave	58	17	37	79	170
W. Clinton Ave	N. Grantland Ave to N. Bryan Ave	48	3	7	15	32
W. Clinton Ave	N. Bryan Ave to N. Hayes Ave	50	5	10	21	46
W. Clinton Ave	N. Hayes Ave to N. Polk Ave	52	6	13	28	60
W. Clinton Ave	N. Polk Ave to 1900 ft east of N. Polk Ave	52	6	13	28	60
W. Clinton Ave	1900 east of N. Polk Ave to N. Cornelia Ave	59	18	40	86	184
W. Clinton Ave	N. Cornelia Ave to N. Milburn Ave	63	34	74	159	343
W. Clinton Ave	N. Milburn Ave to N. Blythe Ave	62	29	62	133	286
W. Clinton Ave	N. Blythe Ave to N Sonora Ave	65	44	95	204	440
W. Clinton Ave	N. Sonora Ave to N Brawley Ave	63	37	79	170	367
W. Clinton Ave	N Brawley Ave to N. Knoll Ave	64	38	82	177	381
W. Clinton Ave	N. Knoll Ave to 850 ft east of N. Knoll Ave	64	37	81	174	374
W. Clinton Ave	850 east of N. Knoll Ave to N. Valentine Ave	61	27	58	124	268
W. Clinton Ave	N. Valentine Ave to N. Marks Ave	64	41	88	190	410
W. Clinton Ave	N. Marks Ave to W. Vassar Ave	68	73	158	340	733
N Garfield Ave	W. Herndon Ave to W. Bullard Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Bullard Ave to W. Barstow Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Barstow Ave to 1,000 ft south of W. Barstow Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	1,000 ft south of W. Barstow Ave to W. Shaw Ave	No Data	No Data	No Data	No Data	No Data

Table 13: Existing Exterior Noise Levels Along Roadways (dBA, CNEL)

Roadway	Segment Limits	Distances to Contour:				
		@100 ft	70	65	60	55
N Garfield Ave	W. Shaw Ave to W. Gettysburg Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Gettysburg Ave to W. Ashlan Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Ashlan Ave to W. Dakota Ave	No Data	No Data	No Data	No Data	No Data
N Garfield Ave	W. Dakota Ave to W. Shields Ave	No Data	No Data	No Data	No Data	No Data
N. Parkway Drive	N Herndon Ave to W. Herndon Ave	No Data	No Data	No Data	No Data	No Data
N. Grantland Ave	N. Parkway Drive to W. Bullard Ave	No Data	No Data	No Data	No Data	No Data
N. Grantland Ave	W. Bullard Ave to W. Barstow Ave	62	31	68	146	315
N. Grantland Ave	W. Barstow Ave to W. Shaw Ave	62	29	62	134	290
N. Grantland Ave	W. Shaw Ave to W. Gettysburg Ave	57	14	31	67	144
N. Grantland Ave	W. Gettysburg Ave to W. Ashlan Ave	60	21	44	95	205
N. Grantland Ave	W. Ashlan Ave to W Dakota Ave	59	17	37	80	171
N. Grantland Ave	W. Dakota Ave to W. Shields Ave	No Data	No Data	No Data	No Data	No Data
N. Grantland Ave	W Shields Ave to W. Clinton Ave	57	14	31	66	142
N. Bryan Ave	W. Shaw Ave to W. Santa Ana Ave	54	8	18	39	84
N. Bryan Ave	W. Santa Ana Ave to W. Gettysburg Ave	54	8	18	39	84
N. Bryan Ave	W. Gettysburg Ave to W. Ashlan Ave	58	15	32	69	149
N. Bryan Ave	W. Ashlan Ave to W. Dakota Ave	55	10	22	47	102
N. Bryan Ave	W. Dakota Ave to W Shields Ave	53	7	15	32	68
N. Bryan Ave	W Shields Ave to W. Clinton Ave	48	4	8	16	35
N. Hayes Ave	W. Shaw Ave to W. Santa Ana Ave	57	14	30	64	138
N. Hayes Ave	W. Santa Ana Ave to W. Gettysburg Ave	57	14	29	63	136
N. Hayes Ave	W. Gettysburg Ave to W. Swift Ave	55	10	21	46	100
N. Hayes Ave	W. Swift Ave to W. Ashlan Ave	52	7	14	31	67
N. Hayes Ave	W. Ashland Ave to W. Dakota Ave	54	8	18	39	84
N. Hayes Ave	W. Dakota Ave to 1,300 ft South of W. Dakota Ave	53	8	17	36	78
N. Hayes Ave	1,300 ft South of W. Dakota Ave to W Shields Ave	56	12	25	54	116
N. Hayes Ave	W Shields Ave to W. Clinton Ave	52	7	14	30	66
N. Polk Ave	North of W. Shaw Ave	60	22	47	102	219
N. Polk Ave	W. Shaw Ave to W. Acacia Ave	62	31	66	142	307
N. Polk Ave	W. Acacia Ave to W. Gettysburg Ave	62	31	67	145	312
N. Polk Ave	W. Gettysburg Ave to W. Ashlan Ave	58	17	36	78	167
N. Polk Ave	W. Ashland Ave to W. Griffith Way	59	18	40	85	184
N. Polk Ave	W. Griffith Way to W. Dakota Ave	61	26	55	119	257
N. Polk Ave	W. Dakota Ave to W Shields Ave	58	17	36	78	168
N. Polk Ave	W Shields Ave to W. Clinton Ave	57	14	30	65	141

Table 13: Existing Exterior Noise Levels Along Roadways (dBA, CNEL)

Roadway	Segment Limits	Distances to Contour:				
		@100 ft	70	65	60	55
N. Cornelia Ave	N. Parkway Drive to W. Gettysburg Ave	60	22	48	104	223
N. Cornelia Ave	W. Gettysburg to W. Ashlan Ave	60	22	48	104	223
N. Cornelia Ave	W. Ashland Ave to W. Bellaire Way	62	27	59	128	275
N. Cornelia Ave	W. Bellaire Way to W. Dakota Ave	62	27	59	128	275
N. Cornelia Ave	W. Dakota Ave to W Shields Ave	58	15	33	70	152
N. Cornelia Ave	W Shields Ave to W. Clinton Ave	60	22	47	102	220
N. Blythe Ave	W. Ashlan Ave to W. Dakota Ave	60	21	45	96	207
N. Blythe Ave	W. Dakota Ave to W Shields Ave	57	13	29	62	133
N. Blythe Ave	W Shields Ave to W. Clinton Ave	57	14	29	63	136
N Brawley Ave	N. Parkway Drive to W. Dakota Ave	58	17	36	77	165
N Brawley Ave	W. Dakota Ave to W. Dayton Ave	58	16	35	75	161
N Brawley Ave	W. Dayton Ave to W. Cortland Ave	61	24	52	111	240
N Brawley Ave	W. Cortland Ave to W. Shields Ave	58	16	35	75	161
N Brawley Ave	W Shields Ave to W. Clinton Ave	58	16	33	72	155
N. Valentine Ave	N. Parkway Drive to W Shields Ave	54	9	19	41	89
N. Valentine Ave	W Shields Ave to W. Clinton Ave	53	8	17	36	77
N. Marks Ave	W Princeton Ave to W. Clinton Ave	59	20	44	95	205

Notes:

1. Exterior noise levels calculated at 5-feet above ground.

2. Noise levels calculated from centerline of subject roadway.

3. Refer to Appendix C for projected noise level calculations.

4. The projected noise levels at 100 ft are theoretical and do not take into consideration the effect of topography, noise barriers, structures or other factors which will reduce the actual noise level in the outdoor living areas. These factors can reduce the actual noise levels by 5-10 dBA from what is shown in the table. Therefore, the levels that are shown are for comparative purposes only to show the difference in projected noise levels without and with the project.

Table 14: Existing Plus Project Plus Cumulative Exterior Noise Levels Along Roadways (dBA , CNEL)

Roadway	Segment Limits	Distance to Noise Contour:				
		@ 100ft	70	65	60	55
State Route 99	W. Herndon Ave to W. Shaw Ave	82.6	695	1,497	3,225	6,948
State Route 99	W. Shaw Ave to W. Ashlan Ave	82.4	672	1,447	3,118	6,718
State Route 99	W. Ashlan Ave to W. Dakota Ave	83.8	826	1,780	3,834	8,261
State Route 99	W. Dakota Ave to W. Shields Ave	83.7	821	1,768	3,810	8,208
State Route 99	W. Shields Ave to W. Clinton Ave	83.8	837	1,802	3,883	8,365
W. Herndon Ave	N. Garfield Ave to N. Parkway Drive	No Data	No Data	No Data	No Data	No Data

Table 14: Existing Plus Project Plus Cumulative Exterior Noise Levels Along Roadways (dBA , CNEL)

Roadway	Segment Limits	Distance to Noise Contour:				
		@ 100ft	70	65	60	55
W. Bullard Ave	N Garfield Ave to N. Grantland Ave	58.3	17	36	77	167
W. Bullard Ave	N. Grantland Ave to N. Bryan Ave	60.0	21	46	99	214
W. Bullard Ave	N. Bryan Ave to SR-99	22.7	0	0	0	0
W. Barstow Ave	N Garfield to N. Grantland Ave	53.8	8	18	39	84
W. Barstow Ave	N. Grantland Ave to N. Bryan Ave	61.8	28	61	132	283
W. Barstow Ave	N. Bryan Ave to N. Contessa Ave	No Data	No Data	No Data	No Data	No Data
W. Barstow Ave	N. Contessa Ave to N. Island Waterpark Drive	No Data	No Data	No Data	No Data	No Data
W. Shaw Ave	N Garfield Ave to N. Grantland Ave	63.7	38	82	178	383
W. Shaw Ave	N. Grantland Ave to N. Bryan Ave	68.3	77	165	356	766
W. Shaw Ave	N. Bryan Ave to 1,300 ft east of N. Hayes Ave	68.1	75	161	347	748
W. Shaw Ave	1,300 ft east of N. Hayes Ave to N. Polk Ave	71.0	117	253	544	1,173
W. Shaw Ave	N. Polk Ave to State Route 99	73.3	165	355	765	1,648
W. Gettysburg Ave	1,300 ft west of N. Bryan Ave to Bryan Ave	58.5	17	37	79	171
W. Gettysburg Ave	N. Bryan Ave to N. Hayes Ave	60.5	23	50	108	233
W. Gettysburg Ave	N. Hayes Ave to N. Polk Ave	62.8	33	71	154	332
W. Gettysburg Ave	N. Polk Ave to N. Barcus	62.3	31	66	143	308
W. Ashlan Ave	N. Garfield to N. Grantland	64.3	41	89	192	414
W. Ashlan Ave	N. Grantland Ave to N. Bryan Ave	70.4	106	228	492	1,060
W. Ashlan Ave	N. Bryan Ave to N. Hayes Ave	67.5	69	148	319	687
W. Ashlan Ave	N. Hayes Ave to N. Polk Ave	68.0	73	157	339	731
W. Ashlan Ave	N. Polk Ave to N. Cornelia Ave	67.8	72	154	333	717
W. Ashlan Ave	N. Cornelia Ave to N. Blythe Ave	69.2	88	190	409	882
W. Ashlan Ave	N. Blythe Ave to State Route 99	69.7	96	207	445	960
W. Dakota Ave	N. Hayes Ave to N. Barcus Ave	62.2	30	65	139	300
W. Dakota Ave	N. Barcus Ave to N. Polk Ave	64.7	45	96	207	446
W. Dakota Ave	N. Polk Ave to N. Cornelia Ave	61.8	28	61	132	284
W. Dakota Ave	N. Cornelia Ave to N. Blythe Ave	61.6	28	60	129	277
W. Dakota Ave	N. Blythe Ave to N Brawley Ave	61.3	26	56	121	262
W. Dakota Ave	N Brawley Ave to N. Parkway Drive	58.8	18	39	83	179
W. Shields Ave	N. Garfield Ave to Grantland Ave	No Data	No Data	No Data	No Data	No Data
W. Shields Ave	N. Grantland Ave to N. Bryan Ave	61.3	26	57	123	265
W. Shields Ave	N. Bryan Ave to N. Hayes Ave	62.0	29	63	137	294
W. Shields Ave	N. Hayes Ave to N. Polk Ave	61.0	25	54	116	251
W. Shields Ave	N. Polk Ave to N. Dante Ave	66.0	54	116	250	539

Table 14: Existing Plus Project Plus Cumulative Exterior Noise Levels Along Roadways (dBA , CNEL)

Roadway	Segment Limits	Distance to Noise Contour:				
		@ 100ft	70	65	60	55
W. Shields Ave	N. Dante Ave to N. Cornelia Ave	66.0	54	116	250	539
W. Shields Ave	N. Cornelia Ave to N. Blythe Ave	63.0	34	73	158	341
W. Shields Ave	N. Blythe Ave to N. Brawley Ave	63.3	36	77	167	359
W. Shields Ave	N Brawley Ave to N. Valentine Ave	63.0	34	74	160	344
W. Shields Ave	N. Valentine Ave to N. Marks Ave	62.9	34	73	157	338
W. Clinton Ave	N. Grantland Ave to N. Bryan Ave	55.4	11	23	49	106
W. Clinton Ave	N. Bryan Ave to N. Hayes Ave	61.6	28	59	128	275
W. Clinton Ave	N. Hayes Ave to N. Polk Ave	62.0	29	63	136	293
W. Clinton Ave	N. Polk Ave to 1900 ft east of N. Polk Ave	62.9	34	73	156	337
W. Clinton Ave	1900 east of N. Polk Ave to N. Cornelia Ave	66.9	63	135	291	626
W. Clinton Ave	N. Cornelia Ave to N. Milburn Ave	68.9	84	182	392	844
W. Clinton Ave	N. Milburn Ave to N. Blythe Ave	68.5	79	170	366	789
W. Clinton Ave	N. Blythe Ave to N Sonora Ave	68.9	84	182	392	844
W. Clinton Ave	N. Sonora Ave to N Brawley Ave	67.7	70	152	327	704
W. Clinton Ave	N Brawley Ave to N. Knoll Ave	68.5	79	170	366	789
W. Clinton Ave	N. Knoll Ave to 850 ft east of N. Knoll Ave	68.3	78	167	360	776
W. Clinton Ave	850 east of N. Knoll Ave to N. Valentine Ave	66.2	55	120	258	555
W. Clinton Ave	N. Valentine Ave to N. Marks Ave	69.7	95	204	440	949
W. Clinton Ave	N. Marks Ave to W. Vassar Ave	72.6	149	322	694	1,495
N Garfield Ave	W. Herndon Ave to W. Bullard Ave	57.8	15	33	71	153
N Garfield Ave	W. Bullard Ave to W. Barstow Ave	58.4	17	36	78	167
N Garfield Ave	W. Barstow Ave to 1,000 ft south of W. Barstow Ave	60.9	25	53	114	246
N Garfield Ave	1,000 ft south of W. Barstow Ave to W. Shaw Ave	60.9	25	53	114	246
N Garfield Ave	W. Shaw Ave to W. Gettysburg Ave	59.0	19	40	86	186
N Garfield Ave	W. Gettysburg Ave to W. Ashlan Ave	58.8	18	39	83	179
N Garfield Ave	W. Ashlan Ave to W. Dakota Ave	21.5	No Data	No Data	No Data	No Data
N Garfield Ave	W. Dakota Ave to W. Shields Ave	58.5	17	37	79	170
N. Parkway Drive	N Herndon Ave to W. Herndon Ave	57.7	15	33	70	151
N. Grantland Ave	N. Parkway Drive to W. Bullard Ave	No Data	No Data	No Data	No Data	No Data
N. Grantland Ave	W. Bullard Ave to W. Barstow Ave	64.4	43	92	198	426
N. Grantland Ave	W. Barstow Ave to W. Shaw Ave	65.5	50	109	234	504
N. Grantland Ave	W. Shaw Ave to W. Gettysburg Ave	68.0	74	159	343	738
N. Grantland Ave	W. Gettysburg Ave to W. Ashlan Ave	71.1	119	257	553	1,191
N. Grantland Ave	W. Ashlan Ave to W Dakota Ave	No Data	No Data	No Data	No Data	No Data

Table 14: Existing Plus Project Plus Cumulative Exterior Noise Levels Along Roadways (dBA , CNEL)

Roadway	Segment Limits	Distance to Noise Contour:				
		@ 100ft	70	65	60	55
N. Grantland Ave	W. Dakota Ave to W. Shields Ave	69.7	96	206	444	957
N. Grantland Ave	W Shields Ave to W. Clinton Ave	67.7	71	152	328	706
N. Bryan Ave	W. Shaw Ave to W. Santa Ana Ave	63.4	36	78	168	361
N. Bryan Ave	W. Santa Ana Ave to W. Gettysburg Ave	63.4	36	78	168	361
N. Bryan Ave	W. Gettysburg Ave to W. Ashlan Ave	65.3	48	104	225	484
N. Bryan Ave	W. Ashlan Ave to W. Dakota Ave	No Data	No Data	No Data	No Data	No Data
N. Bryan Ave	W. Dakota Ave to W Shields Ave	62.9	33	72	155	334
N. Bryan Ave	W Shields Ave to W. Clinton Ave	61.4	27	58	124	268
N. Hayes Ave	W. Shaw Ave to W. Santa Ana Ave	66.4	57	123	265	572
N. Hayes Ave	W. Santa Ana Ave to W. Gettysburg Ave	66.2	56	121	261	562
N. Hayes Ave	W. Gettysburg Ave to W. Swift Ave	66.8	61	132	284	613
N. Hayes Ave	W. Swift Ave to W. Ashlan Ave	64.2	41	89	191	412
N. Hayes Ave	W. Ashland Ave to W. Dakota Ave	64.9	45	98	211	454
N. Hayes Ave	W. Dakota Ave to 1,300 ft South of W. Dakota Ave	63.3	36	78	167	360
N. Hayes Ave	1,300 ft South of W. Dakota Ave to W Shields Ave	65.9	54	115	249	535
N. Hayes Ave	W Shields Ave to W. Clinton Ave	62.5	32	68	147	317
N. Polk Ave	North of W. Shaw Ave	61.8	29	62	133	286
N. Polk Ave	W. Shaw Ave to W. Acacia Ave	67.8	71	153	330	711
N. Polk Ave	W. Acacia Ave to W. Gettysburg Ave	67.9	72	156	336	723
N. Polk Ave	W. Gettysburg Ave to W. Ashlan Ave	66.5	58	126	271	583
N. Polk Ave	W. Ashland Ave to W. Griffith Way	66.5	59	126	272	586
N. Polk Ave	W. Griffith Way to W. Dakota Ave	68.7	82	176	380	819
N. Polk Ave	W. Dakota Ave to W Shields Ave	65.3	48	104	224	482
N. Polk Ave	W Shields Ave to W. Clinton Ave	64.9	46	98	212	457
N. Cornelia Ave	N. Parkway Drive to W. Gettysburg Ave	62.3	31	66	143	307
N. Cornelia Ave	W. Gettysburg to W. Ashlan Ave	66.1	55	119	256	551
N. Cornelia Ave	W. Ashland Ave to W. Bellaire Way	64.6	44	94	203	438
N. Cornelia Ave	W. Bellaire Way to W. Dakota Ave	64.6	44	94	203	438
N. Cornelia Ave	W. Dakota Ave to W Shields Ave	62.6	32	69	149	321
N. Cornelia Ave	W Shields Ave to W. Clinton Ave	64.4	43	92	198	426
N. Blythe Ave	W. Ashlan Ave to W. Dakota Ave	63.8	39	84	180	389
N. Blythe Ave	W. Dakota Ave to W Shields Ave	62.5	31	68	146	314
N. Blythe Ave	W Shields Ave to W. Clinton Ave	62.2	30	65	139	300
N Brawley Ave	N. Parkway Drive to W. Dakota Ave	63.3	36	77	166	357
N Brawley Ave	W. Dakota Ave to W. Dayton Ave	62.2	30	65	141	303

Table 14: Existing Plus Project Plus Cumulative Exterior Noise Levels Along Roadways (dBA , CNEL)

Roadway	Segment Limits	Distance to Noise Contour:				
		@ 100ft	70	65	60	55
N Brawley Ave	W. Dayton Ave to W. Cortland Ave	64.7	45	97	209	451
N Brawley Ave	W. Cortland Ave to W. Shields Ave	62.0	30	65	141	303
N Brawley Ave	W Shields Ave to W. Clinton Ave	62.1	31	67	144	310
N. Valentine Ave	N. Parkway Drive to W Shields Ave	60.7	25	54	117	251
N. Valentine Ave	W Shields Ave to W. Clinton Ave	60.4	24	53	113	244
N. Marks Ave	W Princeton Ave to W. Clinton Ave	61.5	29	63	135	292

Notes:

1. Exterior noise levels calculated at 5-feet above ground.

2. Noise levels calculated from centerline of subject roadway.

3. Refer to Appendix C for projected noise level calculations.

4. The projected noise levels at 100 ft are theoretical and do not take into consideration the effect of topography, noise barriers, structures or other factors which will reduce the actual noise level in the outdoor living areas. These factors can reduce the actual noise levels by 5-10 dBA from what is shown in the table. Therefore, the levels that are shown are for comparative purposes only to show the difference in projected noise levels without and with the project.

Table 15: Change in Noise Along Roadways Due to West Area Specific Plan (dBA, CNEL)

Roadway[1]	Segment	CNEL at 100 Feet dBA[2]				
		Existing Without Project	Existing Plus Project Plus Cumulative	Change in Noise Level	Exceeds Compatibility Criteria[3]	Potential Significant Impact[4]
State Route 99	W. Herndon Ave to W. Shaw Ave	82.6	82.6	0.0	Yes	No
State Route 99	W. Shaw Ave to W. Ashlan Ave	82.4	82.4	0.0	Yes	No
State Route 99	W. Ashlan Ave to W. Dakota Ave	83.8	83.8	0.0	Yes	No
State Route 99	W. Dakota Ave to W. Shields Ave	83.7	83.7	0.0	Yes	No
State Route 99	W. Shields Ave to W. Clinton Ave	81.8	83.8	2.0	Yes	No
W. Herndon Ave	N. Garfield Ave to N. Parkway Drive	No Data	No Data	n/a	n/a	n/a
W. Bullard Ave	N Garfield Ave to N. Grantland Ave	47.9	58.3	10.5	No	No
W. Bullard Ave	N. Grantland Ave to N. Bryan Ave	54.7	60.0	5.2	No	No
W. Bullard Ave	N. Bryan Ave to SR-99	No Data	No Data	n/a	n/a	n/a
W. Barstow Ave	N Garfield to N. Grantland Ave	53.5	53.8	0.4	No	No
W. Barstow Ave	N. Grantland Ave to N. Bryan Ave	49.1	61.8	12.7	No	No

Table 15: Change in Noise Along Roadways Due to West Area Specific Plan (dBA, CNEL)

Roadway[1]	Segment	CNEL at 100 Feet dBA[2]				
		Existing Without Project	Existing Plus Project Plus Cumulative	Change in Noise Level	Exceeds Compatibility Criteria[3]	Potential Significant Impact[4]
W. Barstow Ave	N. Bryan Ave to N. Contessa Ave	No Data	No Data	n/a	n/a	n/a
W. Barstow Ave	N. Contessa Ave to N. Island Waterpark Drive	No Data	No Data	n/a	n/a	n/a
W. Shaw Ave	N Garfield Ave to N. Grantland Ave	59.3	63.7	4.5	No	No
W. Shaw Ave	N. Grantland Ave to N. Bryan Ave	60.0	68.3	8.3	Yes	Yes
W. Shaw Ave	N. Bryan Ave to 1,300 ft east of N. Hayes Ave	60.6	68.1	7.5	Yes	Yes
W. Shaw Ave	1,300 ft east of N. Hayes Ave to N. Polk Ave	63.3	71.0	7.7	Yes	Yes
W. Shaw Ave	N. Polk Ave to State Route 99	66.4	73.3	6.9	Yes	Yes
W. Gettysburg Ave	1,300 ft west of N. Bryan Ave to Bryan Ave	50.9	58.5	7.6	No	No
W. Gettysburg Ave	N. Bryan Ave to N. Hayes Ave	52.4	60.5	8.1	No	No
W. Gettysburg Ave	N. Hayes Ave to N. Polk Ave	53.0	62.8	9.8	No	No
W. Gettysburg Ave	N. Polk Ave to N. Barcus	53.6	62.3	8.8	No	No
W. Ashlan Ave	N. Garfield to N. Grantland	No Data	64.3	n/a	n/a	n/a
W. Ashlan Ave	N. Grantland Ave to N. Bryan Ave	58.7	70.4	11.7	Yes	Yes
W. Ashlan Ave	N. Bryan Ave to N. Hayes Ave	56.4	67.5	11.2	Yes	Yes
W. Ashlan Ave	N. Hayes Ave to N. Polk Ave	54.6	68.0	13.4	Yes	Yes
W. Ashlan Ave	N. Polk Ave to N. Cornelia Ave	59.6	67.8	8.2	Yes	Yes
W. Ashlan Ave	N. Cornelia Ave to N. Blythe Ave	63.6	69.2	5.6	Yes	Yes
W. Ashlan Ave	N. Blythe Ave to State Route 99	65.2	69.7	4.5	Yes	No
W. Dakota Ave	N. Hayes Ave to N. Barcus Ave	53.0	62.2	9.2	No	No
W. Dakota Ave	N. Barcus Ave to N. Polk Ave	55.6	64.7	9.2	No	No
W. Dakota Ave	N. Polk Ave to N. Cornelia Ave	57.2	61.8	4.6	No	No
W. Dakota Ave	N. Cornelia Ave to N. Blythe Ave	56.4	61.6	5.3	No	No
W. Dakota Ave	N. Blythe Ave to N Brawley Ave	55.1	61.3	6.2	No	No
W. Dakota Ave	N Brawley Ave to N. Parkway Drive	53.9	58.8	4.9	No	No
W. Shields Ave	N. Garfield Ave to Grantland Ave	54.4	No Data	n/a	n/a	n/a
W. Shields Ave	N. Grantland Ave to N. Bryan Ave	54.5	61.3	6.9	No	No

Table 15: Change in Noise Along Roadways Due to West Area Specific Plan (dBA, CNEL)

Roadway[1]	Segment	CNEL at 100 Feet dBA[2]				
		Existing Without Project	Existing Plus Project Plus Cumulative	Change in Noise Level	Exceeds Compatibility Criteria[3]	Potential Significant Impact[4]
W. Shields Ave	N. Bryan Ave to N. Hayes Ave	55.6	62.0	6.4	No	No
W. Shields Ave	N. Hayes Ave to N. Polk Ave	55.2	61.0	5.8	No	No
W. Shields Ave	N. Polk Ave to N. Dante Ave	58.4	66.0	7.6	Yes	Yes
W. Shields Ave	N. Dante Ave to N. Cornelia Ave	58.4	66.0	7.6	Yes	Yes
W. Shields Ave	N. Cornelia Ave to N. Blythe Ave	56.7	63.0	6.3	No	No
W. Shields Ave	N. Blythe Ave to N. Brawley Ave	56.5	63.3	6.8	No	No
W. Shields Ave	N Brawley Ave to N. Valentine Ave	57.7	63.0	5.3	No	No
W. Shields Ave	N. Valentine Ave to N. Marks Ave	58.5	62.9	4.5	No	No
W. Clinton Ave	N. Grantland Ave to N. Bryan Ave	47.5	55.4	7.9	No	No
W. Clinton Ave	N. Bryan Ave to N. Hayes Ave	49.9	61.6	11.7	No	No
W. Clinton Ave	N. Hayes Ave to N. Polk Ave	51.7	62.0	10.3	No	No
W. Clinton Ave	N. Polk Ave to 1900 ft east of N. Polk Ave	51.7	62.9	11.2	No	No
W. Clinton Ave	1900 east of N. Polk Ave to N. Cornelia Ave	59.0	66.9	8.0	Yes	Yes
W. Clinton Ave	N. Cornelia Ave to N. Milburn Ave	63.0	68.9	5.9	Yes	Yes
W. Clinton Ave	N. Milburn Ave to N. Blythe Ave	61.8	68.5	6.6	Yes	Yes
W. Clinton Ave	N. Blythe Ave to N Sonora Ave	64.6	68.9	4.2	Yes	No
W. Clinton Ave	N. Sonora Ave to N Brawley Ave	63.5	67.7	4.2	Yes	No
W. Clinton Ave	N Brawley Ave to N. Knoll Ave	63.7	68.5	4.7	Yes	No
W. Clinton Ave	N. Knoll Ave to 850 ft east of N. Knoll Ave	63.6	68.3	4.7	Yes	No
W. Clinton Ave	850 east of N. Knoll Ave to N. Valentine Ave	61.4	66.2	4.7	Yes	No
W. Clinton Ave	N. Valentine Ave to N. Marks Ave	64.2	69.7	5.5	Yes	Yes
W. Clinton Ave	N. Marks Ave to W. Vassar Ave	68.0	72.6	4.6	Yes	No
N Garfield Ave	W. Herndon Ave to W. Bullard Ave	No Data	57.8	n/a	n/a	n/a
N Garfield Ave	W. Bullard Ave to W. Barstow Ave	No Data	58.4	n/a	n/a	n/a
N Garfield Ave	W. Barstow Ave to 1,000 ft south of W. Barstow Ave	No Data	60.9	n/a	n/a	n/a

Table 15: Change in Noise Along Roadways Due to West Area Specific Plan (dBA, CNEL)

Roadway[1]	Segment	CNEL at 100 Feet dBA[2]				
		Existing Without Project	Existing Plus Project Plus Cumulative	Change in Noise Level	Exceeds Compatibility Criteria[3]	Potential Significant Impact[4]
N Garfield Ave	1,000 ft south of W. Barstow Ave to W. Shaw Ave	No Data	60.9	n/a	n/a	n/a
N Garfield Ave	W. Shaw Ave to W. Gettysburg Ave	No Data	59.0	n/a	n/a	n/a
N Garfield Ave	W. Gettysburg to W. Ashlan Ave	No Data	58.8	n/a	n/a	n/a
N Garfield Ave	W. Ashlan Ave to W. Dakota Ave	No Data	21.5	n/a	n/a	n/a
N Garfield Ave	W. Dakota Ave to W. Shields Ave	No Data	58.5	n/a	n/a	n/a
N. Parkway Drive	N Herndon Ave to W. Herndon Ave	No Data	57.7	n/a	n/a	n/a
N. Grantland Ave	N. Parkway Drive to W. Bullard Ave	No Data	No Data	n/a	n/a	n/a
N. Grantland Ave	W. Bullard Ave to W. Barstow Ave	62.5	64.4	2.0	Yes	No
N. Grantland Ave	W. Barstow Ave to W. Shaw Ave	61.9	65.5	3.6	Yes	No
N. Grantland Ave	W. Shaw Ave to W. Gettysburg Ave	57.4	68.0	10.6	Yes	Yes
N. Grantland Ave	W. Gettysburg Ave to W. Ashlan Ave	59.7	71.1	11.5	Yes	Yes
N. Grantland Ave	W. Ashlan Ave to W Dakota Ave	58.5	No Data	n/a	n/a	n/a
N. Grantland Ave	W. Dakota Ave to W. Shields Ave	No Data	69.7	n/a	n/a	n/a
N. Grantland Ave	W Shields Ave to W. Clinton Ave	57.3	67.7	10.5	Yes	Yes
N. Bryan Ave	W. Shaw Ave to W. Santa Ana Ave	53.9	63.4	9.5	No	No
N. Bryan Ave	W. Santa Ana Ave to W. Gettysburg Ave	53.9	63.4	9.5	No	No
N. Bryan Ave	W. Gettysburg Ave to W. Ashlan Ave	57.6	65.3	7.7	Yes	Yes
N. Bryan Ave	W. Ashlan Ave to W. Dakota Ave	55.1	No Data	n/a	n/a	n/a
N. Bryan Ave	W. Dakota Ave to W Shields Ave	52.5	62.9	10.3	No	No
N. Bryan Ave	W Shields Ave to W. Clinton Ave	48.2	61.4	13.2	No	No
N. Hayes Ave	W. Shaw Ave to W. Santa Ana Ave	57.1	66.4	9.3	Yes	Yes
N. Hayes Ave	W. Santa Ana Ave to W. Gettysburg Ave	57.0	66.2	9.3	Yes	Yes
N. Hayes Ave	W. Gettysburg Ave to W. Swift Ave	55.0	66.8	11.8	Yes	Yes

Table 15: Change in Noise Along Roadways Due to West Area Specific Plan (dBA, CNEL)

Roadway[1]	Segment	CNEL at 100 Feet dBA[2]				
		Existing Without Project	Existing Plus Project Plus Cumulative	Change in Noise Level	Exceeds Compatibility Criteria[3]	Potential Significant Impact[4]
N. Hayes Ave	W. Swift Ave to W. Ashlan Ave	52.4	64.2	11.8	Yes	No
N. Hayes Ave	W. Ashland Ave to W. Dakota Ave	53.9	64.9	11.0	Yes	No
N. Hayes Ave	W. Dakota Ave to 1,300 ft South of W. Dakota Ave	53.4	63.3	9.9	Yes	No
N. Hayes Ave	1,300 ft South of W. Dakota Ave to W Shields Ave	56.0	65.9	9.9	Yes	Yes
N. Hayes Ave	W Shields Ave to W. Clinton Ave	52.3	62.5	10.3	Yes	No
N. Polk Ave	North of W. Shaw Ave	60.1	61.8	1.7	Yes	No
N. Polk Ave	W. Shaw Ave to W. Acacia Ave	62.3	67.8	5.5	Yes	Yes
N. Polk Ave	W. Acacia Ave to W. Gettysburg Ave	62.4	67.9	5.5	Yes	Yes
N. Polk Ave	W. Gettysburg Ave to W. Ashlan Ave	58.3	66.5	8.1	Yes	Yes
N. Polk Ave	W. Ashland Ave to W. Griffith Way	59.0	66.5	7.5	Yes	Yes
N. Polk Ave	W. Griffith Way to W. Dakota Ave	61.1	68.7	7.5	Yes	Yes
N. Polk Ave	W. Dakota Ave to W Shields Ave	58.4	65.3	6.9	Yes	Yes
N. Polk Ave	W Shields Ave to W. Clinton Ave	57.2	64.9	7.7	No	No
N. Cornelia Ave	N. Parkway Drive to W. Gettysburg Ave	60.2	62.3	2.1	No	No
N. Cornelia Ave	W. Gettysburg to W. Ashlan Ave	60.2	66.1	5.9	Yes	Yes
N. Cornelia Ave	W. Ashland Ave to W. Bellaire Way	61.6	64.6	3.0	No	No
N. Cornelia Ave	W. Bellaire Way to W. Dakota Ave	61.6	64.6	3.0	No	No
N. Cornelia Ave	W. Dakota Ave to W Shields Ave	57.7	62.6	4.9	No	No
N. Cornelia Ave	W Shields Ave to W. Clinton Ave	60.1	64.4	4.3	No	No
N. Blythe Ave	W. Ashlan Ave to W. Dakota Ave	59.7	63.8	4.1	No	No
N. Blythe Ave	W. Dakota Ave to W Shields Ave	56.8	62.5	5.6	No	No
N. Blythe Ave	W Shields Ave to W. Clinton Ave	57.0	62.2	5.2	No	No
N Brawley Ave	N. Parkway Drive to W. Dakota Ave	58.3	63.3	5.0	No	No
N Brawley Ave	W. Dakota Ave to W. Dayton Ave	58.0	62.2	4.1	No	No
N Brawley Ave	W. Dayton Ave to W. Cortland Ave	60.6	64.7	4.1	No	No

Table 15: Change in Noise Along Roadways Due to West Area Specific Plan (dBA, CNEL)

Roadway[1]	Segment	CNEL at 100 Feet dBA[2]				
		Existing Without Project	Existing Plus Project Plus Cumulative	Change in Noise Level	Exceeds Compatibility Criteria[3]	Potential Significant Impact[4]
N Brawley Ave	W. Cortland Ave to W. Shields Ave	57.9	62.0	4.1	No	No
N Brawley Ave	W Shields Ave to W. Clinton Ave	57.6	62.1	4.5	No	No
N. Valentine Ave	N. Parkway Drive to W Shields Ave	53.9	60.7	6.8	No	No
N. Valentine Ave	W Shields Ave to W. Clinton Ave	52.9	60.4	7.5	No	No
N. Marks Ave	W Princeton Ave to W. Clinton Ave	59.2	61.5	2.3	No	No

Notes:

[1] Exterior noise levels calculated at 5 feet above ground level.

[2] Noise levels calculated from centerline of subject roadway.

[3] See Table 6.

[4] Significant if results in a 3 dB increase in ambient noise levels and exceeds standard in Table 6 (65 CNEL).

As shown in Table 15 existing plus project plus cumulative traffic conditions will result in significant increases in ambient noise levels along the following road segments. This impact is significant and mitigation is required.

- Traffic noise levels along W. Shaw Avenue are expected to range between 68.1 and 73.3 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases ranging between 6.9 and 8.3 dBA CNEL.

- Traffic noise levels along W. Ashlan Avenue between N. Grantland Avenue and N. Blythe Avenue are expected to range between 67.5 and 70.4 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in increases ranging between 5.6 and 13.4 dBA CNEL.

- Traffic noise levels along W. Shields Avenue between N. Polk Avenue and N. Cornelia Avenue are expected to reach up to 66 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in an increase in ambient noise level of 7.6 dBA CNEL.

- Traffic noise levels along W. Clinton Avenue between N. Polk Avenue and N. Blythe Avenue and between N. Valentine Avenue and N. Marks Avenue are expected to range between 66.9 and 69.7 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in an increases in ambient noise levels ranging between 5.5 and 8.0 dBA CNEL.

- Traffic noise levels along N. Grantland Avenue between W. Gettysburg Avenue and W. Dakota Avenue and between W. Shields Avenue and W. Clinton Avenue are expected to range between 67.7 and 71.0 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in an increases in ambient noise levels between 10.5 and 11.5 dBA CNEL.

- Traffic noise levels along N. Bryan Avenue between W. Gettysburg Avenue and W. Ashlan Avenue are expected to reach up to 65.3 dBA CNEL, resulting in an increase of 7.7 dBA CNEL in ambient noise levels.

- Traffic noise levels along N. Hayes Avenue between W. Shaw Avenue and W. Swift Avenue and between W. Dakota Avenue and W. Shields Avenue are expected to range between 65.9 and 66.8 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in an increases in ambient noise levels ranging between 9.3 and 11.8 dBA CNEL.

- Traffic noise levels along N. Polk Avenue between W. Shaw Avenue and W. Shields Avenue are expected to range between 65.3 and 68.7 dBA CNEL at a distance of 100 feet from the centerline of the road, resulting in an increases in ambient noise levels between 5.5 and 8.1 dBA CNEL.

- Traffic noise levels along N. Cornelia Avenue between W. Gettysburg Avenue and W. Ashlan Avenue are expected to reach up to 66.1 dBA CNEL, resulting in an increase of 5.9 dBA CNEL in ambient noise levels.

Mitigation Measures for Traffic Noise Impacts- Exterior Environment

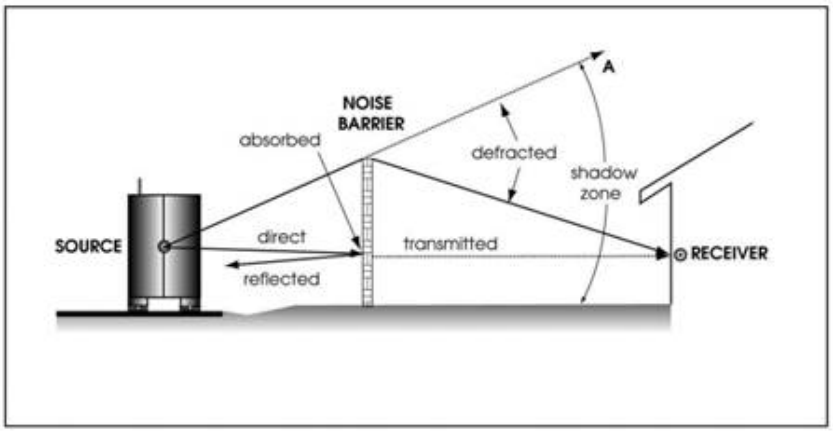
The following mitigation measures should be implemented to minimize the impact associated with a substantial increase in ambient noise levels and to ensure compliance with the standards presented in Table 6.

1. Implement performance standards for noise reduction for new residential and noise sensitive uses exposed to exterior community noise levels from transportation sources above 65 dB Ldn or CNEL, as shown on Exhibit G: Existing Plus Project Plus Cumulative Noise Contours, or as identified by a project-specific acoustical analysis based on the target acceptable noise levels set in Table 6 in this report. If future exterior noise levels are expected to exceed the applicable standards presented in Table 6, the mitigation measure presented below shall be implemented, as applicable. A qualified Acoustical Consultant shall provide information demonstrating that site specific mitigation will be effective at reaching the applicable noise standard.

    - Install noise walls, berms and/or a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor. The City of Fresno has established a maximum allowable height of 15 feet.

Establishing distance between a noise source and a receiver is an effective way to reduce noise levels at the receiver. Traffic noise is not a single, stationary point source but a line source. Therefore a drop-off rate of 3 dB occurs with every doubling of distance from the receiver. The movement of a vehicle makes the noise source of the sound appear to be emanate from a line rather than from a point when viewed over a time interval.

As shown below, when a noise barrier is inserted between a noise source and receiver, the direct noise path along the line of sight between the two is interrupted. Some of the acoustical energy will be transmitted through the barrier material and continue to the source, although at a reduced level. The amount of this reduction depends on the material's mass and rigidity, and is called the transmission loss (TL), which is expressed in decibels. To be effective, noise barriers need to be solid, without holes and cracks. Concrete walls and earthen berms tend to provide the most noise attenuation, but other materials can be used. The exact amount of reduction provided by a barrier will range depending on the material, location and height of the barrier but barriers can be used to mitigate significant noise impacts to sensitive receptors in outdoor activity areas.



Source: Caltrans 2013a

7.1.3 Rail Noise

Noise associated with the existing Union Pacific Railroad (UPRR) line is expected to remain the same or end altogether. The California High-Speed Train Project (CAHST), which is currently under construction east of State Route 99 will introduce more noise into the eastern portion of the Plan Area. According to the Noise and Vibration Technical Report prepared for the Merced to Fresno Section of the High Speed Train (CAHST, FRA 2012), trains in the Fresno area are expected to result in noise levels between 65 to 76 dB Ldn at nearby receptors. All of the receptors to be moderately or severely impacted by the HST are located outside of the Plan Area to the east. HST noise is not expected to result in significant noise impacts within the Plan Area.

7.1.4 Airport/Aircraft Noise

Noise Contours associated with airports in the vicinity of the Plan Area are not expected to encroach into the Plan Area. The Plan Area will however, continue to be affected by fly-over noise associated with the

Fresno Yosemite International airport, the Fresno-Chandler Downtown airport, and the Sierra Sky Park Airport. Airport and aircraft noise is not expected to result in significant impacts in the Plan Area.

7.1.5 Agricultural Noise

Development of the Specific Plan Area may result in the exposure of sensitive receptors to agricultural noise. Crop cultivation however, is specifically exempt from compliance with the noise regulations presented in Section 15-2506 of the City of Fresno Municipal Code.

7.2 Future Interior Noise

Interior noise levels at future land uses exposed to exterior noise levels exceeding 65 dBA CNEL may exceed the City's standards presented in Table 6 without mitigation.

Based on the data provided in the Environmental Protection Agency's (EPA) Protective Noise Levels (EPA 550/9-79-100, Nov 1979), standard homes in Southern California provide at least 12 dBA of noise exterior to interior noise attenuation with windows open and 20 dBA with windows closed. Therefore, residences would need to be exposed to exterior noise levels exceeding 65 dBA CNEL (45 dBA + 20 dBA = 65 dBA) to potentially exceed the interior noise standard of 45 dBA CNEL with windows closed. A windows closed condition is defined as: the interior noise level with the windows closed. Upgrades are required for residential structures that would experience interior noise levels exceeding the 45 dBA CNEL noise standard when windows are closed (e.g. higher grade of insulation in outdoor walls, and/or double-paned windows and air condition units).

Mitigation Measures for Traffic Noise Impacts – Interior Noise Environment

1. Prior to approval, site-specific noise analyses projects are required to fine-tune and finalize noise reduction features. The site-specific noise analyses must demonstrate the interior noise level will not exceed the City's 45 dBA CNEL noise limit.

   A qualified Acoustical Consultant shall provide information demonstrating that site specific mitigation will be effective at reaching the applicable noise standard.

   - Install noise walls, berms and/or a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor. The City of Fresno has established a maximum allowable height of 15 feet.
   - Utilize façades with substantial weight and insulation.
   - stall sound-rated windows for primary sleeping and activity areas.
   - Install sound-rated doors for all exterior entries at primary sleeping and activity areas.
   - Install acoustic baffling of vents for chimneys, attic and gable ends.
   - Install mechanical ventilation systems that provide fresh air under closed window conditions.

The aforementioned measures are not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

8.0 Construction Noise Impact

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. Noise levels associated with the construction will vary with the different phases of construction.

8.1 Construction Noise

The Environmental Protection Agency (EPA) has compiled data regarding the noise generated characteristics of typical construction activities. The data is presented in Table 16. These noise levels would diminish rapidly with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured 50 feet from the noise source would reduce to 80 dBA at 100 feet. At 200 feet from the noise source the noise level would reduce to 74 dBA. At 400 feet the noise source would reduce by another 6 dBA to 68 dBA. Contractors are required to comply with the City of Fresno's Noise Ordinance during construction described in Section 10-109.

Table 16: Typical Construction Noise Levels

Equipment Powered by Internal Combustion Engines	
Type	**Noise Levels (dBA) at 50 Feet**
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86
Impact Equipment	
Type	**Noise Levels (dBA) at 50 Feet**
Saws	71 - 82
Vibrators	68 - 82
Notes: Source: Reference Noise Levels from the Environmental Protection Agency (EPA)	

8.1.1 Construction Traffic

The proposed project would result in short-term noise impacts associated with construction activities. Two types of short-term noise impacts could occur during construction of the proposed project. First, construction crew commute and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Truck traffic associated with project construction should be limited to within the permitted construction hours, as listed in the City's Municipal Code. Although there would be a relatively high single-event noise exposure potential at a maximum of 87 dBA Lmax at 50 ft from passing trucks, causing possible short-term intermittent annoyances, the effect on ambient noise levels would be less than 1 dBA when averaged over one hour or 24 hours. In other words, the changes in noise levels over 1 hour or 24 hours attributable to passing trucks would not be perceptible to the normal human ear. Therefore, short-term construction-related impacts associated with worker commute and equipment transport on local streets leading to the project site would result in a less than significant impact on noise-sensitive receptors along the access routes.

8.1.2 Construction Activities

The site preparation phase, which includes grading and paving, tends to generate the highest noise levels, since the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backhoes, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Construction of the proposed project is expected to require the use of scrapers, bulldozers, motor grader, and water and pickup trucks. Noise associated with the use of construction equipment is estimated to reach between 79 and 89 dBA Lmax at a distance of 50 ft from the active construction area for the grading phase. The maximum noise level generated by each scraper is assumed to be approximately 87 dBA Lmax at 50 ft from the scraper in operation. Each bulldozer would also generate approximately 85 dBA Lmax at 50 ft. The maximum noise level generated by the sound sources with equal strength increases the noise level by 3 dBA. The worst-case combined noise level during this phase of construction would be 91 dBA Lmax at a distance of 50 ft from an active construction area. Noise reduction potential will be project and site specific. Section 8.3 outlines measures would reduce noise impacts during the project construction.

Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels will be loudest during grading phase. A likely worst-case construction noise scenario during grading assumes the use of a grader, a dozer, and two (2) excavators, two (2) backhoes and a scrapper operating at 50 feet from the nearest sensitive receptor.

Assuming a usage factor of 40 percent for each piece of equipment, unmitigated noise levels at 50 feet have the potential to reach 90 dBA L_{eq} and 92 dBA L_{max} at the nearest sensitive receptors during grading. Noise levels for the other construction phases would be lower and range between 85 to 90 dBA.

Measures to minimize construction noise impacts associated with Plan Area development are listed below.

1. Construction must follow the City's Municipal Noise Code Section 10-109 which exempts construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

2. Truck traffic associated with project construction should be limited to within the permitted construction hours, as listed in the City's Municipal Code above.

3. Stationary construction noise sources such as generators or pumps should be located at least 300 feet from sensitive land uses, as feasible.

4. Construction staging areas should be located as far from noise sensitive land uses as feasible.

5. During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices. The use of manufacturer certified mufflers would generally reduce the construction equipment noise by 8 to 10 dBA.

6. Idling equipment shall be turned off when not in use.

7. Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.

8.2 Construction Vibration

The effects of vibration on structures have been the subject of extensive research. The Federal Transit Administration has compiled data regarding the vibration levels for various construction equipment and activities and is detailed in Table 17. The Transportation and Construction Induced Vibration Guidance Manual for the California Department of Transportation has various recommended vibration thresholds for various types of projects and land uses. According to the Konan Vibration Criteria for Historic and Sensitive Buildings the criteria for transient vibration sources should not exceed 0.3 peak particle velocity (PPV) (Section 6 – Structures, Table 11). 0.035 inches per second is barely perceptive. Construction activities can produce vibration that may be felt by adjacent land uses. Construction of the proposed project is unlikely to require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary source vibration during construction will likely be from a bull dozer. A large bull dozer has a vibration impact of 0.089 inches per second PPV at 25 feet. The use of vibratory equipment should be evaluated on a project by project basis. As shown in Table 5, a peak particle velocity (PPV) of 0.20 is the threshold at which there is a risk to "architectural" damage to normal dwellings. It is also the level at which ground-borne vibration are annoying to people in buildings. Impacts would be significant if construction activities result in ground-borne vibration of 0.20 or higher at a sensitive receptors. Mitigation measures to reduce construction related ground-borne vibration are presented below.

Table 17: Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (VdB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 in soil	66
	0.017 in rock	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.

Measures to Reduce Impacts Related to Construction Generated Ground-borne Vibration

1. If it is necessary to operate highly vibratory equipment in the Plan Area an additional analysis shall be conducted by a noise and vibration specialist prior to project approval, in order to evaluate potential ground-borne vibration impacts to existing structures and sensitive receptors; and to recommend additional mitigation measures as necessary.

9.0 References

California, State of, Building Standards Commission

2019 California Uniform Building Code (UBC), Title 24.

California Department of Transportation (Caltrans)

1995 California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELS) in STAMINA 2.0. Technical Advisory, Noise TAN 95-03.

2002 California Airport Land Use Planning Handbook.

2013a Technical Noise Supplement to the Traffic Noise Analysis Protocol.

2013b Transportation and Construction Vibration Guidance Manual. September.

2018 Caltrans Traffic Counts https://dot.ca.gov/programs/traffic-operations/census

California High Speed Train Project

2010 High Speed Train Sound Fact Sheet

Environmental Protection Agency (EPA)

1974 Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Prepared by the EPA, Office of Noise Abatement and Control.

Federal Transit Administration

2006 Transit Noise and Vibration Impact Assessment. Typical Construction Equipment Vibration Emissions. FTAVA-90-1003-06.

Federal Railroad Administration

2006 Create Rail Noise Model

2012 Noise and Vibration Technical Report prepared for the Merced to Fresno Section of the High Speed Train

2020 https://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/Crossing.aspx

Office of Planning and Research, State of California

2017 Office of Planning and Research, General Plan Guidelines.

Fresno, City of

2014 City of Fresno General Plan Noise Element.

2017 City of Fresno Code of Ordinance

Appendix A:
SoundPLAN Data

Fresno West EIR
Emission calculation road - Situatiion 1: Outdoor SP

Road	Section name	KM km	ADT Veh/24h	Gradient %	
W. Gettysburg Ave - West of N. Bryan Ave		0.000	1200	0.0	
SR99 - W. Shields Avenue to W. Clinton A		0.000	107000	0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av		0.000	104000	0.0	
SR99 - W. Shields Avenue to W. Clinton A		0.000	107000	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave		0.000	105000	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave		0.000	105000	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu		0.000	77000	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu		0.000	77000	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu		0.000	77000	0.0	
W. Dakota Ave - N Brawley Avenue to N. P		0.000	2400	0.0	
W. Dakota Ave - N Brawley Avenue to N. P		0.000	2400	0.0	
W. Dakota Ave - N Brawley Avenue to N. P		0.004	2400	0.0	
W. Dakota Ave - N Brawley Avenue to N. P		0.000	2400	0.0	
W. Dakota Ave - N Brawley Avenue to N. P		0.000	2400	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven		0.000	81000	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave		0.000	105000	0.0	
		0.000	3050	0.0	

Fresno West EIR
Emission calculation road - Situatiion 1: Outdoor SP

Road	Section name	KM km	ADT Veh/24h	Gradient %	
W. Shaw Ave - N. Bryan Ave to N. Hayes A		0.000	8250	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av		0.000	9200	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro		0.000	18200	0.0	
W. Shaw Ave - N. Grantland Ave to N.		0.000	7100	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha		0.000	3100	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po		0.000	2050	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia		0.000	6500	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl		0.000	16350	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N		0.000	1700	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po		0.000	1950	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba		0.000	1200	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br		0.000	3200	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99		0.000	23600	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po		0.000	1950	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor		0.000	5100	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.		0.000	4250	0.0	

Fresno West EIR
Emission calculation road - Situatiion 1: Outdoor SP

Road	Section name	KM km	ADT Veh/24h	Gradient %	
W. Dakota Ave - N. Blythe Avenue to N Br		0.000	3150	0.0	
W. Dakota Ave - N Brawley Avenue to N. P		0.000	2400	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co		0.000	3750	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P		0.000	3250	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H		0.000	3550	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry		0.000	2750	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl		0.000	4600	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra		0.000	4400	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val		0.000	5800	0.0	
W. Sheilds Ave - N. Valentine Ave to N.		0.000	6900	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co		0.000	3400	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk		0.000	1050	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye		0.000	700	0.0	
W. Clinton Ave - N. Grantland Ave to Bry		0.000	400	0.0	
W. Clinton Ave - N. Cornelia Avenue to N		0.000	6400	0.0	
W. Clinton Ave - N. Blythe Avenue to N B		0.000	9300	0.0	

Fresno West EIR
Emission calculation road - Situatiion 1: Outdoor SP

Road	Section name	KM km	ADT Veh/24h	Gradient %	
W. Shaw Ave - N Garfield Avenue to N. Gr		0.000	6000	0.0	
N. Grantland Ave - W. Barstow Ave to Sha		0.000	6700	0.0	
N. Grantland Ave - W. Ashlan Avenue to W		0.000	4000	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett		0.000	2400	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett		0.000	2700	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty		0.000	7300	0.0	
N. Polk Ave - North of W. Shaw Avenue		0.000	4400	0.0	
Bullard Ave - N Garfield to N. Grantland		0.000	1200	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont		0.000	800	0.0	
N. Grantland Ave - W. Bullard Ave to Bar		0.000	7150	0.0	
Bullard Ave - N Garfield Avenue to N. Gr		0.000	600	0.0	
Bullard Ave - N. Grantland Avenue to N.		0.000	2900	0.0	
N. Grantland Ave - N. Parkway Drive to W		0.000	10500	0.0	
N. Bryan Ave - W. Gettysburg Ave to W As		0.000	3100	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi		0.000	1750	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da		0.000	3050	0.0	

Fresno West EIR
Emission calculation road - Situatiion 1: Outdoor SP

Road	Section name	KM km	ADT Veh/24h	Gradient %	
N. Hayes Ave - W. Gettysburg Avenue to W		0.000	1700	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.		0.000	4850	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D		0.000	2400	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da		0.000	5600	0.0	
N. Cornelia Ave - N. Parkway Drive to W.		0.000	5700	0.0	
N. Cornelia Ave - W. Ashland Avenue to W		0.000	7800	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D		0.000	6700	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99		0.000	23600	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi		0.000	2150	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie		0.000	4900	0.0	
N. Cornelia Ave - W. Dakota Avenue to W		0.000	5800	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh		0.000	4750	0.0	
N Brawley Ave - N. Parkway Drive to W. D		0.000	6600	0.0	
N Brawley Ave - W Shields Avenue to W. C		0.000	6000	0.0	
W. Sheilds Ave - West of N. Grantland Av		0.000	2700	0.0	
N. Grantland Ave - W Shields Avenue to W		0.000	2300	0.0	

Fresno West EIR
Emission calculation road - Situatiion 1: Outdoor SP

Road	Section name	KM km	ADT Veh/24h	Gradient %	
N. Bryan Ave - W Shields Avenue to W. Cl		0.000	650	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl		0.000	1650	0.0	
N. Polk Ave - W Shields Avenue to W. Cli		0.000	3750	0.0	
N. Cornelia Ave - W Shields Avenue to W.		0.000	5700	0.0	
N. Blythe Ave - W Shields Avenue to W. C		0.000	4900	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh		0.000	6350	0.0	
N. Valentine Ave - N. Parkway Drive to W		0.000	2600	0.0	
N. Valentine Ave - W Shields Avenue to W		0.000	2100	0.0	
W. Clinton Ave - N Brawley Ave to N. Val		0.000	9850	0.0	
W. Clinton Ave - N. Valentine Ave to N.		0.000	11300	0.0	
N. Marks Ave - W Princeton Avenue to W.		0.000	9100	0.0	
N. Marks Ave - W Princeton Avenue to W.		0.000	9100	0.0	
W. Clinton Ave - N. Marks Avenue to SR99		0.000	20000	0.0	
Bullard Ave - N. Grantland Ave to N. Bry		0.000	800	0.0	
N. Grantland Ave - W. Shaw Avenue to W.		0.000	3900	0.0	
N. Grantland Ave - W. Dakota Avenue to W		0.000	3050	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
Receiver 1	Fl G	LrD,lim	dB(A)	LrD 78.9	dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		19.6	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road			0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road			0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		45.0	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road			0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		44.3	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		78.8	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road			0.0	
	Road			0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		34.9	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		33.2	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		25.1	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		35.5	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		24.8	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		22.0	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		22.4	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road			0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		22.4	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		22.5	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		16.2	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		25.5	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road			0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road			0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road			0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road			0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road			0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road			0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road			0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road			0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road			0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road			0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road			0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road			0.0	
Shields Ave & Valentine Ave East	Road			0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road			0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road			0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road			0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road			0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road			0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road			0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		35.1	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		36.4	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		25.5	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		26.8	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		25.8	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		27.6	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		19.1	0.0	
Bullard Ave - N Garfield to N. Grantland	Road		30.9	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		28.1	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		42.7	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road		34.6	0.0	
Bullard Ave - N. Grantland Avenue to N.	Road		40.7	0.0	
N. Grantland Ave - N. Parkway Drive to W	Road		61.6	0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		24.9	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		20.8	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		24.3	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		21.4	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		25.6	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		18.5	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		21.6	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		22.9	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road			0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road			0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road			0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road			0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road			0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road			0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road			0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road			0.0	
N Brawley Ave - W Shields Avenue to W. C	Road			0.0	
W. Sheilds Ave - West of N. Grantland Av	Road			0.0	
N. Grantland Ave - W Shields Avenue to W	Road			0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road			0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road			0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road			0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road			0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road			0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road			0.0	
N. Valentine Ave - N. Parkway Drive to W	Road			0.0	
N. Valentine Ave - W Shields Avenue to W	Road			0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road			0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road			0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road			0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		29.5	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		29.8	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road			0.0	
Receiver 2	Fl	G	LrD,lim	dB(A)	LrD 69.1 dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		34.1	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road			0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		43.1	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		53.3	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		42.0	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		52.7	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		64.8	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		41.8	0.0	
	Road			0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		63.4	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		46.6	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		34.6	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		63.0	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		36.1	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		32.4	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		33.7	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		34.9	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		36.7	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		34.3	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		25.6	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		36.3	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		31.0	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		25.7	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		28.1	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		25.2	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		21.8	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		15.9	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		26.0	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		26.7	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		27.8	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		26.7	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		25.3	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		19.5	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road			0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road			0.0	
Shields Ave & Valentine Ave East	Road			0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		23.5	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		19.3	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		18.0	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		15.6	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		22.4	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road			0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		44.9	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		45.5	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		36.3	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		54.8	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		40.6	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		37.4	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		28.4	0.0	
Bullard Ave - N Garfield to N. Grantland	Road		33.3	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		38.7	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		41.2	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road		26.4	0.0	
Bullard Ave - N. Grantland Avenue to N.	Road		36.5	0.0	
N. Grantland Ave - N. Parkway Drive to W	Road		38.4	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		41.1	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		33.4	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		33.4	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		33.8	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		35.5	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		28.2	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		33.0	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		33.4	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		31.0	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		28.0	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		21.5	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		26.3	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		29.5	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		27.5	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		23.8	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		23.0	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road			0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		25.9	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		25.2	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		19.4	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		22.0	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		25.7	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		24.3	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Blythe Ave - W Shields Avenue to W. C	Road		20.9	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		21.4	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road			0.0	
N. Valentine Ave - W Shields Avenue to W	Road			0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road			0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road			0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		37.9	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		42.1	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		29.5	0.0	
Receiver 3	Fl	G	LrD,lim	dB(A)	LrD 67.6 dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		32.6	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		45.1	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		43.6	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		47.2	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		59.3	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		46.9	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		58.5	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		14.5	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Dakota Ave - N Brawley Avenue to N. P	Road		14.1	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		9.5	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		12.4	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		63.6	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		46.3	0.0	
	Road		13.6	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		49.0	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		51.0	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		39.9	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		42.0	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		41.4	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		40.5	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		41.1	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		40.7	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		47.9	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		56.4	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		35.9	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		37.4	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		35.8	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		31.3	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		33.8	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		30.3	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		26.2	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Dakota Ave - N Brawley Avenue to N. P	Road		19.7	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		30.7	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		31.0	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		31.2	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		28.8	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		29.8	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		26.6	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		25.6	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road		21.0	0.0	
Shields Ave & Valentine Ave East	Road		16.3	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		27.1	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		22.6	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		20.6	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		17.4	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		28.7	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		28.8	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		36.5	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		36.1	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		34.0	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		39.5	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		57.8	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		46.5	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		33.5	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
Bullard Ave - N Garfield to N. Grantland	Road		25.8	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		31.7	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		33.7	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road		20.4	0.0	
Bullard Ave - N. Grantland Avenue to N.	Road		30.5	0.0	
N. Grantland Ave - N. Parkway Drive to W	Road		33.0	0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		39.8	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		34.4	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		33.6	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		49.9	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		45.6	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		34.6	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		40.0	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		40.1	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		37.2	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		32.9	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		26.0	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		30.9	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		34.6	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		32.6	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		28.2	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		27.0	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		25.0	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Sheilds Ave - West of N. Grantland Av	Road		26.7	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		26.6	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		20.8	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		25.6	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		29.6	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		28.3	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		26.0	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		28.0	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		20.1	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		18.2	0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		27.4	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road			0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		27.9	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		35.3	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		30.7	0.0	
Receiver 4	Fl G	LrD,lim	dB(A)	LrD 71.0	dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		36.3	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		36.0	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		41.2	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		44.4	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		53.0	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		43.2	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		49.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		12.4	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		12.1	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		7.5	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		10.5	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		56.9	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		43.1	0.0	
	Road		11.6	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		41.5	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		39.6	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		30.6	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		40.9	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		62.3	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		40.8	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		38.2	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		37.6	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		38.3	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		34.7	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		25.8	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		66.1	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		32.9	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		33.4	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		33.0	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		28.5	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		24.0	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		17.6	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		31.5	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		33.8	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		36.3	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		35.3	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		29.3	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		25.6	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		24.3	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road			0.0	
Shields Ave & Valentine Ave East	Road			0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		28.4	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		25.2	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		24.6	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		22.2	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		29.0	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		28.5	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		38.1	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Grantland Ave - W. Barstow Ave to Sha	Road		35.9	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		42.5	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		40.7	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		36.4	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		35.5	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		24.2	0.0	
Bullard Ave - N Garfield to N. Grantland	Road		25.5	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		26.5	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		32.3	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road		19.4	0.0	
Bullard Ave - N. Grantland Avenue to N.	Road		27.8	0.0	
N. Grantland Ave - N. Parkway Drive to W	Road		31.2	0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		67.2	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		57.5	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		43.8	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		39.2	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		37.9	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		37.7	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		38.3	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		34.3	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		34.3	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		30.1	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		23.2	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		34.9	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		35.5	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		31.8	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		26.7	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		24.6	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		24.2	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		33.2	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		32.5	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		27.3	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		29.2	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		31.4	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		28.7	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		25.5	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		26.3	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		15.6	0.0	
N. Valentine Ave - W Shields Avenue to W	Road			0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		24.2	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road			0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		25.6	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		38.3	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Grantland Ave - W. Dakota Avenue to W	Road		38.4	0.0	
Receiver 5 Fl G		LrD,lim	dB(A)	LrD 79.0	dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		26.0	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		39.1	0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		48.6	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		44.9	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		47.3	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		51.2	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		61.3	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		51.2	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		55.7	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		18.2	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		17.8	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		13.0	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		15.9	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		57.8	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		50.7	0.0	
	Road		17.1	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		39.1	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		41.6	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		34.9	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		35.3	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		44.0	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		66.3	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		76.0	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		50.4	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		33.0	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		39.5	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		35.2	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		37.1	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		42.4	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		38.5	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		42.8	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		37.3	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		31.3	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		23.8	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		36.9	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		36.2	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		34.5	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		30.3	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		35.7	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		31.5	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		29.6	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road		26.4	0.0	
Shields Ave & Valentine Ave East	Road		19.8	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		31.7	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		26.6	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		23.6	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		19.3	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		33.3	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		33.0	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		31.6	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		30.7	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		30.5	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		31.8	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		36.3	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		43.6	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		29.4	0.0	
Bullard Ave - N Garfield to N. Grantland	Road		21.2	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		25.3	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		28.9	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road		16.3	0.0	
Bullard Ave - N. Grantland Avenue to N.	Road		25.8	0.0	
N. Grantland Ave - N. Parkway Drive to W	Road		28.9	0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		35.1	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		34.7	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		32.1	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		39.2	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		73.3	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		38.1	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		70.2	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		45.4	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		46.1	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		38.4	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		31.9	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		35.2	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		44.2	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		39.7	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		33.8	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		31.3	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		29.2	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		27.1	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		27.7	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		23.1	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		29.4	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		36.3	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		33.8	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		30.9	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		32.5	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		23.6	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		22.1	0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		31.1	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Clinton Ave - N. Valentine Ave to N.	Road		29.5	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		23.9	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		21.5	0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road		28.4	0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		22.1	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		30.3	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		30.9	0.0	
Receiver 6	Fl	G	LrD,lim	dB(A)	LrD 77.5 dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		17.9	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		46.5	0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		57.3	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		52.2	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		56.8	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		61.2	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		61.0	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		58.8	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		49.2	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		31.0	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		29.8	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		24.6	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		25.3	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		50.9	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		60.3	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
	Road		26.3	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		31.1	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		33.8	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		28.1	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		28.2	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		30.1	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		32.2	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		41.0	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		50.0	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		23.5	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		27.9	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		24.8	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		27.0	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		48.9	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		32.0	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		43.0	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		67.1	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		71.3	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		38.3	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		38.7	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		33.4	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		29.8	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		25.4	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		44.5	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		43.3	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		39.7	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road		34.3	0.0	
Shields Ave & Valentine Ave East	Road		28.6	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		34.2	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		26.1	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		21.4	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		16.2	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		39.0	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		40.7	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		22.9	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		24.1	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		23.5	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		23.5	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		26.6	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		32.6	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		21.2	0.0	
Bullard Ave - N Garfield to N. Grantland	Road			0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		19.2	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road			0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road			0.0	
Bullard Ave - N. Grantland Avenue to N.	Road			0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Grantland Ave - N. Parkway Drive to W	Road			0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		26.1	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		27.3	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		25.5	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		26.7	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		35.9	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		27.1	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		38.5	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		40.3	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		45.8	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		74.1	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		38.9	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		28.8	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		37.9	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		44.5	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		67.7	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		43.3	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		38.7	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		22.6	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		23.7	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		19.3	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		26.5	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		34.6	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Cornelia Ave - W Shields Avenue to W.	Road		38.4	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		42.5	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		45.1	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		32.6	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		30.3	0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		38.9	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road		36.5	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		30.6	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		28.7	0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road		34.6	0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		16.3	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		23.6	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		25.5	0.0	
Receiver 7	Fl	G	LrD,lim	dB(A)	LrD 72.0 dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		23.5	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road			0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road			0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		47.5	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		39.5	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		42.9	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		48.9	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		39.9	0.0	
	Road			0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		32.3	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		31.3	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		23.7	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		32.3	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		35.0	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		30.2	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		31.3	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		32.6	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		25.9	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		25.5	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		18.7	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		37.3	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		29.0	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		29.4	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		29.7	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		25.7	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		21.7	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		31.8	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		36.1	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		43.5	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		67.6	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		28.9	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		24.7	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		20.9	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road			0.0	
Shields Ave & Valentine Ave East	Road			0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		29.8	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		28.6	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		31.4	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		33.4	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		29.4	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		28.3	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		31.6	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		29.5	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		34.6	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		27.3	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		26.4	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		28.1	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Polk Ave - North of W. Shaw Avenue	Road		17.2	0.0	
Bullard Ave - N Garfield to N. Grantland	Road		20.0	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		19.4	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		26.9	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road		14.6	0.0	
Bullard Ave - N. Grantland Avenue to N.	Road		22.3	0.0	
N. Grantland Ave - N. Parkway Drive to W	Road			0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		32.5	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		41.2	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		43.4	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		27.7	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		30.5	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		29.9	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		33.0	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		28.6	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		30.3	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		27.0	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		19.6	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		33.9	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		33.6	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		29.8	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		24.9	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		22.1	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N Brawley Ave - W Shields Avenue to W. C	Road		23.4	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		62.2	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		62.0	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		35.5	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		32.6	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		32.4	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		28.6	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		25.0	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		24.6	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road			0.0	
N. Valentine Ave - W Shields Avenue to W	Road			0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road			0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road			0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		18.9	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		30.7	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		68.3	0.0	
Receiver 8	Fl G	LrD,lim	dB(A)	LrD 78.4	dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		20.9	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		41.6	0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		49.2	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
SR99 - W. Shields Avenue to W. Clinton A	Road		46.2	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		47.0	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		49.9	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		54.0	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		47.6	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		46.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		18.2	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		17.8	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		13.0	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		16.0	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		50.0	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		48.2	0.0	
	Road		17.3	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		32.2	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		33.3	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		26.6	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		30.1	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		34.8	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		35.2	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		39.3	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		41.2	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		25.7	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		28.4	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		23.4	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		31.9	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		37.0	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		38.9	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		43.0	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		37.3	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		31.3	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		23.8	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		72.9	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		68.7	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		43.5	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		35.6	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		44.6	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		36.3	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		32.6	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road		27.7	0.0	
Shields Ave & Valentine Ave East	Road		22.1	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		42.9	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		37.8	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		31.2	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		24.2	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		40.9	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		37.9	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		27.8	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		26.5	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		27.4	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		25.8	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		27.7	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		32.9	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		20.9	0.0	
Bullard Ave - N Garfield to N. Grantland	Road		14.7	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		19.4	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		22.2	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road			0.0	
Bullard Ave - N. Grantland Avenue to N.	Road			0.0	
N. Grantland Ave - N. Parkway Drive to W	Road			0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		30.0	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		34.8	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		31.0	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		29.8	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		38.3	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		33.5	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		45.8	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		35.7	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		41.1	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		36.4	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		27.3	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		40.3	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		75.5	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		44.8	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		36.0	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		30.4	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		32.3	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		30.6	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		30.9	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		28.3	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		39.1	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		68.0	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		43.4	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		36.1	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		33.7	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		24.5	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		24.1	0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		34.3	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road		31.7	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		25.5	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		22.8	0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road		30.1	0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		17.3	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Grantland Ave - W. Shaw Avenue to W.	Road		26.3	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		32.2	0.0	
Receiver 9 Fl G		LrD,lim	dB(A)	LrD 77.5	dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		16.6	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		47.8	0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		57.0	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		53.4	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		54.8	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		57.1	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		55.9	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		52.6	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		45.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		26.6	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		25.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		20.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		23.9	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		47.5	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		54.4	0.0	
	Road		25.3	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		29.1	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		31.2	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		25.3	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		25.6	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		28.7	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		29.9	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		37.1	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		43.2	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		21.7	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		25.3	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		21.6	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		26.1	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		41.7	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		29.1	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		38.0	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		42.2	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		40.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		32.7	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		43.9	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		36.1	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		31.6	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		26.8	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		69.9	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		73.4	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		44.8	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road		36.5	0.0	
Shields Ave & Valentine Ave East	Road		32.0	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		38.0	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		28.4	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		22.7	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		17.2	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		45.7	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		47.3	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road			0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road			0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		22.6	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		21.9	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		24.4	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		29.7	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		18.5	0.0	
Bullard Ave - N Garfield to N. Grantland	Road			0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		14.7	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road			0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road			0.0	
Bullard Ave - N. Grantland Avenue to N.	Road			0.0	
N. Grantland Ave - N. Parkway Drive to W	Road			0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		24.7	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		27.0	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		25.0	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		24.8	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		32.9	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		25.9	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		36.4	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		35.7	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		41.0	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		44.7	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		32.7	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		28.9	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		37.9	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		44.5	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		71.9	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		38.4	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		43.7	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		23.5	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		24.3	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		20.0	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		27.7	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		36.7	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		43.4	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		67.4	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		45.2	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		32.8	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		32.4	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Clinton Ave - N Brawley Ave to N. Val	Road		42.8	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road		38.8	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		32.1	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		29.7	0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road		36.1	0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road			0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		19.8	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		25.5	0.0	
Receiver 10	Fl	G	LrD,lim	dB(A)	LrD 69.7 dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		20.0	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road			0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		40.6	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		43.1	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		47.6	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		40.4	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		42.0	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		12.0	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		11.7	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		7.1	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		45.2	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		41.1	0.0	
	Road			0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		29.9	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		29.8	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		22.7	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		29.2	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		32.3	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		29.3	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		31.5	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		33.3	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		23.4	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		24.1	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		18.0	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		32.4	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		29.9	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		30.0	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		31.1	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		27.4	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		23.4	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		17.1	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		34.2	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		38.3	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		43.6	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		42.5	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		31.1	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		26.7	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		25.1	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road			0.0	
Shields Ave & Valentine Ave East	Road		15.6	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		36.7	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		38.5	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		66.7	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		59.1	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		34.7	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		32.5	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		28.0	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		26.0	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		28.4	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		25.4	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		24.4	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		27.1	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		16.1	0.0	
Bullard Ave - N Garfield to N. Grantland	Road		14.3	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		17.4	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road			0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road			0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
Bullard Ave - N. Grantland Avenue to N.	Road			0.0	
N. Grantland Ave - N. Parkway Drive to W	Road			0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		30.4	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		40.5	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		34.0	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		25.9	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		29.9	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		28.9	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		33.5	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		28.7	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		31.4	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		28.3	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		20.6	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		35.5	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		36.0	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		32.1	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		27.0	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		23.5	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		25.8	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		37.4	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		42.3	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		65.5	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		39.4	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Polk Ave - W Shields Avenue to W. Cli	Road		36.9	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		32.1	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		27.9	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		26.5	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		18.7	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		18.8	0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		29.6	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road			0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		16.3	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		26.3	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		38.7	0.0	
Receiver 11	Fl	G	LrD,lim	dB(A)	LrD 77.6 dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road		16.7	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		44.6	0.0	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		51.6	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		49.1	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		48.5	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		50.6	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		51.7	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		46.8	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		43.6	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		19.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		19.5	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		14.8	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		17.8	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		44.6	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		48.1	0.0	
	Road		19.3	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		28.4	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		29.8	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		23.5	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		23.8	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		29.1	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		29.3	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		34.7	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		38.7	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		21.4	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		24.1	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		19.6	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		27.0	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		36.0	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		29.9	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		36.2	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		35.5	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		32.1	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		25.3	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		43.9	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		38.2	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		33.9	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		28.8	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		44.9	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		38.6	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		35.0	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road		30.4	0.0	
Shields Ave & Valentine Ave East	Road		24.4	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		68.4	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		38.3	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		29.8	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		22.5	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		74.6	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		48.0	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road			0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road			0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		23.3	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		21.7	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		23.5	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		28.0	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		16.8	0.0	
Bullard Ave - N Garfield to N. Grantland	Road			0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road			0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road			0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road			0.0	
Bullard Ave - N. Grantland Avenue to N.	Road			0.0	
N. Grantland Ave - N. Parkway Drive to W	Road			0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		25.1	0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road		29.0	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		26.5	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		24.4	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		31.3	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		26.7	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		35.7	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		34.0	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		39.5	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		35.6	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		26.8	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		31.5	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		39.8	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		45.0	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		37.8	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N Brawley Ave - N. Parkway Drive to W. D	Road		31.2	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		37.0	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road		25.4	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		27.3	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		23.8	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		32.4	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		43.4	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		73.2	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		42.8	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		36.2	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		27.0	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		27.8	0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		41.3	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road		37.1	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		28.6	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		25.7	0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road		34.4	0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road			0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		22.7	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		27.8	0.0	
Receiver 12	Fl G	LrD,lim	dB(A)	LrD 83.9	dB(A)
W. Gettysburg Ave - West of N. Bryan Ave	Road			0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		70.2	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
SR99 - W. Dakota Avenue to W. Sheilds Av	Road		62.1	0.0	
SR99 - W. Shields Avenue to W. Clinton A	Road		71.0	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		53.4	0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		52.2	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		48.0	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		44.7	0.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road			0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		23.3	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		23.9	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		19.8	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		23.5	0.0	
SR99 - W. Herndon Avenue to W. Shaw Aven	Road			0.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		47.2	0.0	
	Road		25.5	0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road			0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road			0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road			0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road			0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road			0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		18.2	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		27.1	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		33.3	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road			0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road			0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		14.0	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road			0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		33.3	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		18.9	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		25.4	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		27.3	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		29.0	0.0	
W. Dakota Ave - N Brawley Avenue to N. P	Road		26.8	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		26.9	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		23.5	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road			0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road			0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		31.0	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		33.9	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		39.7	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road		44.4	0.0	
Shields Ave & Valentine Ave East	Road		34.2	0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		28.0	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		19.8	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road			0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road			0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		34.6	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
W. Clinton Ave - N. Blythe Avenue to N B	Road		41.0	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road			0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road			0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road			0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road			0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road			0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road			0.0	
N. Polk Ave - North of W. Shaw Avenue	Road			0.0	
Bullard Ave - N Garfield to N. Grantland	Road			0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road			0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road			0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road			0.0	
Bullard Ave - N. Grantland Avenue to N.	Road			0.0	
N. Grantland Ave - N. Parkway Drive to W	Road			0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road			0.0	
N. Bryan Ave - W. Ashlan Avenue to W Shi	Road			0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road			0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road			0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		23.0	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road			0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		26.0	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		26.8	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		28.8	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		30.8	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		25.3	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		16.5	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		26.3	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		28.8	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		30.1	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		31.2	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		36.9	0.0	
W. Sheilds Ave - West of N. Grantland Av	Road			0.0	
N. Grantland Ave - W Shields Avenue to W	Road			0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road			0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		18.6	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		25.7	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		28.5	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		31.4	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		36.2	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road		34.7	0.0	
N. Valentine Ave - W Shields Avenue to W	Road		39.0	0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road		48.1	0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road		74.1	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		75.6	0.0	
N. Marks Ave - W Princeton Avenue to W.	Road		45.7	0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road		81.9	0.0	

Source	Source ty	Tr. lane	LrD dB(A)	A dB	
Bullard Ave - N. Grantland Ave to N. Bry	Road			0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road			0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road			0.0	

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Receive 1 Fl G LrD,lim dB(A LrE 78.9 dB(A																										
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	19.6	-6.2	1.7	6.0	8.0	9.0	9.8	10.5	11.1	10.4	9.5	9.7	8.3	1.7	-3.9	-18.8	-30.9	-45.1	-63.4	-78.3					
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	45.0	16.2	25.5	30.2	32.4	33.6	34.9	36.1	37.0	36.2	34.7	35.1	33.4	30.2	27.2	20.8	9.8	-5.9	-30.7	-68.6					
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	44.3	14.4	23.6	28.4	30.6	31.8	33.1	34.5	36.0	35.6	34.5	35.2	33.8	31.2	28.6	23.0	13.1	-0.7	-22.4	-56.2	-98.0				
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	78.8	40.8	50.2	55.1	57.4	58.9	60.6	62.8	66.4	67.5	68.2	70.7	71.5	70.3	69.6	66.9	63.5	60.7	57.3	55.5	51.5	45.7	47.0	43.5	37.7
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	34.9	6.5	15.1	19.7	21.8	23.0	23.9	24.8	25.8	25.9	25.7	26.3	25.4	19.4	14.2	0.2	-11.0	-23.5	-38.3	-52.0	-78.6		-82.7	-86.0	-91.2
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	33.2	5.6	14.1	18.7	20.8	21.9	22.8	23.6	24.3	24.1	23.8	24.3	23.2	16.9	11.6	-3.2	-15.0	-28.5	-46.9	-62.7	-93.4		-97.5		
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	25.1	0.5	7.9	12.1	14.0	15.0	15.8	16.5	16.9	15.8	14.4	14.2	12.5	5.6	0.6	-14.8	-24.2	-37.3	-59.3	-77.8					
W. Shaw Ave - N. Grantland Ave to N.	CNEL	35.5	6.7	15.3	19.9	22.1	23.2	24.2	25.1	26.4	26.5	26.5	27.2	26.4	20.4	15.4	2.1	-8.6	-20.8	-33.7	-46.0	-70.3		-74.4	-77.7	-82.9
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	24.8	-1.6	6.9	11.5	13.6	14.7	15.5	16.0	15.9	15.3	14.5	14.5	13.0	6.1	0.1	-15.5	-29.5	-46.2	-72.1	-93.0					
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	22.0	-4.0	4.5	9.1	11.2	12.2	13.0	13.5	13.1	12.3	11.3	11.2	9.6	2.4	-3.4	-19.4	-31.8	-47.7	-77.7						
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	22.4	-2.5	5.7	10.1	12.1	13.1	13.8	14.2	13.5	12.4	11.0	10.6	8.7	1.1	-4.7	-21.3	-33.5	-50.1	-82.3						
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	22.4	-2.3	5.1	9.2	11.2	12.2	13.0	13.7	14.2	13.1	11.8	11.7	10.0	3.3	-2.5	-17.7	-30.1	-44.6	-62.8	-78.5					
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	22.5	-2.6	5.2	9.5	11.5	12.5	13.2	13.8	14.0	13.1	11.9	11.8	10.2	3.2	-2.2	-17.7	-28.5	-42.6	-66.6	-86.1					
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	16.2	-8.6	-0.8	3.5	5.5	6.5	7.2	7.7	7.6	6.5	5.1	4.9	3.1	-4.1	-9.6	-25.6	-36.4	-51.3	-79.0						
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	25.5	-1.0	7.5	12.1	14.2	15.2	16.0	16.6	16.7	16.1	15.4	15.5	14.0	7.3	1.4	-13.9	-27.4	-43.9	-70.5	-88.7					
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	35.1	6.2	14.8	19.4	21.6	22.7	23.7	24.7	26.0	26.1	26.1	26.9	26.1	20.2	15.1	1.7	-9.4	-20.8	-32.9	-45.5	-69.3		-73.5	-76.8	-82.0
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	36.4	8.6	16.5	20.9	22.9	24.0	25.0	26.0	27.6	27.4	27.2	27.8	26.8	22.1	20.5	15.1	8.7	-0.6	-12.9	-29.9	-47.1	-72.3	-51.0	-54.1	-58.8
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	25.5	0.5	8.3	12.6	14.5	15.4	15.9	16.1	15.6	15.7	15.7	15.7	14.4	8.0	6.1	-2.1	-10.7	-23.4	-43.7	-75.9					

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	26.8	-0.1	8.1	12.6	14.6	15.6	16.3	16.7	16.8	17.3	17.7	18.2	17.3	10.6	6.5	-7.5	-15.0	-26.6	-45.0	-68.1	-96.4				
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	25.8	-0.6	7.6	12.1	14.1	15.1	15.7	16.1	15.9	16.3	16.5	16.8	15.9	9.0	4.3	-10.6	-19.7	-32.4	-54.4	-77.2					
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	27.6	3.2	10.6	14.7	16.6	17.6	18.4	19.0	19.3	18.1	16.6	16.4	14.6	7.6	2.2	-13.3	-23.8	-37.5	-59.9	-78.7					
N. Polk Ave - North of W. Shaw Avenue	CNEL	19.1	-5.6	1.8	5.9	7.8	8.9	9.7	10.4	10.9	9.8	8.5	8.4	6.8	0.0	-5.7	-20.9	-33.2	-47.2	-65.3	-81.7					
Bullard Ave - N Garfield to N. Grantland	CNEL	30.9	2.8	10.7	15.1	17.1	18.3	19.3	20.4	22.1	22.1	22.0	22.7	21.7	16.0	10.7	-0.2	-10.5	-18.5	-24.0	-31.1	-46.6	-70.1	-50.4	-53.5	-58.3
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	28.1	-0.3	7.9	12.4	14.5	15.6	16.6	17.7	19.1	19.2	19.1	19.8	19.0	13.1	8.2	-4.6	-14.8	-24.9	-33.8	-43.3	-62.2	-90.3	-66.2	-69.4	-74.4
N. Grantland Ave - W. Bullard Ave to Bar	CNEL	42.7	13.6	21.5	25.9	27.9	29.1	30.2	31.4	33.4	33.6	33.7	34.6	33.9	29.9	27.6	24.4	19.1	11.6	2.8	-3.5	-12.5	-25.7	-16.4	-19.5	-24.2
Bullard Ave - N Garfield Avenue to N. Gr	CNEL	34.6	5.4	13.3	17.6	19.7	20.9	22.0	23.3	25.4	25.7	26.0	26.9	26.3	21.1	15.8	12.2	2.1	-2.6	-5.5	-7.5	-15.4	-27.5	-19.2	-22.4	-27.1
Bullard Ave - N. Grantland Avenue to N.	CNEL	40.7	11.7	19.6	24.0	26.0	27.2	28.3	29.6	31.6	31.8	32.0	32.9	32.1	26.7	21.3	16.2	8.5	2.8	-1.2	-3.9	-12.3	-25.0	-16.2	-19.3	-24.0
N. Grantland Ave - N. Parkway Drive to W	CNEL	61.6	28.4	36.4	40.8	42.9	44.2	45.5	47.0	49.4	50.3	51.2	53.2	54.2	52.2	51.6	49.2	46.2	44.0	41.3	39.6	35.4	28.6	31.3	28.3	24.1
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	24.9	-0.9	7.3	11.8	13.7	14.7	15.3	15.5	15.0	15.2	15.3	15.4	14.2	7.1	2.5	-12.7	-21.8	-35.2	-60.3	-85.6					
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	20.8	-4.0	4.2	8.6	10.6	11.5	12.0	12.1	10.7	10.5	10.2	10.0	8.4	0.7	-4.5	-20.7	-31.4	-46.8	-78.0						
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	24.3	-2.0	6.5	11.1	13.2	14.3	15.0	15.6	15.4	14.7	13.8	13.7	12.1	6.2	3.6	-4.7	-15.0	-30.0	-54.7	-90.3					
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	21.4	-4.1	4.1	8.5	10.5	11.4	12.0	12.2	11.4	11.5	11.5	11.5	10.2	3.0	-2.3	-18.0	-28.7	-43.1	-72.3	-95.5					
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	25.6	0.2	8.4	12.8	14.9	15.9	16.6	17.1	16.8	15.9	14.7	14.6	12.9	5.7	-0.1	-16.1	-28.1	-43.5	-72.2	-94.0					
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	18.5	-4.2	3.1	7.2	8.9	9.7	10.0	9.9	8.4	7.8	7.1	6.6	4.7	-3.2	-9.2	-25.7	-38.1	-54.2	-89.0						
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	21.6	-3.2	4.9	9.4	11.4	12.4	13.0	13.4	12.7	11.6	10.2	9.7	7.8	0.2	-5.8	-22.4	-35.1	-51.9	-84.6						
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	22.9	-2.0	6.2	10.7	12.7	13.6	14.0	14.1	12.8	12.6	12.3	12.1	10.6	3.1	-3.4	-19.2	-34.1	-51.6	-82.7						
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	29.5	0.5	8.7	13.3	15.4	16.5	17.6	18.7	20.4	20.6	20.7	21.5	20.7	15.1	10.0	-1.5	-11.0	-20.3	-26.7	-34.4	-50.2	-74.3	-54.2	-57.4	-62.4

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	29.8	3.3	11.1	15.4	17.5	18.5	19.4	20.2	21.2	20.8	20.1	20.4	19.2	13.6	12.0	4.9	-2.5	-13.5	-29.5	-53.5	-79.6		-83.5	-86.6	-91.3
Receive 2 Fl G LrD,lim dB(A LrE 69. 1 dB(A																										
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	34.1	5.0	12.9	17.3	19.4	20.5	21.7	23.0	25.0	25.3	25.5	26.3	25.6	20.2	14.7	7.5	1.4	-3.8	-6.8	-9.6	-18.0	-31.0	-21.9	-25.0	-29.7
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	43.1	14.8	24.0	28.7	30.9	32.1	33.3	34.5	35.3	34.4	32.6	32.7	30.7	24.7	21.2	10.6	-0.4	-16.5	-43.7	-76.2					
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	53.3	22.3	31.6	36.3	38.6	39.9	41.3	42.8	45.1	45.0	44.1	45.1	43.8	38.5	34.5	22.1	13.5	2.3	-11.4	-24.3	-47.6	-81.0	-52.0	-55.6	-61.7
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	42.0	12.7	22.0	26.7	29.0	30.2	31.4	32.8	34.2	33.6	32.2	32.6	30.9	25.0	19.9	4.5	-5.7	-20.0	-45.0	-65.4					
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	52.7	20.3	29.6	34.5	36.7	38.1	39.6	41.4	44.1	44.3	43.9	45.1	44.0	39.1	35.3	25.3	17.6	8.0	-2.0	-12.6	-31.1	-58.1	-35.5	-39.1	-45.2
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	64.8	31.8	41.1	45.9	48.2	49.6	51.1	53.0	56.0	56.4	56.2	57.5	56.6	51.8	46.5	39.5	32.7	25.1	19.5	13.7	1.6	-16.2	-2.8	-6.4	-12.5
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	41.8	13.0	22.2	27.0	29.2	30.4	31.6	32.9	34.0	33.2	31.7	32.0	30.1	23.8	19.9	6.4	-3.2	-18.0	-44.0	-71.5					
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	63.4	27.2	35.8	40.6	42.8	44.2	45.5	47.1	49.6	50.9	52.4	54.7	56.1	54.6	54.4	52.6	50.1	48.0	44.8	41.7	36.4	30.1	31.6	28.5	24.8
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	46.6	14.7	23.4	28.0	30.3	31.5	32.7	34.0	36.0	36.8	37.5	38.8	38.5	35.9	34.6	31.8	26.4	19.0	8.8	1.1	-9.1	-22.1	-13.3	-16.6	-21.6
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	34.6	7.2	14.7	18.9	20.9	22.0	23.1	24.2	25.9	25.6	25.2	25.8	24.8	21.0	19.4	15.3	9.0	0.3	-11.0	-26.8	-42.8	-66.7	-46.6	-49.6	-54.0
W. Shaw Ave - N. Grantland Ave to N.	CNEL	63.0	26.7	35.3	40.1	42.3	43.7	45.0	46.6	49.1	50.4	51.9	54.2	55.6	54.1	53.9	52.1	49.7	47.6	44.4	41.4	36.0	29.8	31.1	28.1	24.4
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	36.1	6.2	14.8	19.5	21.7	22.9	23.9	25.1	26.8	27.2	27.5	28.4	27.8	22.2	17.3	5.6	-3.8	-13.0	-20.6	-29.3	-45.8	-70.9	-49.9	-53.2	-58.4
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	32.4	3.0	11.6	16.2	18.4	19.6	20.6	21.7	23.2	23.5	23.6	24.5	23.7	18.0	13.8	2.4	-4.9	-14.6	-26.3	-38.9	-58.3	-86.8	-62.4	-65.7	-70.9
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	33.7	6.1	14.3	18.8	20.9	22.0	22.9	23.8	24.9	24.8	24.5	25.0	24.0	17.8	13.3	0.1	-8.2	-19.1	-33.4	-48.2	-72.3		-76.3	-79.5	-84.5
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	34.9	8.1	16.3	20.8	22.9	23.9	24.8	25.5	26.2	25.8	25.1	25.4	24.2	17.6	12.9	-2.0	-11.0	-23.5	-43.3	-60.6	-91.3		-95.3	-98.5	
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	36.7	8.7	16.3	20.5	22.5	23.7	24.8	26.1	28.1	28.0	27.9	28.5	27.5	22.0	16.3	8.7	3.0	-2.1	-4.9	-7.6	-16.0	-29.2	-19.8	-22.8	-27.2
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	34.3	5.9	13.9	18.2	20.3	21.4	22.5	23.6	25.4	25.5	25.5	26.2	25.2	19.5	14.2	7.3	0.2	-7.8	-14.4	-21.0	-33.1	-51.4	-37.0	-40.1	-44.8

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	25.6	-1.9	6.0	10.3	12.3	13.4	14.4	15.5	17.0	16.8	16.5	17.1	16.1	10.0	6.3	-4.5	-11.2	-20.6	-31.8	-43.4	-61.8	-89.4	-65.6	-68.7	-73.5
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	36.3	6.4	15.0	19.6	21.8	23.0	24.1	25.2	26.9	27.4	27.7	28.6	28.0	22.4	17.5	5.8	-3.7	-12.7	-20.3	-28.9	-45.5	-70.6	-49.7	-53.0	-58.2
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	31.0	5.8	13.7	18.0	19.9	20.9	21.7	22.3	22.5	21.6	20.4	20.3	18.7	11.8	6.3	-9.4	-21.0	-35.5	-60.3	-77.4					
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	25.7	-0.3	7.5	11.8	13.7	14.6	15.3	15.7	15.8	16.3	16.6	17.0	16.0	9.4	4.7	-8.8	-17.3	-28.7	-45.9	-67.3	-94.6		-98.9		
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	28.1	2.6	10.4	14.7	16.6	17.5	18.1	18.4	18.2	18.5	18.6	18.8	17.8	10.9	6.0	-8.7	-18.3	-30.9	-51.7	-73.4					
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	25.2	0.4	8.2	12.5	14.4	15.3	15.7	16.0	15.3	15.4	15.3	15.3	14.0	6.8	1.6	-14.0	-24.6	-38.6	-65.8	-87.2					
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	21.8	-2.3	5.5	9.8	11.6	12.5	12.9	13.0	11.8	11.6	11.2	11.0	9.4	1.8	-3.8	-20.0	-31.8	-47.3	-80.6						
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	15.9	-7.7	0.1	4.3	6.2	7.0	7.4	7.4	5.7	5.3	4.7	4.2	2.4	-5.5	-11.6	-28.3	-41.1	-58.1	-96.8						
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	26.0	-0.6	7.9	12.6	14.7	15.7	16.3	16.7	16.1	16.3	16.5	16.7	15.6	8.5	3.6	-11.7	-22.0	-36.1	-63.1	-88.6					
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	26.7	-0.4	8.1	12.8	14.9	15.9	16.6	17.0	16.7	17.1	17.5	17.8	16.9	10.2	4.7	-10.2	-23.1	-38.1	-63.4	-82.8					
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	27.8	0.4	9.0	13.7	15.8	16.8	17.5	18.0	17.8	18.3	18.7	19.2	18.3	11.7	6.2	-8.5	-21.1	-35.8	-59.4	-78.2					
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	26.7	-0.7	7.9	12.6	14.7	15.7	16.4	16.9	16.7	17.2	17.6	18.1	17.2	10.6	5.1	-9.6	-22.4	-36.9	-60.2	-79.3					
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	25.3	-0.8	7.8	12.4	14.5	15.5	16.1	16.3	15.3	15.4	15.4	15.4	14.1	6.8	1.2	-14.7	-26.8	-42.4	-76.0	-98.8					
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	19.5	-5.2	3.0	7.5	9.5	10.4	10.8	10.9	9.5	9.2	8.8	8.6	6.9	-0.7	-6.6	-23.1	-35.6	-52.2	-91.3						
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	23.5	-1.7	6.4	10.9	12.9	13.9	14.6	15.0	14.6	13.6	12.4	12.2	10.4	3.0	-2.6	-18.5	-30.0	-45.7	-75.1						
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	19.3	-6.2	1.9	6.4	8.4	9.4	10.2	10.7	10.5	9.6	8.6	8.4	6.8	-0.2	-6.4	-22.1	-35.9	-52.3	-78.1	-99.1					
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	18.0	-7.7	0.5	4.9	7.0	8.0	8.7	9.3	9.2	8.4	7.4	7.4	5.8	-1.1	-7.2	-22.7	-36.4	-52.4	-77.9	-97.5					
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	15.6	-10.0	-1.9	2.5	4.5	5.6	6.3	6.8	6.8	6.0	5.0	5.0	3.4	-3.5	-9.7	-25.2	-39.0	-55.0	-79.4	-100.0					
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	22.4	-2.5	5.6	10.1	12.1	13.1	13.7	14.1	13.5	12.3	11.0	10.6	8.6	1.1	-4.7	-21.3	-33.4	-50.0	-82.5						

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	44.9	13.1	21.7	26.4	28.6	29.9	31.0	32.3	34.4	35.1	35.9	37.1	36.9	34.2	32.8	30.1	24.8	17.5	7.3	0.6	-10.0	-22.7	-14.2	-17.5	-22.5
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	45.5	16.1	24.0	28.4	30.5	31.6	32.8	34.1	36.2	36.5	36.8	37.8	37.3	32.2	27.2	24.4	14.7	9.6	6.0	4.4	-3.1	-14.6	-7.0	-10.1	-14.8
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	36.3	8.3	16.2	20.5	22.5	23.5	24.3	25.1	26.0	27.0	27.9	28.7	28.0	22.0	16.5	8.0	-0.3	-8.5	-16.6	-26.4	-39.1	-57.8	-43.3	-46.4	-50.7
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	54.8	19.1	27.5	32.1	34.2	35.5	36.6	37.8	39.5	41.5	43.6	45.9	47.5	45.9	46.1	44.6	42.4	40.1	36.0	31.3	25.5	19.3	20.4	17.6	14.7
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	40.6	10.4	18.7	23.3	25.4	26.5	27.5	28.5	29.8	31.1	32.4	33.5	33.1	27.8	22.6	18.3	8.7	2.5	-4.4	-9.4	-18.7	-31.4	-23.3	-26.4	-30.7
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	37.4	10.4	17.8	22.0	24.0	25.1	26.2	27.3	29.0	28.7	28.2	28.7	27.6	21.7	16.5	5.8	-3.7	-12.6	-18.0	-24.7	-39.8	-63.2	-43.5	-46.6	-51.0
N. Polk Ave - North of W. Shaw Avenue	CNEL	28.4	1.2	8.7	12.9	14.9	16.0	17.1	18.2	19.9	19.7	19.2	19.8	18.7	12.8	7.4	-2.8	-12.8	-20.1	-25.0	-31.5	-46.3	-69.0	-50.0	-53.1	-57.5
Bullard Ave - N Garfield to N. Grantland	CNEL	33.3	4.8	12.7	17.0	19.1	20.3	21.3	22.5	24.4	24.5	24.5	25.3	24.3	18.7	13.5	6.9	1.3	-6.0	-12.2	-18.1	-28.6	-44.6	-32.4	-35.6	-40.2
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	38.7	8.0	16.3	20.8	23.0	24.2	25.4	26.7	28.8	29.5	30.1	31.3	31.0	26.4	21.7	17.6	9.0	4.3	0.5	-1.5	-8.1	-18.3	-12.1	-15.4	-20.3
N. Grantland Ave - W. Bullard Ave to Bar	CNEL	41.2	12.6	20.5	24.9	27.0	28.1	29.2	30.4	32.3	32.4	32.4	33.2	32.2	26.6	21.3	14.6	9.0	1.8	-4.2	-9.9	-20.3	-36.3	-24.2	-27.3	-32.0
Bullard Ave - N Garfield Avenue to N. Gr	CNEL	26.4	-1.3	6.6	10.9	13.0	14.1	15.1	16.2	17.7	17.6	17.4	18.0	17.0	11.1	6.8	-3.3	-10.4	-19.4	-29.1	-39.6	-56.5	-81.8	-60.3	-63.5	-68.2
Bullard Ave - N. Grantland Avenue to N.	CNEL	36.5	8.3	16.2	20.5	22.6	23.7	24.8	25.9	27.7	27.7	27.7	28.3	27.4	21.7	16.2	6.5	-3.8	-11.2	-16.0	-22.3	-36.5	-58.0	-40.3	-43.4	-48.2
N. Grantland Ave - N. Parkway Drive to W	CNEL	38.4	10.9	18.8	23.1	25.2	26.3	27.3	28.3	29.8	29.6	29.3	29.9	28.9	22.8	18.9	8.2	1.4	-7.7	-18.1	-29.2	-46.2	-71.7	-50.1	-53.2	-57.9
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	41.1	8.8	17.1	21.6	23.7	24.9	25.8	26.8	28.1	29.6	31.3	33.2	34.4	31.9	31.0	27.4	21.8	13.5	2.8	-16.8	-26.2	-42.0	-31.1	-34.0	-37.4
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	33.4	3.5	11.8	16.3	18.4	19.4	20.2	20.9	21.6	22.7	23.9	25.4	26.3	23.0	21.6	17.1	10.4	0.2	-13.3	-38.4	-63.4	-91.7	-68.0	-71.0	-74.7
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	33.4	4.2	12.7	17.4	19.5	20.7	21.7	22.7	24.2	24.4	24.5	25.3	24.5	18.6	15.4	4.7	-1.7	-11.5	-24.4	-39.4	-59.2	-88.1	-63.3	-66.6	-71.8
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	33.8	4.6	12.9	17.4	19.5	20.6	21.4	22.3	23.3	24.5	25.5	26.4	25.8	20.0	14.8	7.7	0.6	-7.7	-16.5	-29.2	-42.0	-60.9	-46.5	-49.6	-53.9
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	35.5	7.0	15.3	19.8	21.9	23.0	24.0	25.0	26.5	26.6	26.6	27.3	26.4	20.5	16.4	5.4	-1.7	-11.2	-22.5	-34.6	-53.3	-81.0	-57.3	-60.5	-65.4
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	28.2	2.5	9.9	14.0	15.9	16.8	17.4	17.9	18.4	18.9	19.3	19.7	18.8	12.3	8.2	-4.1	-10.6	-20.4	-33.4	-50.6	-70.4	-99.3	-74.4	-77.4	-81.6

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	33.0	5.4	13.6	18.1	20.2	21.3	22.2	23.1	24.2	24.1	23.8	24.3	23.3	17.1	12.6	-0.6	-8.9	-19.8	-34.1	-49.0	-73.0		-77.0	-80.3	-85.2
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	33.4	6.0	14.2	18.7	20.8	21.8	22.5	23.0	23.3	24.0	24.5	25.1	24.3	17.9	12.7	-1.3	-12.2	-24.8	-41.9	-57.5	-83.0		-87.4	-90.6	-95.1
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	31.0	4.4	12.7	17.2	19.2	20.1	20.8	21.2	21.1	21.5	21.8	22.2	21.2	14.5	9.6	-5.0	-14.6	-27.2	-48.0	-70.1					
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	28.0	2.9	10.7	15.0	17.0	18.0	18.7	19.3	19.5	18.6	17.4	17.3	15.7	8.7	3.6	-11.8	-22.0	-35.9	-60.1	-79.8					
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	21.5	-3.4	4.4	8.7	10.7	11.7	12.4	13.0	13.0	12.0	10.7	10.5	8.8	1.7	-4.0	-19.8	-31.8	-46.9	-73.9	-91.9					
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	26.3	-0.6	7.6	12.1	14.1	15.1	15.8	16.2	16.3	16.8	17.2	17.6	16.8	10.1	5.6	-9.1	-17.6	-29.5	-48.9	-69.7	-97.7				
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	29.5	2.8	11.0	15.5	17.5	18.6	19.4	20.1	20.8	20.3	19.7	20.0	18.7	12.2	7.5	-7.5	-16.5	-29.1	-49.0	-66.6	-97.3				
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	27.5	1.7	9.9	14.4	16.4	17.3	17.9	18.1	17.6	17.8	17.8	17.9	16.8	9.7	4.5	-11.0	-21.7	-35.7	-63.2	-85.1					
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	23.8	-0.4	7.4	11.7	13.6	14.4	14.8	14.9	13.8	13.6	13.3	13.0	11.5	4.0	-1.7	-17.8	-29.9	-45.4	-78.5						
N Brawley Ave - N. Parkway Drive to W. D	CNEL	23.0	-0.9	6.9	11.1	13.0	13.8	14.2	14.3	12.9	12.6	12.2	11.8	10.2	2.6	-3.8	-19.7	-34.3	-52.0	-82.4						
W. Sheilds Ave - West of N. Grantland Av	CNEL	25.9	-1.3	7.3	12.0	14.1	15.1	15.8	16.2	15.9	16.3	16.6	17.0	16.0	9.3	3.8	-11.1	-23.8	-38.9	-64.5	-83.7					
N. Grantland Ave - W Shields Avenue to W	CNEL	25.2	-1.8	6.7	11.4	13.5	14.5	15.3	16.0	16.3	15.9	15.2	15.4	14.2	7.3	3.3	-10.6	-19.1	-32.4	-55.7	-80.4					
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	19.4	-7.6	0.5	5.0	7.0	8.0	8.6	9.0	8.7	9.2	9.8	10.6	10.8	6.5	4.1	-1.8	-10.8	-24.5	-44.9	-78.8					
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	22.0	-3.8	4.4	8.9	10.9	11.8	12.4	12.6	12.1	12.2	12.3	12.4	11.3	4.0	-0.6	-15.7	-24.9	-38.3	-63.6	-89.4					
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	25.7	-0.1	8.0	12.5	14.5	15.5	16.3	16.9	16.9	16.2	15.2	15.2	13.7	6.7	1.4	-14.3	-24.9	-39.3	-65.6	-85.5					
N. Cornelia Ave - W Shields Avenue to W.	CNEL	24.3	0.2	8.0	12.3	14.2	15.0	15.4	15.5	14.3	14.1	13.7	13.4	11.8	4.3	-1.5	-17.7	-29.9	-45.5	-79.9						
N. Blythe Ave - W Shields Avenue to W. C	CNEL	20.9	-2.8	5.0	9.2	11.1	11.9	12.3	12.3	10.7	10.3	9.8	9.3	7.6	-0.3	-6.3	-22.9	-35.8	-52.5	-90.9						
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	21.4	-3.2	5.0	9.4	11.4	12.3	12.8	12.8	11.3	11.0	10.6	10.2	8.6	0.8	-5.0	-21.6	-34.1	-50.8	-88.8						
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	37.9	7.2	15.5	20.0	22.2	23.4	24.6	25.9	28.0	28.7	29.3	30.6	30.3	25.7	21.0	17.2	8.4	3.6	-0.2	-2.2	-8.8	-19.1	-12.8	-16.0	-21.0

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)	
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	42.1	12.9	20.8	25.2	27.3	28.5	29.6	30.9	32.9	33.2	33.5	34.4	33.7	28.6	23.5	19.8	10.9	5.5	1.4	-0.7	-8.5	-20.4	-12.4	-15.5	-20.2	
N. Grantland Ave - W. Dakota Avenue to W	CNEL	29.5	1.5	10.1	14.7	16.8	17.9	18.8	19.7	20.6	20.5	20.2	20.8	19.8	13.4	9.6	-3.9	-11.5	-23.1	-41.0	-59.8	-87.2		-91.4	-94.7	-99.9	
Receive 3 Fl G LrD,lim dB(A LrD 67.6 dB(A																											
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	32.6	3.3	11.2	15.6	17.6	18.8	19.9	21.2	23.1	23.3	23.5	24.4	23.7	20.5	18.6	15.5	10.1	2.3	-6.5	-15.9	-25.2	-39.9	-29.1	-32.2	-36.8	
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	45.1	16.8	26.0	30.8	33.0	34.2	35.4	36.5	37.4	36.4	34.7	34.9	32.9	26.5	21.5	6.4	-4.0	-19.5	-46.9	-73.6						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	43.6	14.4	23.7	28.4	30.7	31.9	33.1	34.4	35.8	35.1	33.7	34.1	32.4	26.4	20.9	5.1	-6.4	-21.4	-46.1	-66.0						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	47.2	17.4	26.6	31.4	33.6	34.9	36.2	37.6	39.3	38.9	37.7	38.3	36.8	31.0	27.0	12.9	4.6	-8.4	-29.4	-49.5	-82.8		-87.2	-90.8	-96.9	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	59.3	26.5	35.8	40.7	43.0	44.3	45.8	47.7	50.6	50.9	50.6	51.8	50.9	46.1	41.4	33.4	25.9	17.5	10.9	4.0	-9.3	-28.8	-13.7	-17.4	-23.4	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	46.9	15.9	25.1	29.9	32.2	33.5	34.9	36.5	38.7	38.6	37.8	38.7	37.5	32.1	27.9	14.5	5.9	-5.7	-21.0	-36.0	-62.9		-67.3	-70.9	-77.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	58.5	25.0	34.3	39.2	41.5	42.9	44.5	46.4	49.6	50.1	50.0	51.4	50.5	45.9	40.1	32.6	27.7	21.5	16.7	11.8	0.8	-15.5	-3.7	-7.3	-13.3	
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	14.5	-10.1	-2.3	2.0	3.8	4.7	5.2	5.3	4.6	4.5	4.4	4.3	2.9	-4.3	-9.9	-25.6	-37.7	-52.8	-85.2							
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	14.1	-10.3	-2.5	1.8	3.6	4.5	5.0	5.1	4.2	4.1	3.9	3.8	2.4	-4.9	-10.6	-26.4	-38.9	-54.4	-87.9							
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	9.5	-14.8	-7.0	-2.8	-0.9	0.0	0.4	0.5	-0.4	-0.5	-0.8	-0.9	-2.4	-9.8	-15.5	-31.4	-44.0	-59.6	-94.4							
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	12.4	-11.8	-4.0	0.3	2.2	3.0	3.5	3.6	2.5	2.3	2.0	1.7	0.2	-7.5	-11.5	-25.8	-35.0	-49.5	-76.3							
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	63.6	30.6	40.0	44.8	47.1	48.4	50.0	51.8	54.7	55.1	54.9	56.2	55.3	50.7	45.8	38.8	33.5	26.5	20.8	15.2	4.4	-11.5	0.0	-3.6	-9.6	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	46.3	15.8	25.1	29.9	32.1	33.4	34.8	36.3	38.3	38.1	37.0	37.8	36.4	30.9	28.4	17.7	10.0	-2.1	-20.9	-43.1	-74.0		-78.4	-82.0	-88.0	
	CNEL	13.6	-12.7	-4.2	0.4	2.5	3.5	4.3	4.8	4.7	4.1	3.2	3.2	1.7	-5.4	-10.4	-26.3	-36.6	-51.7	-81.2							
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	49.0	17.1	25.8	30.5	32.7	34.0	35.2	36.6	38.7	39.6	40.4	41.8	41.7	37.2	33.1	29.7	22.4	17.4	11.3	8.2	1.5	-8.7	-2.7	-6.0	-11.1	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	51.0	18.7	27.4	32.1	34.3	35.6	36.8	38.3	40.5	41.4	42.3	43.8	43.9	39.6	35.5	31.0	23.0	19.3	14.4	12.1	5.8	-3.8	1.6	-1.7	-6.8	
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	39.9	11.9	19.4	23.6	25.7	26.8	28.0	29.2	31.2	31.2	31.0	31.7	30.7	25.5	21.3	15.3	11.9	5.4	-0.4	-4.3	-13.0	-26.6	-16.7	-19.7	-24.2	

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
W. Shaw Ave - N. Grantland Ave to N.	CNEL	42.0	11.6	20.2	24.9	27.1	28.3	29.4	30.6	32.5	33.1	33.5	34.5	33.9	28.4	23.5	17.2	10.6	2.6	-5.0	-12.9	-24.7	-42.2	-28.8	-32.1	-37.3
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	41.4	10.5	19.1	23.8	26.0	27.3	28.4	29.7	31.7	32.4	33.0	34.1	33.5	28.2	22.5	14.2	9.0	2.5	-2.2	-6.6	-16.1	-30.4	-20.2	-23.6	-28.7
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	40.5	9.5	18.1	22.8	25.0	26.2	27.4	28.8	30.8	31.5	32.2	33.3	32.7	27.5	21.8	12.0	8.4	2.7	-1.5	-5.5	-14.6	-28.4	-18.8	-22.1	-27.2
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	41.1	11.6	19.9	24.4	26.6	27.7	28.8	30.0	31.9	32.2	32.5	33.4	32.6	27.1	21.9	15.8	9.1	1.2	-5.9	-13.0	-24.6	-42.1	-28.6	-31.8	-36.7
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	40.7	12.2	20.5	25.0	27.1	28.2	29.2	30.3	31.8	31.9	31.8	32.5	31.7	25.7	21.7	10.5	3.5	-5.9	-16.8	-28.3	-46.0	-72.4	-50.0	-53.2	-58.1
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	47.9	16.5	24.1	28.3	30.4	31.6	32.9	34.4	36.7	37.2	37.8	39.4	40.1	38.0	37.2	35.0	32.1	29.7	26.1	23.9	20.3	14.7	16.5	13.5	9.3
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	56.4	22.7	30.7	35.1	37.3	38.5	39.8	41.4	43.8	44.7	45.7	47.8	48.9	47.1	46.8	44.8	42.3	40.4	37.7	35.6	30.7	23.9	26.4	23.4	19.5
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	35.9	5.7	13.6	18.0	20.1	21.3	22.4	23.8	25.8	26.3	26.7	27.9	27.7	24.9	23.5	21.2	16.1	10.2	1.1	-3.5	-11.5	-22.0	-15.4	-18.5	-23.1
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	37.4	7.2	15.8	20.5	22.7	23.9	25.0	26.2	27.9	28.4	28.8	29.8	29.1	23.6	18.7	10.7	3.5	-4.9	-13.1	-22.0	-35.7	-56.0	-39.8	-43.1	-48.3
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	35.8	9.1	17.0	21.3	23.3	24.4	25.3	26.2	27.2	26.8	26.2	26.6	25.4	19.1	14.6	0.9	-7.3	-18.4	-33.2	-47.3	-72.3		-76.1	-79.3	-84.0
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	31.3	3.7	11.5	15.9	17.8	18.8	19.6	20.3	21.1	22.0	22.7	23.4	22.8	16.7	11.6	-0.9	-10.3	-19.9	-29.5	-40.6	-57.6	-83.0	-61.8	-64.9	-69.2
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	33.8	6.6	14.5	18.8	20.8	21.7	22.4	23.1	23.7	24.5	25.1	25.8	25.0	18.8	14.1	0.9	-6.8	-16.9	-28.9	-43.0	-62.1	-90.2	-66.4	-69.5	-73.8
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	30.3	3.9	11.8	16.1	18.0	18.9	19.6	20.1	20.4	21.0	21.4	21.9	21.0	14.5	9.9	-3.7	-11.9	-22.8	-38.0	-56.6	-80.3		-84.6	-87.7	-92.0
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	26.2	0.6	8.5	12.8	14.7	15.6	16.1	16.5	16.3	16.6	16.8	17.0	15.9	9.0	4.4	-10.3	-19.0	-31.2	-51.6	-73.5					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	19.7	-5.2	2.6	6.9	8.8	9.7	10.2	10.4	9.8	9.9	9.8	9.8	8.5	1.3	-3.6	-19.2	-29.0	-42.7	-70.2	-92.0					
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	30.7	2.4	11.0	15.7	17.8	18.9	19.6	20.2	20.5	21.3	21.9	22.6	21.9	15.6	10.7	-3.3	-12.9	-24.9	-42.9	-62.5	-89.7		-94.4	-97.7	
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	31.0	2.4	11.0	15.7	17.8	18.9	19.7	20.4	20.8	21.6	22.4	23.1	22.5	16.3	11.2	-2.7	-13.8	-26.2	-42.6	-58.7	-84.1		-88.8	-92.1	-96.6
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	31.2	2.7	11.2	15.9	18.1	19.2	19.9	20.6	21.0	21.8	22.5	23.2	22.6	16.4	11.2	-2.6	-13.3	-26.2	-43.6	-59.4	-85.2		-89.9	-93.2	-97.8
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	28.8	0.7	9.3	13.9	16.1	17.1	17.9	18.5	18.7	19.4	19.9	20.5	19.8	13.4	8.8	-4.9	-13.7	-25.5	-43.7	-66.3	-95.0		-99.7		

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	29.8	2.1	10.7	15.4	17.5	18.5	19.2	19.7	19.8	20.3	20.8	21.3	20.5	13.9	9.1	-5.4	-15.2	-27.8	-48.7	-70.7					
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	26.6	0.7	8.9	13.4	15.4	16.3	16.9	17.2	16.7	16.9	17.0	17.2	16.1	9.0	4.0	-11.4	-21.9	-35.7	-62.2	-84.2					
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	25.6	0.4	8.6	13.1	15.1	16.0	16.5	16.7	15.6	15.6	15.4	15.4	14.0	6.6	1.0	-15.0	-26.9	-42.3	-76.0	-97.2					
W. Sheilds Ave - N. Valentine Ave to N.	CNEL	21.0	-3.6	4.6	9.1	11.0	11.9	12.4	12.4	10.9	10.7	10.2	9.9	8.2	0.5	-5.4	-22.0	-34.8	-51.6	-90.9						
Shields Ave & Valentine Ave East	CNEL	16.3	-8.5	-0.3	4.2	6.2	7.1	7.5	7.6	6.3	6.0	5.7	5.4	3.9	-3.8	-9.6	-26.0	-38.5	-54.9	-93.3						
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	27.1	0.6	8.8	13.3	15.4	16.4	17.2	17.9	18.4	17.8	17.1	17.3	16.0	9.4	3.9	-11.3	-23.3	-37.6	-58.5	-75.1					
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	22.6	-4.0	4.2	8.6	10.7	11.7	12.6	13.3	13.9	13.4	12.8	13.0	11.8	5.3	-0.2	-15.2	-27.2	-41.0	-60.3	-76.7					
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	20.6	-5.9	2.3	6.8	8.8	9.8	10.7	11.4	11.9	11.5	10.8	11.0	9.7	3.2	-2.1	-17.3	-28.8	-43.1	-64.3	-79.3					
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	17.4	-8.8	-0.7	3.8	5.8	6.9	7.7	8.3	8.7	8.1	7.4	7.5	6.2	-0.5	-6.0	-21.3	-33.4	-48.0	-69.9	-86.7					
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	28.7	2.6	10.8	15.3	17.3	18.3	19.1	19.7	20.0	19.3	18.4	18.5	17.0	10.1	5.1	-10.2	-20.2	-34.1	-58.8	-79.4					
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	28.8	3.3	11.5	15.9	17.9	18.9	19.7	20.2	20.1	19.2	18.1	18.0	16.3	9.2	3.7	-12.2	-23.7	-38.8	-67.1	-88.1					
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	36.5	7.2	15.8	20.5	22.6	23.8	24.8	25.9	27.3	27.6	27.7	28.5	27.7	21.8	18.4	7.6	1.1	-8.6	-21.1	-35.5	-54.8	-83.1	-58.9	-62.3	-67.5
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	36.1	8.5	16.4	20.7	22.8	23.9	24.9	25.9	27.4	27.2	26.9	27.5	26.5	20.5	16.1	4.5	-3.2	-12.6	-22.7	-33.3	-51.8	-79.5	-55.7	-58.8	-63.5
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	34.0	6.5	14.4	18.7	20.7	21.7	22.4	23.1	23.9	24.8	25.5	26.2	25.5	19.4	14.4	1.3	-7.1	-17.5	-27.8	-39.0	-56.2	-82.1	-60.4	-63.5	-67.8
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	39.5	9.5	17.8	22.4	24.5	25.6	26.6	27.5	28.8	30.1	31.3	32.3	31.8	26.3	20.5	10.9	6.1	0.0	-6.5	-12.7	-22.3	-36.4	-26.8	-30.0	-34.3
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	57.8	23.0	31.3	35.9	38.1	39.3	40.4	41.6	43.4	45.3	47.3	49.5	51.0	48.9	48.5	46.3	43.4	41.0	37.3	33.5	28.5	22.9	23.3	20.4	17.4
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	46.5	17.7	25.2	29.4	31.5	32.7	33.9	35.2	37.4	37.5	37.7	38.7	38.3	33.7	29.3	24.8	16.7	13.4	10.3	9.2	3.4	-6.1	-0.4	-3.4	-7.8
N. Polk Ave - North of W. Shaw Avenue	CNEL	33.5	5.5	13.0	17.2	19.2	20.4	21.5	22.8	24.8	24.8	24.6	25.3	24.2	19.1	14.9	8.8	5.5	-1.1	-6.8	-10.7	-19.5	-33.1	-23.2	-26.2	-30.6
Bullard Ave - N Garfield to N. Grantland	CNEL	25.8	-1.0	6.9	11.2	13.2	14.3	15.2	16.1	17.2	16.9	16.3	16.7	15.6	9.3	4.8	-8.3	-16.7	-27.3	-40.6	-54.2	-77.3		-81.2	-84.3	-89.0

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	31.7	2.5	10.8	15.3	17.4	18.6	19.6	20.8	22.5	22.9	23.0	23.9	23.1	17.5	12.1	2.4	-7.8	-15.8	-21.2	-27.8	-42.0	-63.4	-46.0	-49.2	-54.2
N. Grantland Ave - W. Bullard Ave to Bar	CNEL	33.7	6.8	14.7	19.0	21.1	22.1	23.0	24.0	25.1	24.8	24.3	24.7	23.5	17.3	12.7	-0.4	-9.0	-19.6	-32.6	-45.9	-69.0		-72.8	-75.9	-80.7
Bullard Ave - N Garfield Avenue to N. Gr	CNEL	20.4	-5.6	2.2	6.5	8.5	9.5	10.4	11.2	11.9	11.3	10.5	10.7	9.4	2.9	-2.1	-16.5	-26.2	-38.4	-55.4	-71.6					
Bullard Ave - N. Grantland Avenue to N.	CNEL	30.5	3.7	11.6	15.9	17.9	19.0	19.9	20.8	21.9	21.6	21.0	21.4	20.3	14.2	8.8	-4.6	-16.1	-27.9	-39.2	-50.8	-74.7		-78.5	-81.7	-86.4
N. Grantland Ave - N. Parkway Drive to W	CNEL	33.0	7.0	14.8	19.1	21.1	22.2	23.0	23.8	24.5	23.8	23.0	23.2	21.8	15.2	10.3	-4.5	-14.0	-26.2	-44.0	-60.1	-89.2		-93.1	-96.2	
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	39.8	10.0	18.3	22.8	24.9	26.1	27.0	28.0	29.2	30.5	31.6	32.6	32.1	26.4	20.7	12.2	6.2	-0.9	-7.6	-14.4	-24.3	-38.9	-28.8	-32.0	-36.3
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	34.4	5.7	14.0	18.5	20.6	21.6	22.4	23.2	24.1	25.1	26.0	26.8	26.2	20.2	15.4	6.2	-1.0	-9.8	-19.3	-32.9	-47.0	-67.6	-51.5	-54.6	-59.0
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	33.6	4.3	12.9	17.5	19.7	20.9	21.9	22.9	24.3	24.6	24.7	25.5	24.8	18.9	15.1	3.9	-3.1	-13.0	-25.6	-39.8	-60.2	-90.0	-64.3	-67.7	-72.8
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	49.9	16.0	24.3	28.9	31.0	32.2	33.3	34.5	36.2	37.9	39.9	41.9	43.1	40.7	40.0	37.6	34.7	32.2	27.6	22.5	16.5	10.3	11.5	8.6	5.4
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	45.6	14.9	23.2	27.8	29.9	31.1	32.3	33.7	35.8	36.4	37.0	38.2	38.0	33.3	28.8	25.0	16.8	11.7	7.2	5.1	-1.5	-11.6	-5.5	-8.7	-13.6
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	34.6	7.3	14.8	18.9	20.8	21.8	22.5	23.3	24.3	25.2	26.0	26.7	26.0	21.3	18.7	15.0	9.6	1.6	-7.8	-21.8	-31.2	-46.4	-35.3	-38.3	-42.3
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	40.0	10.7	18.9	23.5	25.6	26.8	27.8	29.0	30.8	31.2	31.4	32.3	31.5	25.9	21.0	14.9	8.4	0.4	-7.0	-14.6	-26.3	-43.8	-30.3	-33.5	-38.4
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	40.1	10.9	19.2	23.7	25.8	26.9	27.8	28.6	29.6	30.7	31.7	32.6	32.1	26.3	20.8	11.0	1.3	-7.5	-15.8	-25.9	-40.5	-62.0	-45.0	-48.2	-52.5
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	37.2	8.7	17.0	21.5	23.6	24.6	25.4	26.2	26.9	27.8	28.7	29.4	28.8	22.7	18.6	7.4	0.8	-8.6	-20.6	-37.6	-55.9	-82.5	-60.4	-63.6	-67.9
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	32.9	6.2	14.1	18.4	20.4	21.5	22.4	23.3	24.4	24.0	23.4	23.8	22.6	16.3	11.9	-0.7	-8.8	-19.6	-34.1	-49.6	-74.3		-78.2	-81.3	-86.0
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	26.0	-0.4	7.5	11.8	13.8	14.9	15.7	16.5	17.5	16.9	16.2	16.5	15.2	8.7	4.3	-10.1	-18.4	-30.1	-47.3	-63.1	-91.3		-95.2	-98.3	
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	30.9	2.5	10.7	15.3	17.3	18.4	19.1	19.8	20.5	21.4	22.2	22.9	22.3	17.0	15.6	9.6	3.3	-6.3	-19.5	-43.1	-64.2	-91.7	-68.7	-71.9	-76.1
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	34.6	6.4	14.6	19.1	21.2	22.3	23.3	24.3	25.7	25.7	25.6	26.3	25.4	19.3	15.8	4.6	-2.1	-11.7	-24.0	-37.4	-56.7	-85.1	-60.7	-63.9	-68.8
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	32.6	5.1	13.3	17.8	19.9	20.9	21.6	22.2	22.5	23.2	23.8	24.4	23.6	17.2	12.7	-1.0	-9.1	-20.1	-35.6	-54.9	-79.0		-83.5	-86.7	-91.2

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	28.2	2.6	10.4	14.7	16.6	17.5	18.1	18.5	18.4	18.7	18.9	19.1	18.1	11.3	6.3	-8.3	-18.0	-30.5	-50.7	-71.0						
N Brawley Ave - N. Parkway Drive to W. D	CNEL	27.0	1.8	9.6	13.9	15.8	16.7	17.2	17.5	17.2	17.4	17.4	17.6	16.5	9.6	4.0	-10.9	-23.2	-37.9	-61.9	-79.4						
N Brawley Ave - W Shields Avenue to W. C	CNEL	25.0	0.8	8.6	12.9	14.8	15.6	16.0	16.1	15.1	14.9	14.6	14.4	12.9	5.5	-0.2	-16.2	-28.1	-43.4	-75.8	-97.2						
W. Sheilds Ave - West of N. Grantland Av	CNEL	26.7	-0.7	7.8	12.5	14.6	15.7	16.4	16.8	16.7	17.2	17.6	18.0	17.1	10.4	6.1	-8.2	-16.8	-29.4	-51.0	-76.4						
N. Grantland Ave - W Shields Avenue to W	CNEL	26.6	-0.8	7.7	12.3	14.4	15.5	16.4	17.1	17.7	17.5	17.0	17.4	16.2	9.7	5.2	-9.8	-18.5	-31.3	-52.8	-72.1						
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	20.8	-5.9	2.2	6.7	8.7	9.7	10.4	10.8	10.8	11.3	11.6	12.0	11.1	4.4	0.2	-14.2	-22.1	-33.9	-53.3	-76.3						
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	25.6	-1.5	6.7	11.2	13.2	14.2	14.9	15.4	15.5	16.0	16.4	16.8	16.0	10.2	8.7	1.5	-6.0	-17.2	-34.1	-63.0	-94.9		-99.5			
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	29.6	2.5	10.7	15.2	17.3	18.3	19.2	20.0	20.9	20.6	20.1	20.5	19.4	12.8	9.2	-3.8	-11.2	-22.6	-40.0	-59.1	-86.4		-90.4	-93.6	-98.5	
N. Cornelia Ave - W Shields Avenue to W.	CNEL	28.3	2.9	10.8	15.0	16.9	17.8	18.4	18.7	18.5	18.7	18.8	19.0	17.9	11.0	6.3	-8.7	-17.6	-30.1	-51.6	-73.2						
N. Blythe Ave - W Shields Avenue to W. C	CNEL	26.0	1.1	9.0	13.2	15.1	16.0	16.5	16.7	16.1	16.2	16.1	16.2	14.9	7.7	2.6	-13.0	-23.5	-37.3	-63.8	-85.1						
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	28.0	2.1	10.3	14.8	16.8	17.8	18.3	18.6	18.1	18.3	18.3	18.5	17.3	10.2	5.2	-10.2	-20.6	-34.6	-61.3	-84.3						
N. Valentine Ave - N. Parkway Drive to W	CNEL	20.1	-3.9	3.9	8.1	10.0	10.8	11.3	11.3	10.1	9.9	9.4	9.2	7.6	0.0	-6.0	-21.9	-35.1	-51.3	-82.6							
N. Valentine Ave - W Shields Avenue to W	CNEL	18.2	-5.4	2.4	6.6	8.5	9.3	9.7	9.7	8.1	7.7	7.1	6.7	4.9	-2.9	-9.1	-25.5	-38.7	-55.6	-91.3							
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	27.4	2.4	10.6	15.1	17.1	18.1	18.7	19.1	18.5	17.5	16.1	15.8	13.9	6.5	0.4	-16.0	-28.7	-45.2	-77.2							
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	27.9	-0.7	7.5	12.0	14.1	15.3	16.3	17.3	18.9	19.0	19.0	19.7	18.9	13.1	8.3	-4.2	-13.9	-23.5	-31.7	-40.6	-58.2	-84.8	-62.2	-65.5	-70.4	
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	35.3	7.4	15.3	19.6	21.7	22.8	23.8	24.9	26.5	26.5	26.3	27.0	26.0	20.2	15.2	3.5	-6.2	-14.8	-21.3	-29.1	-45.5	-70.6	-49.4	-52.5	-57.2	
N. Grantland Ave - W. Dakota Avenue to W	CNEL	30.7	2.3	10.8	15.5	17.6	18.8	19.7	20.6	21.7	21.7	21.6	22.2	21.3	15.2	10.5	-3.6	-12.8	-24.6	-40.1	-54.3	-79.7		-83.8	-87.2	-92.4	
Receive 4 Fl G		LrD,lim		dB(A	LrD	71.0	dB(A																				
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	36.3	6.6	14.5	18.9	21.0	22.2	23.3	24.7	26.8	27.2	27.6	28.7	28.3	23.5	18.7	16.4	6.9	1.6	-2.1	-3.4	-10.3	-21.1	-14.1	-17.3	-22.0	

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	36.0	8.0	17.3	22.0	24.2	25.4	26.5	27.7	28.2	27.2	25.2	25.2	23.0	16.4	11.8	-2.6	-13.4	-29.9	-59.5	-91.2					
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	41.2	13.0	22.2	27.0	29.2	30.4	31.6	32.7	33.5	32.5	30.7	30.9	28.8	22.6	16.2	0.1	-13.9	-31.3	-61.4	-82.5					
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	44.4	15.6	24.9	29.6	31.8	33.0	34.3	35.5	36.6	35.9	34.3	34.6	32.7	26.6	21.4	5.9	-4.8	-20.3	-50.1	-68.7					
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	53.0	22.1	31.4	36.2	38.4	39.7	41.1	42.6	44.8	44.7	43.8	44.7	43.5	38.2	33.3	19.7	9.3	-2.5	-16.2	-30.1	-56.1	-94.0	-60.5	-64.1	-70.2
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	43.2	13.5	22.7	27.5	29.7	31.0	32.3	33.7	35.3	34.9	33.6	34.3	32.8	27.1	21.5	6.1	-5.8	-19.9	-39.7	-57.8	-93.5		-97.9		
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	49.9	18.4	27.7	32.5	34.7	36.0	37.5	39.1	41.6	41.6	41.0	42.0	40.9	35.8	30.9	18.6	7.1	-4.1	-14.9	-26.9	-51.0	-86.5	-55.5	-59.1	-65.2
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	12.4	-11.5	-3.7	0.6	2.4	3.3	3.7	3.7	2.4	2.0	1.6	1.2	-0.5	-8.3	-13.4	-29.6	-40.1	-55.7	-87.6						
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	12.1	-11.7	-3.9	0.4	2.3	3.1	3.5	3.5	2.0	1.7	1.1	0.7	-1.0	-8.8	-14.4	-31.0	-42.6	-58.8	-94.4						
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	7.5	-16.2	-8.4	-4.1	-2.3	-1.5	-1.1	-1.1	-2.6	-3.0	-3.6	-4.1	-5.8	-13.7	-19.4	-36.0	-47.8	-64.2							
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	10.5	-13.1	-5.3	-1.0	0.8	1.6	2.0	2.0	0.4	-0.1	-0.7	-1.3	-3.1	-11.2	-15.8	-30.9	-41.2	-57.3	-87.3						
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	56.9	26.1	35.3	40.1	42.4	43.6	45.0	46.6	48.7	48.6	47.7	48.6	47.4	42.1	37.7	25.5	16.5	5.5	-8.1	-22.1	-46.3	-81.5	-50.7	-54.4	-60.4
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	43.1	13.8	23.0	27.8	30.0	31.2	32.5	33.8	35.3	34.7	33.3	33.8	32.0	26.3	21.2	7.0	-4.1	-20.1	-53.0	-63.1					
	CNEL	11.6	-14.0	-5.5	-0.9	1.2	2.2	2.9	3.3	2.6	1.7	0.5	0.2	-1.7	-9.2	-13.9	-29.2	-39.8	-56.1	-86.5						
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	41.5	11.3	19.9	24.6	26.8	28.0	29.1	30.3	32.0	32.6	32.9	33.9	33.3	27.8	22.8	12.8	3.7	-5.9	-13.0	-20.5	-35.5	-57.9	-39.6	-42.9	-48.1
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	39.6	10.0	18.6	23.2	25.4	26.6	27.6	28.7	30.3	30.6	30.9	31.7	31.0	25.3	21.2	10.2	3.2	-6.2	-17.1	-29.1	-46.9	-73.5	-51.0	-54.3	-59.5
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	30.6	4.4	11.9	16.1	18.0	19.1	20.1	21.0	22.4	21.8	21.0	21.3	20.1	13.7	10.0	-1.7	-8.9	-18.9	-31.7	-45.0	-67.0	-99.8	-70.7	-73.7	-78.2
W. Shaw Ave - N. Grantland Ave to N.	CNEL	40.9	10.7	19.3	24.0	26.2	27.4	28.5	29.7	31.4	32.0	32.4	33.3	32.7	27.2	22.0	11.9	2.2	-6.0	-12.5	-20.1	-35.1	-57.6	-39.2	-42.6	-47.7
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	62.3	24.8	33.5	38.2	40.5	41.8	43.2	44.8	47.3	48.7	50.4	52.8	54.4	53.3	53.7	52.5	50.9	49.4	46.4	43.0	38.8	33.5	33.9	31.0	27.8
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	40.8	8.1	16.7	21.4	23.6	24.9	26.1	27.4	29.4	30.3	31.2	32.7	32.8	31.6	30.7	28.0	22.4	14.8	4.3	-5.6	-16.3	-29.7	-20.6	-23.8	-28.7
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	38.2	8.5	16.8	21.3	23.4	24.5	25.5	26.6	28.2	28.5	28.8	29.8	29.4	27.5	25.9	22.4	15.8	6.4	-6.3	-27.7	-46.4	-71.7	-50.5	-53.7	-58.5

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	37.6	9.5	17.7	22.2	24.3	25.4	26.3	27.2	28.3	28.2	28.1	28.7	28.0	25.4	23.3	19.1	11.3	0.2	-15.7	-43.4	-72.4		-76.5	-79.6	-84.3
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	38.3	9.9	17.4	21.6	23.7	24.8	26.0	27.3	29.4	29.5	29.4	30.3	29.6	24.5	19.7	16.4	7.3	1.8	-1.6	-2.9	-9.8	-20.8	-13.6	-16.6	-21.0
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	34.7	6.3	14.2	18.6	20.6	21.8	22.9	24.0	25.8	25.9	25.9	26.6	25.7	20.0	14.8	8.3	1.8	-6.0	-12.5	-18.8	-30.1	-47.3	-34.0	-37.1	-41.8
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	25.8	-1.8	6.1	10.4	12.5	13.6	14.6	15.6	17.1	17.0	16.7	17.3	16.3	10.2	6.6	-3.6	-10.1	-19.4	-30.6	-42.6	-60.7	-88.1	-64.6	-67.7	-72.4
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	66.1	28.3	37.0	41.7	44.0	45.3	46.7	48.3	50.8	52.2	53.8	56.2	57.8	56.9	57.3	56.5	55.1	53.9	51.2	48.6	44.1	39.9	39.5	36.6	33.5
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	32.9	6.7	14.6	18.9	20.9	21.9	22.8	23.5	24.1	23.5	22.7	22.9	21.6	18.4	16.0	10.9	2.0	-10.7	-30.0	-61.7	-99.7				
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	33.4	5.3	13.2	17.6	19.5	20.6	21.4	22.2	23.1	24.1	25.0	25.8	25.1	19.1	13.8	6.6	-0.7	-9.0	-17.5	-28.9	-41.2	-59.7	-45.5	-48.6	-52.8
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	33.0	6.0	13.9	18.2	20.2	21.1	21.8	22.5	23.0	23.7	24.3	24.9	24.1	17.7	13.8	1.8	-4.5	-14.3	-27.2	-44.9	-64.3	-92.4	-68.5	-71.6	-76.0
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	28.5	2.6	10.5	14.8	16.7	17.6	18.2	18.6	18.6	19.0	19.3	19.6	18.6	11.8	7.6	-6.3	-13.8	-25.3	-43.4	-65.5	-92.9		-97.2		
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	24.0	-0.8	7.0	11.3	13.2	14.1	14.6	14.8	14.2	14.2	14.2	14.2	12.9	5.6	1.1	-14.0	-22.9	-36.2	-60.8	-85.9					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	17.6	-6.6	1.2	5.5	7.4	8.2	8.6	8.7	7.6	7.4	7.1	6.8	5.2	-2.4	-7.3	-23.2	-33.2	-48.2	-78.5						
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	31.5	2.9	11.5	16.2	18.3	19.4	20.2	20.9	21.3	22.1	22.8	23.5	22.9	16.5	12.1	-1.3	-9.3	-20.4	-36.3	-56.9	-81.8		-86.5	-89.8	-94.3
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	33.8	4.4	13.0	17.7	19.9	21.0	21.8	22.6	23.4	24.5	25.4	26.3	25.8	19.8	15.6	3.7	-3.2	-12.9	-25.5	-43.2	-62.9	-91.3	-67.7	-70.9	-75.4
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	36.3	6.3	15.0	19.7	21.8	23.0	23.9	24.8	25.8	27.0	28.0	29.0	28.5	22.8	17.9	5.8	-2.7	-13.0	-23.1	-34.7	-51.5	-76.1	-56.2	-59.4	-63.9
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	35.3	5.3	13.9	18.6	20.8	22.0	22.9	23.8	24.8	25.9	27.0	28.0	27.6	21.8	16.8	5.1	-4.5	-13.8	-23.5	-35.1	-51.9	-76.5	-56.6	-59.9	-64.3
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	29.3	1.8	10.4	15.0	17.2	18.2	18.9	19.4	19.3	19.8	20.3	20.7	19.8	13.2	8.6	-6.3	-15.4	-28.1	-50.0	-72.4					
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	25.6	0.0	8.2	12.7	14.7	15.6	16.1	16.4	15.6	15.7	15.7	15.7	14.5	7.2	2.1	-13.7	-24.4	-38.8	-68.6	-90.6					
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	24.3	-0.4	7.8	12.2	14.2	15.1	15.6	15.6	14.2	14.0	13.6	13.4	11.8	4.1	-1.6	-18.0	-30.2	-46.4	-83.0						
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	28.4	1.5	9.7	14.2	16.3	17.3	18.2	18.9	19.7	19.3	18.7	19.0	17.9	11.4	6.6	-7.9	-16.9	-29.2	-48.0	-65.8	-95.9		-99.9		

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	25.2	-2.2	6.0	10.5	12.5	13.6	14.5	15.4	16.4	16.2	15.9	16.3	15.3	9.0	4.6	-8.5	-16.8	-28.0	-43.7	-60.4	-86.6		-90.6	-93.8	-98.8
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	24.6	-3.2	5.0	9.5	11.6	12.7	13.6	14.6	15.8	15.7	15.4	16.0	15.0	8.9	4.0	-9.1	-18.9	-31.1	-44.7	-56.6	-80.8		-84.8	-88.0	-93.0
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	22.2	-5.5	2.6	7.1	9.2	10.3	11.2	12.2	13.4	13.3	13.1	13.6	12.7	6.6	1.7	-11.9	-22.3	-33.5	-46.0	-58.7	-82.7		-86.7	-89.9	-94.8
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	29.0	2.9	11.0	15.5	17.6	18.6	19.4	20.0	20.3	19.7	18.9	18.9	17.5	10.7	5.7	-9.8	-19.7	-33.4	-57.5	-76.6					
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	28.5	3.1	11.3	15.7	17.7	18.7	19.5	19.9	19.7	18.8	17.7	17.5	15.8	8.7	3.1	-12.9	-24.3	-39.6	-69.0	-89.9					
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	38.1	8.4	17.0	21.7	23.9	25.0	26.1	27.2	28.8	29.2	29.4	30.3	29.6	23.9	19.9	9.8	2.9	-6.2	-17.0	-29.2	-46.8	-72.8	-51.0	-54.3	-59.5
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	35.9	8.4	16.3	20.6	22.6	23.7	24.7	25.8	27.2	27.1	26.8	27.3	26.3	20.2	16.4	5.8	-0.8	-10.0	-20.9	-32.5	-50.1	-76.4	-53.9	-57.0	-61.8
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	42.5	13.2	21.1	25.5	27.5	28.6	29.5	30.4	31.7	33.0	34.2	35.2	34.9	29.7	24.6	21.6	11.8	5.7	-0.8	-4.8	-13.2	-24.8	-17.5	-20.6	-24.8
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	40.7	8.8	17.1	21.7	23.8	24.9	25.9	26.9	28.2	29.7	31.2	32.6	32.9	31.4	30.6	27.9	22.7	15.6	4.7	-3.2	-19.1	-32.3	-23.8	-26.7	-30.4
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	36.4	7.1	15.3	19.9	22.0	23.1	23.9	24.8	25.9	27.1	28.1	29.0	28.5	22.7	17.5	11.0	4.2	-3.9	-12.4	-24.4	-36.2	-54.0	-40.8	-43.9	-48.2
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	35.5	8.9	16.4	20.5	22.5	23.6	24.6	25.7	27.2	26.7	26.1	26.5	25.3	19.3	15.0	4.4	-2.8	-12.0	-22.0	-32.5	-50.3	-77.3	-54.1	-57.1	-61.6
N. Polk Ave - North of W. Shaw Avenue	CNEL	24.2	-2.0	5.5	9.6	11.6	12.7	13.7	14.6	15.9	15.4	14.6	14.9	13.6	7.3	3.6	-8.0	-15.1	-25.2	-38.1	-51.3	-73.4		-77.1	-80.1	-84.6
Bullard Ave - N Garfield to N. Grantland	CNEL	25.5	-1.1	6.7	11.0	13.0	14.1	15.0	15.9	17.0	16.6	16.0	16.4	15.3	9.0	4.4	-8.2	-16.7	-27.5	-41.7	-57.0	-81.7		-85.6	-88.7	-93.4
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	26.5	-1.4	6.8	11.3	13.4	14.5	15.5	16.4	17.7	17.6	17.4	18.0	17.0	11.1	6.0	-6.8	-17.5	-30.1	-42.0	-52.5	-75.9		-79.9	-83.2	-88.1
N. Grantland Ave - W. Bullard Ave to Bar	CNEL	32.3	5.9	13.7	18.0	20.0	21.1	22.0	22.8	23.8	23.3	22.6	22.9	21.7	15.2	11.3	-1.7	-9.1	-20.1	-35.8	-52.7	-78.0		-81.8	-85.0	-89.7
Bullard Ave - N Garfield Avenue to N. Gr	CNEL	19.4	-6.3	1.5	5.8	7.8	8.8	9.6	10.3	10.9	10.2	9.3	9.4	8.0	1.4	-4.3	-19.1	-31.8	-46.1	-63.4	-79.2					
Bullard Ave - N. Grantland Avenue to N.	CNEL	27.8	1.9	9.7	14.0	16.0	17.0	17.9	18.6	19.3	18.7	17.9	18.1	16.7	10.3	4.7	-9.6	-21.2	-35.6	-52.6	-67.1	-98.0				
N. Grantland Ave - N. Parkway Drive to W	CNEL	31.2	5.8	13.6	17.9	19.9	20.9	21.7	22.3	22.7	21.9	20.8	20.8	19.3	12.3	7.9	-6.7	-15.2	-28.1	-49.8	-70.6					
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	67.2	30.5	38.9	43.5	45.6	46.9	48.0	49.2	51.0	52.9	55.1	57.3	58.7	57.8	58.2	57.5	56.5	55.7	53.3	50.4	46.7	42.5	40.7	38.0	35.3

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	57.5	21.3	29.7	34.3	36.4	37.7	38.8	40.0	41.8	43.7	45.9	48.2	49.9	48.4	48.7	47.5	45.8	44.2	41.1	37.6	33.1	27.7	28.0	25.2	22.5
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	43.8	12.2	20.8	25.5	27.7	29.0	30.2	31.5	33.7	34.5	35.2	36.5	36.3	31.5	27.0	24.1	15.6	9.5	3.5	0.9	-6.9	-18.5	-11.1	-14.4	-19.5
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	39.2	8.9	17.2	21.8	23.9	25.0	26.0	27.0	28.3	29.7	30.9	32.0	31.7	26.4	21.2	17.3	7.3	1.4	-5.3	-10.2	-19.4	-32.1	-23.9	-27.1	-31.4
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	37.9	8.8	17.1	21.6	23.7	24.9	25.9	27.1	28.7	29.0	29.1	29.9	29.2	23.5	18.4	7.5	-2.2	-10.7	-17.2	-24.9	-40.6	-64.3	-44.6	-47.8	-52.7
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	37.7	10.0	17.5	21.6	23.5	24.5	25.3	26.2	27.3	28.4	29.3	30.2	29.6	24.0	18.8	14.1	4.8	-1.6	-8.1	-12.3	-21.0	-33.4	-25.0	-28.0	-32.1
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	38.3	9.3	17.5	22.1	24.2	25.3	26.4	27.5	29.2	29.4	29.5	30.3	29.5	23.9	19.0	8.2	-0.7	-10.8	-18.1	-25.8	-41.0	-64.8	-45.0	-48.2	-53.2
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	34.3	6.6	14.9	19.4	21.4	22.4	23.1	23.7	24.1	24.9	25.5	26.1	25.4	19.2	14.0	0.1	-10.8	-22.9	-38.2	-53.6	-77.9		-82.4	-85.6	-90.0
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	34.3	6.7	14.9	19.4	21.5	22.5	23.2	23.8	24.2	25.0	25.6	26.2	25.4	19.2	14.1	0.6	-9.3	-22.2	-38.8	-53.3	-77.8		-82.3	-85.5	-89.9
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	30.1	4.3	12.1	16.4	18.4	19.5	20.3	21.0	21.6	21.0	20.1	20.2	18.8	12.3	6.9	-8.0	-19.2	-33.8	-53.5	-66.8	-98.7				
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	23.2	-2.6	5.3	9.6	11.5	12.6	13.4	14.0	14.4	13.7	12.8	12.8	11.5	8.1	5.5	0.1	-9.3	-22.7	-43.4	-76.8					
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	34.9	5.7	14.0	18.5	20.6	21.7	22.5	23.4	24.5	25.6	26.6	27.5	27.0	21.1	15.6	7.4	-1.1	-9.3	-17.5	-27.6	-40.3	-58.9	-44.8	-48.0	-52.3
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	35.5	7.0	15.3	19.8	21.9	23.0	24.0	25.1	26.6	26.7	26.6	27.3	26.4	20.6	16.4	5.1	-2.2	-11.8	-22.9	-34.6	-53.1	-80.8	-57.1	-60.3	-65.3
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	31.8	4.5	12.8	17.3	19.3	20.3	21.0	21.5	21.8	22.4	22.9	23.4	22.6	16.2	11.4	-2.2	-11.1	-22.8	-39.8	-60.4	-87.2		-91.7	-94.9	-99.3
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	26.7	1.6	9.4	13.7	15.6	16.5	17.0	17.3	16.9	17.1	17.1	17.2	16.0	9.0	4.1	-10.5	-20.2	-33.4	-56.0	-80.3					
N Brawley Ave - N. Parkway Drive to W. D	CNEL	24.6	0.1	7.9	12.2	14.1	14.9	15.4	15.5	14.6	14.5	14.3	14.2	12.7	5.5	-0.4	-15.9	-29.4	-46.0	-75.2	-96.1					
N Brawley Ave - W Shields Avenue to W. C	CNEL	24.2	0.2	8.0	12.3	14.2	15.0	15.4	15.4	14.1	13.9	13.4	13.1	11.4	3.8	-2.0	-18.1	-30.2	-46.0	-78.7						
W. Sheilds Ave - West of N. Grantland Av	CNEL	33.2	3.7	12.3	17.0	19.2	20.3	21.2	22.0	22.8	23.8	24.8	25.6	25.2	19.2	15.4	5.1	-1.3	-10.8	-23.5	-42.8	-62.6	-90.6	-67.3	-70.6	-75.0
N. Grantland Ave - W Shields Avenue to W	CNEL	32.5	3.2	11.8	16.4	18.6	19.7	20.8	21.8	23.3	23.5	23.7	24.5	23.7	17.8	14.6	4.1	-2.3	-11.9	-24.4	-38.9	-58.0	-86.0	-62.1	-65.5	-70.6
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	27.3	-2.2	6.0	10.5	12.6	13.6	14.5	15.2	16.0	17.1	18.2	19.2	19.0	16.9	15.4	11.9	5.3	-4.1	-17.0	-41.5	-64.6	-91.3	-69.2	-72.3	-76.1

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	29.2	1.1	9.3	13.8	15.9	16.9	17.7	18.4	19.0	19.8	20.6	21.3	20.6	14.4	10.4	-2.0	-8.5	-18.3	-31.4	-49.3	-69.1	-97.7	-73.6	-76.8	-81.2	
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	31.4	3.8	12.0	16.5	18.5	19.6	20.6	21.5	22.6	22.5	22.2	22.7	21.7	15.5	11.0	-2.3	-10.8	-21.7	-35.8	-50.1	-73.9		-77.9	-81.1	-86.1	
N. Cornelia Ave - W Shields Avenue to W.	CNEL	28.7	3.2	11.0	15.3	17.2	18.1	18.7	19.0	18.8	19.1	19.3	19.5	18.4	11.6	6.6	-8.1	-17.9	-30.6	-51.5	-72.2						
N. Blythe Ave - W Shields Avenue to W. C	CNEL	25.5	0.8	8.7	12.9	14.8	15.7	16.2	16.4	15.7	15.7	15.5	15.5	14.2	6.9	1.8	-13.8	-24.3	-38.5	-65.8	-88.6						
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	26.3	1.0	9.2	13.7	15.7	16.6	17.1	17.3	16.3	16.3	16.2	16.1	14.7	7.5	1.5	-14.0	-28.0	-44.9	-74.4	-97.4						
N. Valentine Ave - N. Parkway Drive to W	CNEL	15.6	-7.9	-0.2	4.1	6.0	6.8	7.2	7.1	5.4	5.0	4.3	3.8	2.0	-5.8	-12.5	-28.7	-43.9	-62.6	-93.7							
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	24.2	-0.7	7.4	11.9	13.9	14.9	15.6	15.9	15.3	14.1	12.8	12.4	10.4	2.9	-2.9	-19.6	-31.8	-48.4	-81.8							
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	25.6	-2.4	5.8	10.3	12.4	13.5	14.5	15.4	16.7	16.7	16.5	17.1	16.2	10.3	5.1	-8.1	-19.6	-30.8	-41.4	-53.0	-75.9		-79.9	-83.1	-88.1	
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	38.3	9.8	17.7	22.0	24.1	25.3	26.3	27.5	29.4	29.5	29.5	30.2	29.3	23.6	17.9	10.3	3.7	-3.2	-8.4	-13.5	-24.3	-40.6	-28.2	-31.3	-36.0	
N. Grantland Ave - W. Dakota Avenue to W	CNEL	38.4	8.0	16.6	21.3	23.5	24.7	25.8	27.1	28.9	29.5	29.9	30.9	30.3	24.8	19.7	13.0	6.2	-1.8	-9.2	-16.5	-28.3	-46.0	-32.5	-35.8	-40.9	
Receive 5 Fl G LrD,lim dB(A LrD 79. 0 dB(A																											
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	26.0	-1.6	6.3	10.6	12.7	13.8	14.8	15.8	17.3	17.2	16.9	17.5	16.5	10.4	6.7	-4.0	-10.7	-19.9	-30.9	-42.5	-60.6	-87.9	-64.5	-67.6	-72.3	
SR99 - W. Shields Avenue to W. Clinton A	CNEL	39.1	11.1	20.3	25.1	27.3	28.4	29.6	30.7	31.3	30.3	28.4	28.5	26.3	19.8	13.8	-2.7	-15.4	-32.3	-63.3	-88.6						
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	48.6	18.9	28.2	33.0	35.2	36.4	37.7	39.1	40.8	40.3	39.0	39.6	38.0	32.2	28.2	15.2	6.7	-6.4	-27.3	-50.1	-84.5		-88.9	-92.6	-98.6	
SR99 - W. Shields Avenue to W. Clinton A	CNEL	44.9	16.3	25.6	30.3	32.5	33.7	34.9	36.2	37.2	36.3	34.7	35.0	33.1	26.9	21.2	5.3	-6.4	-22.2	-50.2	-71.5						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	47.3	16.8	26.1	30.8	33.1	34.4	35.7	37.2	39.3	39.0	38.0	38.9	37.5	32.1	27.2	12.2	2.6	-10.2	-27.4	-42.6	-72.9		-77.3	-80.9	-87.0	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	51.2	20.0	29.2	34.0	36.3	37.6	39.0	40.6	43.0	42.9	42.1	43.1	41.9	36.6	33.0	21.2	13.3	2.1	-12.8	-27.7	-52.5	-88.3	-57.0	-60.6	-66.6	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	61.3	28.2	37.5	42.3	44.6	46.0	47.6	49.5	52.5	52.9	52.7	54.0	53.1	48.4	42.9	35.6	27.8	19.9	14.5	7.9	-5.6	-25.4	-10.0	-13.6	-19.7	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	51.2	18.9	28.2	33.0	35.3	36.6	38.1	39.9	42.7	42.9	42.5	43.7	42.7	37.8	33.4	22.3	13.1	4.0	-4.6	-14.5	-33.4	-61.2	-37.8	-41.4	-47.5	

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	55.7	22.7	32.0	36.8	39.1	40.5	42.0	43.9	46.9	47.3	47.1	48.4	47.5	42.8	37.4	29.2	20.3	12.7	7.2	0.3	-14.1	-35.4	-18.6	-22.2	-28.2
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	18.2	-7.6	0.3	4.6	6.5	7.4	8.0	8.4	8.4	8.7	9.0	9.3	8.3	1.5	-3.0	-17.7	-26.2	-38.3	-58.3	-78.8					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	17.8	-7.9	0.0	4.3	6.2	7.1	7.6	8.0	7.9	8.2	8.4	8.7	7.6	0.8	-3.8	-18.8	-27.6	-40.0	-61.4	-82.0					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	13.0	-12.5	-4.7	-0.4	1.5	2.4	3.0	3.3	3.2	3.5	3.6	3.8	2.8	-4.2	-8.7	-23.8	-32.5	-45.0	-67.2	-88.5					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	15.9	-9.5	-1.6	2.7	4.6	5.5	6.0	6.3	6.1	6.3	6.4	6.5	5.4	-1.7	-4.8	-17.3	-24.8	-37.0	-57.6	-85.4					
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	57.8	26.4	35.6	40.4	42.7	44.0	45.4	47.0	49.4	49.5	48.8	49.9	48.8	43.8	39.8	29.9	21.8	12.0	2.1	-7.7	-24.7	-49.8	-29.2	-32.8	-38.9
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	50.7	18.7	28.0	32.8	35.1	36.4	37.9	39.6	42.2	42.4	41.8	43.0	42.0	37.4	33.7	24.8	15.8	2.9	-12.2	-20.2	-43.8	-74.9	-48.2	-51.8	-57.9
	CNEL	17.1	-10.4	-1.9	2.7	4.9	5.9	6.8	7.6	8.2	8.0	7.6	7.9	6.8	0.2	-3.2	-16.5	-24.1	-36.6	-57.6	-80.5					
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	39.1	9.5	18.1	22.7	24.9	26.1	27.1	28.2	29.8	30.1	30.4	31.2	30.5	24.8	20.6	9.6	2.5	-6.9	-18.0	-30.0	-48.1	-75.0	-52.2	-55.6	-60.7
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	41.6	11.5	20.1	24.8	27.0	28.2	29.3	30.5	32.2	32.7	33.1	34.0	33.4	27.9	23.0	12.7	3.9	-6.3	-13.8	-21.5	-36.7	-59.8	-40.9	-44.2	-49.3
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	34.9	7.7	15.2	19.4	21.4	22.5	23.6	24.7	26.4	26.2	25.8	26.3	25.2	19.4	13.9	3.9	-6.1	-13.6	-18.4	-24.7	-39.4	-61.8	-43.1	-46.1	-50.6
W. Shaw Ave - N. Grantland Ave to N.	CNEL	35.3	6.6	15.2	19.8	22.0	23.1	24.1	25.0	26.2	26.3	26.3	27.0	26.2	20.1	15.7	2.5	-5.9	-16.8	-30.7	-45.1	-68.5		-72.6	-76.0	-81.2
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	44.0	10.0	18.7	23.4	25.6	26.9	28.1	29.5	31.7	32.7	33.8	36.0	37.3	35.0	34.3	30.8	25.4	17.4	6.3	-4.0	-16.4	-28.9	-20.7	-23.9	-28.5
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	66.3	28.3	37.0	41.7	43.9	45.3	46.6	48.0	50.2	51.7	53.5	55.9	57.3	57.0	57.8	57.2	56.3	54.9	52.4	49.9	46.4	42.2	39.7	36.9	33.8
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	76.0	39.2	47.5	52.1	54.3	55.5	56.6	57.8	59.3	61.2	62.4	64.3	66.6	67.3	68.1	66.7	66.0	64.6	62.4	59.8	56.0	51.8	50.6	47.7	44.4
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	50.4	17.6	25.9	30.5	32.6	33.8	35.0	36.4	38.6	39.4	40.3	42.3	43.5	41.2	40.4	36.9	31.6	23.8	12.8	4.5	-8.1	-19.9	-12.2	-15.3	-19.9
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	33.0	5.7	13.2	17.3	19.4	20.5	21.6	22.8	24.6	24.4	24.0	24.6	23.5	17.7	12.3	5.6	-1.1	-8.7	-14.6	-20.2	-31.4	-48.7	-35.2	-38.2	-42.6
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	39.5	10.1	18.1	22.4	24.5	25.7	26.9	28.2	30.2	30.5	30.8	31.7	31.2	26.1	21.3	17.6	8.5	2.6	-1.7	-3.8	-11.5	-23.2	-15.3	-18.5	-23.1
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	35.2	5.7	13.7	18.0	20.1	21.3	22.5	23.8	25.9	26.2	26.5	27.5	27.0	22.0	17.0	14.7	4.3	-0.7	-4.2	-5.7	-13.3	-25.0	-17.2	-20.3	-25.0
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	37.1	5.4	14.0	18.7	20.9	22.0	23.1	24.3	26.0	26.7	27.4	29.1	29.9	27.3	26.0	21.8	15.3	5.4	-7.5	-30.7	-49.5	-74.9	-53.7	-57.0	-61.9

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	42.4	12.5	20.4	24.8	26.9	28.0	29.1	30.2	32.0	32.3	32.6	34.2	34.9	32.0	30.6	26.4	20.0	10.4	-2.0	-23.7	-40.8	-65.0	-44.7	-47.8	-52.4
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	38.5	9.4	17.4	21.7	23.7	24.8	25.7	26.6	27.8	29.1	30.2	31.2	30.9	25.5	20.7	16.7	7.0	0.5	-6.6	-11.2	-20.1	-32.3	-24.4	-27.5	-31.7
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	42.8	13.7	21.6	26.0	28.0	29.1	29.9	30.9	32.1	33.4	34.5	35.5	35.1	29.7	24.4	20.8	10.7	4.9	-1.6	-5.9	-14.8	-27.1	-19.1	-22.2	-26.4
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	37.3	9.1	17.0	21.4	23.3	24.4	25.2	26.0	27.0	28.0	28.9	29.7	29.0	23.1	17.7	10.8	3.9	-4.1	-12.4	-23.3	-34.9	-52.4	-39.2	-42.3	-46.5
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	31.3	4.2	12.1	16.4	18.3	19.3	20.0	20.7	21.3	22.0	22.6	23.2	22.4	16.1	12.1	0.2	-6.2	-15.8	-28.3	-45.3	-64.1	-91.4	-68.3	-71.4	-75.7
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	23.8	-2.4	5.5	9.8	11.7	12.6	13.2	13.7	13.9	14.4	14.7	15.1	14.2	7.4	3.6	-9.7	-16.6	-27.8	-44.9	-67.0	-93.6		-97.8		
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	36.9	6.9	15.5	20.2	22.4	23.5	24.4	25.3	26.4	27.6	28.6	29.6	29.2	23.4	18.4	7.1	-2.6	-11.8	-21.2	-32.6	-49.0	-73.0	-53.7	-57.0	-61.4
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	36.2	6.2	14.8	19.5	21.7	22.9	23.8	24.7	25.7	26.9	27.9	28.9	28.5	22.8	17.9	6.4	-1.8	-12.4	-22.5	-33.9	-50.2	-74.2	-55.0	-58.2	-62.6
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	34.5	5.0	13.6	18.3	20.4	21.6	22.4	23.2	24.1	25.1	26.0	26.9	26.4	20.5	16.3	4.6	-2.1	-11.8	-24.2	-41.7	-60.9	-88.6	-65.6	-68.9	-73.3
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	30.3	1.7	10.3	15.0	17.1	18.2	19.0	19.7	20.1	20.9	21.7	22.4	21.8	15.5	11.0	-2.6	-10.8	-21.8	-37.4	-57.3	-81.6		-86.3	-89.6	-94.1
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	35.7	6.2	14.8	19.5	21.6	22.8	23.6	24.5	25.3	26.3	27.3	28.2	27.7	21.7	17.6	6.0	-0.7	-10.3	-22.6	-40.1	-59.2	-86.7	-63.9	-67.2	-71.6
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	31.5	4.0	12.2	16.7	18.8	19.8	20.5	21.1	21.5	22.2	22.8	23.3	22.6	16.2	11.7	-1.9	-10.1	-21.0	-36.3	-55.5	-79.4		-83.9	-87.1	-91.5
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	29.6	3.0	11.3	15.8	17.8	18.8	19.4	19.8	19.7	20.1	20.4	20.7	19.8	13.0	8.4	-6.4	-15.4	-27.8	-48.9	-70.8					
W. Sheilds Ave - N. Valentine Ave to N.	CNEL	26.4	0.7	8.9	13.4	15.3	16.3	16.8	17.1	16.5	16.6	16.6	16.7	15.5	8.3	3.4	-12.3	-22.4	-36.5	-65.6	-88.2					
Shields Ave & Valentine Ave East	CNEL	19.8	-6.2	2.0	6.5	8.5	9.5	10.0	10.4	9.9	10.1	10.3	10.4	9.3	2.2	-2.5	-18.0	-27.6	-41.3	-68.2	-90.7					
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	31.7	3.8	12.1	16.6	18.6	19.7	20.7	21.6	22.9	22.8	22.6	23.2	22.3	16.2	11.3	-2.2	-12.5	-23.6	-35.8	-48.2	-71.8		-75.8	-79.0	-84.0
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	26.6	-1.2	7.0	11.5	13.5	14.6	15.6	16.5	17.7	17.7	17.5	18.0	17.0	11.0	6.2	-6.5	-15.9	-28.4	-42.3	-53.6	-77.5		-81.5	-84.7	-89.7
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	23.6	-3.8	4.3	8.8	10.9	12.0	12.9	13.8	14.8	14.7	14.3	14.8	13.7	7.5	3.1	-9.8	-17.9	-29.1	-44.6	-61.1	-86.9		-90.9	-94.1	-99.1
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	19.3	-7.6	0.6	5.1	7.1	8.2	9.0	9.8	10.6	10.2	9.6	10.0	8.8	2.3	-2.4	-17.0	-26.2	-38.5	-57.1	-74.2					

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	33.3	5.8	14.0	18.5	20.6	21.7	22.6	23.4	24.5	24.4	24.0	24.5	23.5	17.3	12.9	0.2	-7.9	-19.0	-34.3	-51.1	-76.7		-80.7	-83.9	-88.9
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	33.0	6.1	14.3	18.8	20.8	21.9	22.8	23.5	24.3	24.0	23.4	23.8	22.6	16.2	11.4	-3.2	-12.3	-24.5	-42.8	-59.9	-89.4		-93.3	-96.6	
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	31.6	3.9	12.4	17.1	19.2	20.3	21.2	22.0	22.7	22.5	22.2	22.6	21.6	15.1	10.7	-3.9	-12.4	-24.7	-44.1	-62.5	-92.3		-96.5	-99.8	
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	30.7	4.7	12.5	16.9	18.9	19.9	20.7	21.5	22.3	21.6	20.8	21.0	19.7	13.1	8.4	-5.9	-14.6	-26.7	-44.8	-61.9	-91.4		-95.2	-98.3	
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	30.5	3.9	11.8	16.1	18.0	19.0	19.6	20.2	20.5	21.1	21.6	22.1	21.3	15.0	9.7	-4.2	-15.0	-27.0	-41.7	-56.3	-80.1		-84.4	-87.5	-91.8
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	31.8	3.4	11.7	16.2	18.2	19.3	20.1	20.8	21.5	22.5	23.3	24.0	23.4	17.4	13.0	1.4	-5.5	-15.0	-27.2	-43.9	-62.8	-90.2	-67.3	-70.5	-74.9
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	36.3	6.9	15.2	19.8	21.8	22.9	23.8	24.7	25.8	26.9	28.0	28.9	28.3	22.5	17.3	10.8	3.8	-4.3	-12.9	-24.9	-36.9	-54.8	-41.4	-44.6	-48.8
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	43.6	13.8	21.3	25.5	27.6	28.7	29.9	31.2	33.3	33.4	33.7	35.2	35.7	33.4	32.4	29.1	23.6	15.9	5.4	-2.8	-12.8	-25.0	-16.5	-19.5	-23.8
N. Polk Ave - North of W. Shaw Avenue	CNEL	29.4	0.9	8.4	12.6	14.6	15.7	16.8	17.9	19.7	19.7	19.7	20.8	21.0	18.5	17.1	13.2	6.9	-2.2	-13.9	-34.8	-49.7	-73.1	-53.5	-56.5	-60.8
Bullard Ave - N Garfield to N. Grantland	CNEL	21.2	-4.2	3.6	7.9	9.9	10.9	11.7	12.3	12.7	11.8	10.8	10.7	9.2	2.3	-3.0	-18.4	-29.0	-42.7	-64.8	-82.8					
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	25.3	-2.2	6.0	10.4	12.5	13.6	14.5	15.4	16.5	16.4	16.1	16.6	15.6	9.5	4.2	-9.5	-20.9	-33.3	-46.1	-58.5	-83.5		-87.5	-90.8	-95.7
N. Grantland Ave - W. Bullard Ave to Bar	CNEL	28.9	3.5	11.3	15.6	17.6	18.6	19.4	20.0	20.4	19.5	18.5	18.4	16.9	10.0	4.8	-10.7	-21.0	-34.6	-57.2	-75.2					
Bullard Ave - N Garfield Avenue to N. Gr	CNEL	16.3	-8.4	-0.6	3.6	5.6	6.6	7.3	7.8	7.7	6.6	5.2	5.0	3.2	-4.0	-9.7	-25.6	-37.3	-52.4	-79.5	-99.9					
Bullard Ave - N. Grantland Avenue to N.	CNEL	25.8	0.4	8.3	12.6	14.5	15.5	16.3	16.9	17.2	16.4	15.3	15.3	13.7	7.0	1.0	-14.1	-27.3	-42.5	-62.8	-79.6					
N. Grantland Ave - N. Parkway Drive to W	CNEL	28.9	4.2	12.0	16.3	18.3	19.3	20.0	20.5	20.2	19.1	17.7	17.4	15.6	8.4	2.5	-13.5	-25.4	-40.7	-68.7	-88.7					
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	35.1	6.2	14.5	19.0	21.1	22.2	23.0	23.8	24.7	25.8	26.8	27.6	27.1	21.2	16.1	4.7	-5.0	-14.2	-23.3	-34.3	-50.4	-74.3	-54.9	-58.1	-62.5
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	34.7	5.9	14.2	18.7	20.8	21.9	22.7	23.5	24.3	25.3	26.2	27.0	26.5	20.6	15.8	3.9	-4.1	-15.0	-25.7	-36.9	-53.3	-77.3	-57.8	-61.0	-65.3
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	32.1	3.3	11.9	16.5	18.7	19.8	20.8	21.7	23.0	23.2	23.2	23.9	23.0	17.2	12.4	-0.2	-9.6	-22.1	-36.5	-48.3	-72.4		-76.6	-79.9	-85.1
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	39.2	9.0	17.3	21.8	23.9	25.1	26.0	27.0	28.3	29.7	31.0	32.1	31.8	26.5	21.4	17.7	7.6	1.7	-5.0	-9.8	-19.0	-31.5	-23.5	-26.7	-30.9

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	73.3	36.7	45.0	49.6	51.7	53.0	54.1	55.3	56.7	58.5	60.1	62.0	62.8	64.1	65.5	64.4	63.0	62.2	59.8	57.7	54.2	49.8	48.4	45.6	42.4
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	38.1	10.3	17.8	21.9	23.8	24.8	25.6	26.5	27.7	28.8	29.7	30.6	30.1	24.6	19.6	15.6	5.9	-0.5	-7.2	-11.2	-19.8	-31.9	-23.9	-26.9	-31.0
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	70.2	33.6	42.0	46.5	48.7	50.0	51.2	52.6	54.5	55.8	57.6	59.7	60.8	60.7	61.5	61.0	60.1	58.7	56.4	54.1	50.9	46.9	44.6	41.7	38.5
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	45.4	15.2	23.5	28.0	30.1	31.3	32.2	33.2	34.5	35.9	37.2	38.3	38.1	32.8	27.6	24.2	14.4	8.2	1.4	-3.2	-12.2	-24.3	-16.8	-19.9	-24.2
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	46.1	15.7	24.0	28.6	30.7	31.8	32.8	33.8	35.1	36.5	37.9	39.0	38.9	33.7	29.1	25.5	15.9	9.3	2.0	-2.6	-11.7	-23.7	-16.3	-19.4	-23.6
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	38.4	10.3	18.3	22.6	24.7	25.8	26.8	28.0	29.6	29.7	29.5	30.2	29.3	23.6	18.5	8.4	-0.6	-10.6	-17.1	-23.8	-38.7	-61.5	-42.6	-45.7	-50.4
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	31.9	2.6	10.5	14.9	16.9	18.0	19.1	20.2	21.8	21.9	22.2	23.6	24.2	21.1	19.5	15.1	8.3	-1.9	-15.6	-37.2	-62.8	-92.0	-66.7	-69.8	-74.3
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	35.2	5.9	14.2	18.8	20.8	21.9	22.8	23.7	24.8	25.9	27.0	27.9	27.3	21.5	16.2	9.4	2.2	-6.0	-14.5	-26.2	-38.3	-56.4	-42.9	-46.0	-50.3
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	44.2	12.1	20.5	25.0	27.1	28.3	29.5	30.8	32.8	33.5	34.4	36.0	36.6	34.8	33.9	30.8	25.3	17.6	6.9	-2.0	-13.0	-25.6	-17.0	-20.2	-24.9
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	39.7	10.4	18.7	23.2	25.3	26.4	27.3	28.2	29.2	30.4	31.5	32.4	31.8	26.0	20.7	13.9	6.9	-1.1	-9.5	-21.1	-33.0	-50.7	-37.5	-40.7	-45.0
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	33.8	6.6	14.4	18.8	20.7	21.7	22.4	23.1	23.7	24.5	25.2	25.8	25.1	18.9	14.5	2.9	-3.9	-13.4	-25.3	-41.4	-59.9	-86.9	-64.1	-67.2	-71.5
N Brawley Ave - N. Parkway Drive to W. D	CNEL	31.3	4.7	12.5	16.9	18.8	19.7	20.4	20.9	21.3	21.9	22.4	22.9	22.0	15.7	10.5	-3.3	-13.6	-26.0	-41.3	-55.4	-79.3		-83.5	-86.6	-91.0
N Brawley Ave - W Shields Avenue to W. C	CNEL	29.2	3.6	11.4	15.7	17.6	18.5	19.1	19.4	19.3	19.6	19.8	20.1	19.1	12.3	7.3	-7.4	-17.1	-29.6	-49.8	-70.3					
W. Sheilds Ave - West of N. Grantland Av	CNEL	27.1	-0.4	8.1	12.8	14.9	16.0	16.7	17.1	17.1	17.6	18.1	18.5	17.7	11.0	6.7	-7.7	-16.2	-28.5	-49.2	-73.6					
N. Grantland Ave - W Shields Avenue to W	CNEL	27.7	-0.1	8.4	13.1	15.2	16.3	17.2	18.0	18.8	18.7	18.3	18.8	17.8	11.4	6.7	-7.8	-17.0	-29.3	-48.1	-66.0	-95.8		-99.9		
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	23.1	-4.3	3.9	8.4	10.4	11.4	12.1	12.7	13.0	13.7	14.3	14.9	14.2	7.8	3.2	-10.5	-18.6	-29.6	-45.1	-64.4	-88.5		-93.0	-96.2	
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	29.4	1.3	9.5	14.0	16.1	17.1	17.9	18.6	19.2	20.1	20.8	21.6	20.9	14.7	10.7	-1.4	-7.8	-17.6	-30.4	-48.1	-67.4	-95.3	-71.9	-75.1	-79.5
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	36.3	6.2	14.5	19.0	21.1	22.2	23.3	24.4	26.0	26.3	26.8	28.0	28.2	25.8	24.4	20.6	14.0	4.4	-8.3	-30.7	-48.8	-73.7	-52.8	-56.0	-60.8
N. Cornelia Ave - W Shields Avenue to W.	CNEL	33.8	6.7	14.6	18.9	20.9	21.8	22.5	23.2	23.7	24.5	25.1	25.7	24.9	18.6	14.6	2.6	-3.9	-13.5	-26.0	-43.1	-62.1	-89.7	-66.3	-69.4	-73.7

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
N. Blythe Ave - W Shields Avenue to W. C	CNEL	30.9	4.5	12.3	16.6	18.6	19.5	20.1	20.7	21.0	21.5	22.0	22.4	21.6	15.1	10.4	-3.3	-11.4	-22.3	-37.5	-56.0	-79.6		-83.9	-87.0	-91.3	
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	32.5	5.1	13.4	17.9	19.9	20.9	21.6	22.1	22.4	23.1	23.6	24.1	23.4	17.0	11.8	-2.2	-13.1	-25.8	-43.2	-58.9	-84.8		-89.3	-92.4	-96.9	
N. Valentine Ave - N. Parkway Drive to W	CNEL	23.6	-1.6	6.2	10.5	12.4	13.3	13.8	14.1	13.8	13.9	14.0	14.1	13.0	6.1	0.5	-14.4	-26.9	-41.7	-65.8	-83.4						
N. Valentine Ave - W Shields Avenue to W	CNEL	22.1	-2.7	5.1	9.4	11.3	12.2	12.6	12.8	12.2	12.2	12.1	12.1	10.8	3.6	-1.5	-17.0	-27.4	-41.3	-67.9	-90.9						
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	31.1	4.9	13.1	17.5	19.6	20.6	21.4	22.0	22.4	21.8	21.0	21.1	19.7	13.0	8.0	-7.4	-17.2	-30.7	-54.1	-73.2						
W. Clinton Ave - N. Valentine Ave to N.	CNEL	29.5	4.0	12.2	16.7	18.7	19.7	20.4	20.9	20.8	19.9	18.8	18.7	17.0	9.9	4.4	-11.6	-22.9	-38.0	-66.5	-87.5						
N. Marks Ave - W Princeton Avenue to W.	CNEL	23.9	0.0	7.8	12.1	13.9	14.7	15.2	15.2	13.9	13.6	13.2	12.9	11.3	3.7	-2.6	-18.4	-33.1	-50.6	-80.8							
N. Marks Ave - W Princeton Avenue to W.	CNEL	21.5	-2.6	5.2	9.5	11.3	12.2	12.6	12.7	11.6	11.4	11.0	10.8	9.3	1.7	-3.7	-19.7	-31.0	-46.3	-77.4							
W. Clinton Ave - N. Marks Avenue to SR99	CNEL	28.4	3.5	11.7	16.1	18.1	19.1	19.8	20.2	19.5	18.4	17.0	16.7	14.7	7.2	1.4	-15.2	-27.4	-43.9	-76.9							
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	22.1	-4.8	3.4	7.9	9.9	11.0	11.9	12.6	13.4	13.1	12.5	12.9	11.7	5.4	0.0	-14.7	-26.5	-40.0	-56.7	-71.3						
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	30.3	3.7	11.5	15.8	17.9	18.9	19.8	20.7	21.7	21.3	20.7	21.1	19.9	13.7	8.4	-5.4	-16.6	-28.6	-41.3	-53.9	-79.2		-83.1	-86.2	-90.9	
N. Grantland Ave - W. Dakota Avenue to W	CNEL	30.9	2.4	11.0	15.6	17.8	18.9	19.9	20.8	21.9	21.9	21.8	22.5	21.6	15.5	10.6	-3.4	-13.7	-25.6	-40.4	-54.2	-80.0		-84.1	-87.4	-92.6	
Receive 6	Fl	G	LrD,lim		dB(A	LrD	77.5	dB(A																			
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	17.9	-7.3	0.5	4.8	6.8	7.8	8.5	9.2	9.4	8.5	7.4	7.3	5.7	-1.3	-6.3	-21.9	-31.6	-45.5	-70.2	-89.2						
SR99 - W. Shields Avenue to W. Clinton A	CNEL	46.5	16.1	25.3	30.1	32.4	33.6	35.0	36.5	38.5	38.2	37.1	38.0	36.6	31.1	26.2	11.0	1.3	-11.6	-29.5	-45.3	-76.7		-81.2	-84.8	-90.8	
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	57.3	24.8	34.1	38.9	41.2	42.6	44.1	45.9	48.7	49.0	48.5	49.8	48.8	44.1	40.2	31.7	23.6	13.6	3.7	-5.8	-21.5	-45.0	-25.9	-29.5	-35.6	
SR99 - W. Shields Avenue to W. Clinton A	CNEL	52.2	21.0	30.3	35.0	37.3	38.6	40.0	41.6	44.0	43.9	43.2	44.1	42.9	37.6	34.0	22.2	14.1	3.0	-11.7	-26.5	-51.0	-86.6	-55.4	-59.1	-65.1	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	56.8	23.6	33.0	37.8	40.1	41.5	43.0	44.9	48.0	48.4	48.2	49.5	48.6	43.9	38.2	31.1	23.1	15.3	10.0	3.5	-10.0	-29.9	-14.4	-18.0	-24.1	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	61.2	27.6	36.9	41.8	44.1	45.5	47.1	49.1	52.2	52.8	52.7	54.1	53.2	48.8	43.5	36.2	32.3	26.0	21.4	16.7	6.7	-7.9	2.3	-1.3	-7.4	

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	61.0	27.9	37.2	42.0	44.3	45.7	47.3	49.2	52.2	52.6	52.4	53.8	52.9	48.4	43.5	36.4	29.7	22.1	16.6	11.4	0.4	-15.7	-4.0	-7.6	-13.7
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	58.8	24.9	34.3	39.1	41.4	42.8	44.5	46.5	49.7	50.3	50.3	51.7	50.9	46.8	42.6	36.1	32.7	26.3	20.9	16.5	7.1	-6.9	2.7	-1.0	-7.0
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	49.2	17.9	27.2	32.0	34.3	35.6	37.0	38.6	41.0	41.0	40.2	41.2	40.0	34.7	30.9	18.6	10.2	-0.8	-15.0	-29.5	-54.3	-90.4	-58.7	-62.3	-68.4
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	31.0	0.1	8.0	12.3	14.3	15.4	16.3	17.2	18.4	19.8	21.3	23.0	24.1	21.4	20.4	16.7	11.0	2.5	-7.5	-30.0	-42.7	-61.5	-47.2	-50.1	-53.6
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	29.8	-0.7	7.2	11.5	13.5	14.6	15.4	16.3	17.4	18.8	20.2	21.9	22.9	20.1	19.1	15.3	9.5	0.7	-9.7	-34.0	-48.3	-68.4	-52.7	-55.6	-59.2
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	24.6	-5.7	2.2	6.6	8.5	9.6	10.4	11.3	12.4	13.6	15.0	16.7	17.6	14.8	13.7	9.8	3.9	-5.0	-15.9	-40.4	-57.1	-78.2	-61.6	-64.4	-67.9
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	25.3	-2.8	5.1	9.4	11.4	12.4	13.2	13.9	14.9	15.9	16.7	17.6	17.4	11.6	8.0	-0.4	-6.3	-18.4	-31.2	-43.6	-58.5	-79.6	-62.8	-65.9	-70.0
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	50.9	21.3	30.5	35.3	37.5	38.7	40.0	41.4	43.0	42.5	41.3	41.9	40.4	34.6	31.0	18.4	10.1	-2.5	-21.7	-41.1	-71.0		-75.4	-79.0	-85.1
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	60.3	26.3	35.7	40.5	42.8	44.3	45.9	47.9	51.1	51.7	51.8	53.3	52.5	48.3	43.0	35.1	30.9	25.7	22.7	19.2	10.1	-3.3	5.6	2.0	-4.0
	CNEL	26.3	-3.9	4.7	9.3	11.5	12.7	13.8	15.0	16.8	17.3	17.7	18.7	18.1	12.6	8.0	-1.2	-9.1	-19.8	-28.5	-36.0	-50.7	-72.8	-54.8	-58.2	-63.3
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	31.1	4.0	12.6	17.2	19.3	20.4	21.2	21.9	22.3	21.9	21.3	21.6	20.3	13.7	8.6	-6.7	-17.1	-30.9	-54.6	-73.4					
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	33.8	5.9	14.5	19.1	21.2	22.3	23.2	24.0	24.8	24.7	24.4	24.9	23.9	17.5	12.8	-1.6	-10.9	-23.2	-41.8	-59.4	-89.1		-93.2	-96.5	
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	28.1	2.6	10.0	14.2	16.1	17.2	18.1	18.9	19.9	19.1	18.1	18.2	16.8	10.4	5.0	-9.3	-20.6	-33.0	-46.4	-59.4	-86.7		-90.4	-93.5	-97.9
W. Shaw Ave - N. Grantland Ave to N.	CNEL	28.2	1.9	10.4	15.0	17.1	18.1	18.9	19.4	19.3	18.6	17.8	17.8	16.3	9.3	3.7	-12.3	-24.1	-39.4	-68.7	-89.3					
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	30.1	1.9	10.4	15.1	17.2	18.3	19.2	20.1	21.1	21.1	20.9	21.4	20.5	14.1	10.4	-2.8	-10.2	-21.5	-38.4	-56.9	-83.3		-87.5	-90.8	-96.0
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	32.2	2.8	11.4	16.1	18.2	19.4	20.4	21.5	23.0	23.3	23.4	24.2	23.5	17.6	14.0	3.0	-3.7	-13.2	-25.1	-38.5	-57.1	-84.6	-61.2	-64.6	-69.8
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	41.0	11.5	19.8	24.3	26.4	27.6	28.7	29.9	31.7	32.1	32.3	33.2	32.4	26.9	21.7	15.3	8.7	0.9	-6.2	-13.1	-24.6	-42.0	-28.6	-31.9	-36.8
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	50.0	19.5	27.8	32.3	34.5	35.7	36.9	38.2	40.3	40.9	41.4	42.6	42.2	37.3	32.8	29.3	20.4	14.1	9.0	6.7	-1.1	-12.7	-5.1	-8.3	-13.2
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	23.5	-1.6	5.9	10.0	11.9	13.0	13.8	14.6	15.3	14.3	13.1	13.1	11.6	4.9	0.0	-14.9	-23.8	-36.0	-53.9	-69.9	-99.3				
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	27.9	1.1	8.9	13.3	15.3	16.3	17.3	18.2	19.3	18.9	18.4	18.8	17.7	11.4	7.0	-5.9	-14.0	-24.7	-38.3	-52.3	-75.7		-79.5	-82.6	-87.3

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	24.8	-2.5	5.3	9.7	11.7	12.8	13.8	14.8	16.2	16.0	15.6	16.2	15.2	9.2	4.3	-8.5	-18.2	-28.4	-37.8	-47.6	-67.9	-98.0	-71.7	-74.9	-79.6
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	27.0	-0.1	8.4	13.0	15.2	16.2	17.1	17.7	18.1	17.8	17.2	17.4	16.2	9.4	5.1	-9.5	-18.2	-31.3	-54.3	-76.6					
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	48.9	19.3	27.3	31.7	33.8	35.0	36.1	37.4	39.5	39.9	40.2	41.2	40.7	35.8	30.8	28.6	18.5	13.4	9.7	8.2	0.8	-10.7	-3.1	-6.2	-10.9
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	32.0	2.7	10.6	15.0	16.9	17.9	18.7	19.4	20.2	21.3	22.5	24.0	24.8	21.6	20.3	16.0	9.6	-0.2	-13.0	-37.3	-60.0	-86.0	-64.3	-67.2	-71.0
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	43.0	11.7	19.6	24.0	26.0	27.0	27.9	28.9	30.2	31.6	33.2	35.0	36.2	33.5	32.7	29.2	23.8	16.0	5.0	-5.5	-20.9	-34.7	-25.4	-28.3	-31.7
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	67.1	31.8	39.8	44.2	46.3	47.4	48.4	49.6	51.1	52.9	54.8	56.7	57.8	57.5	58.5	57.7	56.7	55.5	53.2	50.6	47.2	42.8	41.0	38.3	35.6
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	71.3	36.0	43.9	48.3	50.3	51.4	52.4	53.3	54.6	56.0	57.6	60.0	63.1	62.7	62.9	61.9	61.2	59.8	57.1	54.2	49.8	44.6	44.3	41.6	38.8
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	38.3	6.7	14.6	19.0	21.0	22.1	23.0	24.0	25.3	26.8	28.5	30.4	31.6	29.1	28.3	25.0	19.8	12.4	1.2	-7.0	-23.1	-36.5	-27.7	-30.5	-33.9
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	38.7	8.2	16.9	21.6	23.8	25.0	25.9	26.9	28.0	29.3	30.5	31.5	31.1	25.4	20.2	13.4	6.2	-1.9	-10.5	-22.8	-35.1	-53.3	-39.8	-43.1	-47.4
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	33.4	4.0	12.6	17.4	19.5	20.6	21.5	22.2	23.0	24.0	24.9	25.7	25.2	19.1	15.4	3.9	-2.4	-12.0	-25.0	-44.0	-63.6	-91.5	-68.3	-71.5	-76.0
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	29.8	1.7	10.3	15.0	17.1	18.2	18.9	19.5	19.7	20.4	21.0	21.5	20.8	14.2	10.3	-3.4	-10.8	-22.2	-40.2	-63.6	-91.3		-96.0	-99.3	
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	25.4	-1.5	7.1	11.7	13.8	14.8	15.5	15.9	15.5	15.8	16.0	16.3	15.3	8.3	4.0	-11.1	-19.8	-33.1	-57.8	-83.7					
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	44.5	13.0	21.6	26.4	28.6	29.8	30.8	31.9	33.3	34.8	36.3	37.5	37.4	32.3	27.5	23.6	13.8	7.4	0.0	-5.2	-14.8	-27.4	-19.6	-22.8	-27.1
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	43.3	13.0	21.3	25.9	28.0	29.1	30.1	31.1	32.4	33.8	35.1	36.2	35.9	30.6	25.5	21.9	11.8	5.9	-0.8	-5.6	-14.8	-27.2	-19.3	-22.5	-26.7
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	39.7	10.3	18.6	23.2	25.2	26.3	27.2	28.1	29.2	30.3	31.4	32.3	31.7	25.9	20.6	13.8	6.8	-1.2	-9.6	-21.2	-33.1	-50.9	-37.6	-40.8	-45.1
W. Sheilds Ave - N. Valentine Ave to N.	CNEL	34.3	6.0	14.3	18.8	20.9	21.9	22.7	23.4	24.1	24.9	25.7	26.4	25.8	19.9	17.1	8.7	2.2	-7.8	-21.7	-43.0	-63.4	-92.1	-67.9	-71.1	-75.5
Shields Ave & Valentine Ave East	CNEL	28.6	-0.1	8.2	12.7	14.8	15.8	16.6	17.4	18.3	19.2	20.1	20.9	20.3	14.2	10.6	0.3	-5.7	-14.9	-26.9	-44.3	-62.3	-88.8	-66.8	-70.0	-74.4
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	34.2	5.6	13.9	18.4	20.5	21.6	22.6	23.6	25.2	25.3	25.2	26.0	25.1	19.2	15.0	3.4	-3.9	-13.4	-24.0	-35.1	-53.3	-80.4	-57.3	-60.5	-65.4
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	26.1	-1.6	6.6	11.1	13.2	14.3	15.2	16.1	17.3	17.2	16.9	17.4	16.4	10.2	6.1	-6.7	-14.4	-25.1	-39.2	-54.4	-77.8		-81.8	-85.0	-90.0

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	21.4	-5.4	2.8	7.2	9.3	10.3	11.2	11.9	12.6	12.3	11.7	11.9	10.7	4.2	-0.2	-14.8	-23.1	-35.4	-54.7	-72.9					
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	16.2	-9.6	-1.5	3.0	5.0	6.0	6.8	7.4	7.5	6.8	5.9	5.9	4.4	-2.6	-7.5	-23.0	-32.8	-46.7	-72.3	-92.9					
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	39.0	10.0	18.2	22.7	24.9	26.0	27.1	28.2	29.9	30.2	30.3	31.1	30.3	24.6	19.9	9.5	1.2	-8.5	-16.3	-24.3	-39.5	-62.9	-43.5	-46.7	-51.7
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	40.7	11.6	19.9	24.4	26.5	27.7	28.7	29.9	31.6	31.8	32.0	32.8	32.0	26.3	21.4	10.8	2.0	-6.5	-13.7	-21.7	-37.2	-60.7	-41.2	-44.4	-49.4
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	22.9	-2.8	5.7	10.3	12.4	13.4	14.1	14.6	14.0	13.1	12.0	11.7	10.0	2.6	-3.2	-19.7	-32.0	-48.6	-82.1						
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	24.1	0.0	7.8	12.0	14.0	14.9	15.6	16.0	15.3	14.0	12.4	11.8	9.8	2.2	-3.9	-20.3	-33.2	-49.8	-80.5						
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	23.5	-0.8	7.0	11.3	13.1	14.0	14.4	14.5	13.5	13.4	13.1	13.0	11.5	4.2	-2.0	-17.5	-31.6	-48.3	-76.7	-99.3					
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	23.5	-2.3	5.9	10.4	12.4	13.3	13.9	14.2	13.6	13.8	13.8	13.9	12.7	5.6	0.7	-14.6	-24.7	-38.5	-64.7	-89.4					
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	26.6	-0.1	8.2	12.7	14.7	15.6	16.3	16.7	16.7	17.1	17.4	17.8	16.9	10.2	5.4	-9.0	-18.3	-30.7	-50.9	-73.1					
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	32.6	6.7	14.1	18.3	20.3	21.3	22.3	23.2	24.3	23.7	22.8	23.0	21.7	15.3	10.7	-2.2	-10.6	-21.2	-34.1	-47.1	-70.2		-73.9	-76.9	-81.4
N. Polk Ave - North of W. Shaw Avenue	CNEL	21.2	-4.2	3.3	7.4	9.4	10.4	11.3	12.1	13.0	12.1	11.1	11.1	9.7	3.0	-1.3	-15.5	-23.4	-35.0	-52.2	-68.4	-96.8				
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	19.2	-6.3	1.8	6.3	8.3	9.3	10.0	10.6	10.5	9.7	8.6	8.6	6.9	0.0	-6.1	-21.6	-35.6	-52.0	-76.8	-96.4					
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	26.1	-0.2	8.0	12.5	14.5	15.5	16.1	16.5	16.2	16.5	16.7	17.0	15.9	9.2	3.7	-11.2	-23.8	-38.5	-63.0	-81.3					
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	27.3	0.8	9.1	13.5	15.5	16.5	17.1	17.5	17.4	17.8	18.1	18.4	17.5	10.8	5.4	-9.2	-21.3	-35.8	-58.8	-76.4					
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	25.5	-1.1	7.4	12.0	14.1	15.2	15.9	16.5	16.6	16.1	15.4	15.5	14.2	7.4	1.5	-13.9	-27.4	-43.2	-67.8	-87.8					
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	26.7	-0.6	7.7	12.2	14.2	15.2	15.9	16.4	16.7	17.3	17.9	18.4	17.6	11.2	6.7	-6.0	-14.0	-25.1	-41.6	-64.1	-90.8		-95.3	-98.5	
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	35.9	7.3	15.5	20.0	22.2	23.3	24.3	25.4	26.9	27.0	27.0	27.7	26.8	21.0	16.9	6.2	-0.8	-10.1	-21.1	-33.0	-51.1	-78.1	-55.1	-58.3	-63.3
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	27.1	1.7	9.1	13.2	15.0	15.9	16.5	17.0	17.3	17.7	18.0	18.4	17.5	11.0	5.7	-8.3	-19.1	-31.0	-45.3	-59.2	-82.8		-86.8	-89.8	-94.0
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	38.5	9.4	17.7	22.2	24.3	25.5	26.5	27.7	29.4	29.6	29.8	30.6	29.8	24.2	19.1	8.2	-1.4	-9.9	-16.4	-24.0	-39.5	-62.9	-43.5	-46.7	-51.6

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	40.3	11.1	19.3	23.9	26.0	27.0	27.9	28.8	29.8	30.9	32.0	32.8	32.3	26.5	21.5	14.8	8.0	-0.1	-8.8	-21.5	-33.4	-51.3	-37.9	-41.1	-45.3
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	45.8	15.5	23.8	28.4	30.5	31.6	32.6	33.6	34.9	36.3	37.6	38.7	38.4	33.1	27.9	24.3	14.2	8.3	1.6	-3.2	-12.4	-24.8	-16.9	-20.1	-24.3
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	74.1	38.8	46.7	51.1	53.2	54.4	55.5	56.7	58.1	59.8	60.9	62.6	64.5	65.3	66.0	64.5	63.8	62.5	60.3	57.9	54.6	50.2	49.2	46.4	43.1
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	38.9	9.8	17.7	22.1	24.2	25.3	26.5	27.8	29.8	30.1	30.3	31.2	30.5	25.2	19.8	13.3	6.8	1.6	-1.5	-4.1	-12.6	-25.4	-16.4	-19.6	-24.2
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	28.8	1.2	9.4	13.9	16.0	17.0	17.7	18.3	18.7	19.5	20.1	20.7	20.0	13.8	8.7	-4.7	-14.5	-27.4	-43.7	-58.3	-82.6		-87.0	-90.2	-94.7
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	37.9	8.8	17.1	21.6	23.7	24.9	25.9	27.1	28.8	29.0	29.2	30.0	29.2	23.6	18.7	8.2	-0.7	-10.7	-18.0	-25.4	-40.6	-63.9	-44.6	-47.8	-52.8
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	44.5	14.2	22.5	27.0	29.1	30.3	31.2	32.2	33.6	34.9	36.2	37.4	37.1	31.9	27.1	23.2	13.5	7.0	-0.3	-5.2	-14.4	-26.8	-19.0	-22.2	-26.4
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	67.7	32.5	40.5	44.9	47.0	48.1	49.1	50.3	51.8	53.6	55.4	57.3	58.4	58.2	59.2	58.4	57.4	56.2	53.9	51.4	47.9	43.6	41.8	39.2	36.4
N Brawley Ave - N. Parkway Drive to W. D	CNEL	43.3	14.0	22.0	26.3	28.3	29.4	30.3	31.2	32.5	33.8	35.0	36.0	35.7	30.5	25.4	22.6	12.2	6.3	-0.2	-4.1	-12.8	-24.7	-17.1	-20.2	-24.4
N Brawley Ave - W Shields Avenue to W. C	CNEL	38.7	10.6	18.5	22.8	24.8	25.8	26.6	27.4	28.4	29.5	30.3	31.1	30.5	24.5	19.1	12.2	5.2	-2.8	-11.0	-21.9	-33.6	-51.2	-37.9	-41.0	-45.2
W. Sheilds Ave - West of N. Grantland Av	CNEL	22.6	-3.4	5.2	9.8	11.9	12.9	13.5	13.7	12.6	12.6	12.5	12.4	11.1	3.5	-1.2	-16.8	-26.8	-41.8	-71.3						
N. Grantland Ave - W Shields Avenue to W	CNEL	23.7	-2.7	5.8	10.4	12.5	13.6	14.3	14.9	14.9	14.3	13.5	13.5	12.1	5.2	-0.7	-16.3	-29.7	-46.0	-72.8	-92.7					
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	19.3	-6.9	1.2	5.7	7.7	8.7	9.3	9.6	9.3	9.7	9.9	10.1	9.1	2.3	-3.2	-18.0	-30.5	-45.4	-70.0	-88.2					
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	26.5	-0.8	7.4	11.9	14.0	15.0	15.7	16.2	16.5	17.1	17.6	18.2	17.4	11.0	6.0	-7.6	-16.9	-28.7	-45.5	-65.0	-91.3		-95.8	-99.0	
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	34.6	6.1	14.3	18.8	20.9	22.0	23.0	24.1	25.6	25.7	25.7	26.4	25.6	19.7	15.5	4.4	-2.8	-12.2	-23.0	-34.6	-52.7	-79.9	-56.7	-60.0	-64.9
N. Cornelia Ave - W Shields Avenue to W.	CNEL	38.4	10.3	18.2	22.5	24.5	25.5	26.3	27.2	28.2	29.2	30.1	30.8	30.2	24.2	18.9	11.9	4.8	-3.2	-11.5	-22.5	-34.3	-52.0	-38.6	-41.7	-45.9
N. Blythe Ave - W Shields Avenue to W. C	CNEL	42.5	11.5	19.4	23.8	25.8	26.9	27.7	28.7	29.9	31.3	32.8	34.5	35.4	33.0	32.2	28.8	23.5	15.7	4.8	-5.7	-20.7	-34.4	-25.2	-28.1	-31.6
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	45.1	14.7	23.1	27.6	29.7	30.9	31.8	32.8	34.2	35.6	36.9	38.0	37.8	32.6	27.9	24.3	14.5	8.1	0.8	-3.8	-13.0	-25.1	-17.5	-20.7	-24.9
N. Valentine Ave - N. Parkway Drive to W	CNEL	32.6	4.8	12.7	17.1	19.0	20.0	20.8	21.6	22.4	23.3	24.1	24.8	24.2	18.2	13.0	1.6	-7.6	-17.2	-26.1	-36.2	-51.9	-75.3	-56.1	-59.2	-63.6

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
N. Valentine Ave - W Shields Avenue to W	CNEL	30.3	3.0	10.9	15.2	17.1	18.1	18.8	19.5	20.2	20.9	21.6	22.3	21.5	15.3	11.0	-0.7	-7.4	-16.9	-28.9	-45.1	-63.6	-90.6	-67.8	-70.9	-75.2	
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	38.9	10.3	18.5	23.0	25.1	26.3	27.3	28.4	29.9	30.0	30.0	30.7	29.9	24.0	20.0	9.2	2.4	-7.0	-17.9	-29.9	-48.0	-75.0	-52.0	-55.2	-60.2	
W. Clinton Ave - N. Valentine Ave to N.	CNEL	36.5	8.8	17.0	21.5	23.6	24.7	25.6	26.5	27.7	27.6	27.3	27.9	26.9	20.7	16.5	3.6	-4.3	-15.0	-28.9	-43.4	-66.6		-70.6	-73.8	-78.8	
N. Marks Ave - W Princeton Avenue to W.	CNEL	30.6	4.5	12.3	16.6	18.5	19.5	20.1	20.5	20.7	21.2	21.6	22.0	21.1	14.5	9.2	-5.0	-16.0	-28.8	-46.5	-62.3	-88.9		-93.1	-96.2		
N. Marks Ave - W Princeton Avenue to W.	CNEL	28.7	2.2	10.0	14.4	16.3	17.2	17.9	18.4	18.7	19.3	19.7	20.2	19.3	12.8	8.1	-5.9	-14.5	-25.8	-41.8	-59.2	-83.7		-87.9	-91.0	-95.4	
W. Clinton Ave - N. Marks Avenue to SR99	CNEL	34.6	7.6	15.8	20.3	22.4	23.4	24.3	25.1	25.9	25.5	25.0	25.3	24.2	17.7	13.3	-1.1	-9.3	-21.3	-40.0	-57.9	-87.4		-91.3	-94.6	-99.5	
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	16.3	-8.6	-0.5	3.9	5.9	6.9	7.6	8.0	7.4	6.3	5.0	4.6	2.8	-4.6	-11.1	-27.2	-42.2	-60.0	-88.6							
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	23.6	-0.9	6.9	11.2	13.2	14.1	14.8	15.3	15.0	13.7	12.3	11.9	10.0	2.7	-3.0	-18.9	-30.6	-46.0	-74.4	-97.7						
N. Grantland Ave - W. Dakota Avenue to W	CNEL	25.5	-1.1	7.4	12.0	14.1	15.2	15.9	16.5	16.6	16.1	15.4	15.5	14.0	7.3	1.7	-13.8	-26.4	-42.6	-71.5	-87.8						
Receive 7 Fl G LrD,lim dB(A LrD 72.0 dB(A																											
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	23.5	-3.4	4.4	8.7	10.7	11.8	12.8	13.7	14.9	14.6	14.1	14.6	13.5	7.4	2.2	-11.1	-22.4	-33.3	-44.0	-55.9	-79.2		-83.0	-86.2	-90.9	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	47.5	18.6	27.9	32.6	34.8	36.1	37.3	38.5	39.7	38.9	37.4	37.7	35.9	29.9	23.7	8.1	-5.4	-21.3	-45.0	-66.4						
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	39.5	11.2	20.4	25.2	27.4	28.5	29.7	30.9	31.7	30.8	29.0	29.2	27.1	20.7	15.8	0.7	-9.8	-25.7	-54.3	-82.4						
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	42.9	13.8	23.1	27.8	30.0	31.2	32.5	33.8	35.1	34.4	32.9	33.4	31.6	25.8	19.6	4.1	-9.7	-25.7	-47.6	-68.1						
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	48.9	20.3	29.5	34.3	36.5	37.7	38.9	40.1	41.1	40.3	38.7	39.0	37.1	31.0	25.1	9.5	-2.4	-17.7	-42.9	-65.8						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	39.9	11.8	21.0	25.8	28.0	29.2	30.3	31.5	32.1	31.1	29.3	29.5	27.4	21.1	14.4	-1.7	-16.8	-34.5	-61.6	-86.0						
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	32.3	4.8	13.3	18.0	20.1	21.2	22.0	22.8	23.4	23.1	22.7	23.1	22.0	15.7	10.1	-4.7	-17.1	-31.3	-50.6	-67.3						
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	31.3	4.3	12.8	17.4	19.6	20.6	21.4	22.1	22.5	22.1	21.5	21.7	20.5	13.8	8.7	-6.6	-16.9	-30.6	-54.6	-75.0						
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	23.7	-0.5	6.9	11.0	13.0	13.9	14.7	15.3	15.4	14.1	12.5	12.2	10.3	3.1	-2.2	-18.0	-28.2	-42.4	-67.5	-87.9						

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
W. Shaw Ave - N. Grantland Ave to N.	CNEL	32.3	4.6	13.1	17.7	19.9	21.0	21.8	22.6	23.4	23.2	22.9	23.4	22.4	16.1	10.6	-3.9	-16.3	-30.0	-47.5	-63.7	-94.9		-99.0		
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	35.0	5.4	14.0	18.6	20.8	22.0	23.0	24.1	25.7	26.1	26.3	27.2	26.5	20.8	16.7	5.9	-1.2	-10.3	-21.0	-33.0	-50.9	-77.2	-55.0	-58.3	-63.5
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	30.2	1.4	10.0	14.6	16.8	17.9	18.9	19.8	21.1	21.2	21.2	21.9	21.2	15.1	10.7	-2.3	-10.6	-21.2	-34.7	-49.3	-72.1		-76.2	-79.5	-84.7
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	31.3	4.4	12.6	17.1	19.2	20.2	21.1	21.8	22.6	22.2	21.7	22.0	20.8	14.3	9.8	-4.7	-13.3	-25.3	-43.8	-61.6	-90.8		-94.8	-98.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	32.6	6.6	14.8	19.3	21.3	22.3	23.1	23.7	23.9	23.2	22.3	22.4	20.9	14.0	8.8	-6.7	-17.0	-31.0	-55.7	-75.4					
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	25.9	0.2	7.6	11.7	13.7	14.8	15.7	16.6	17.7	17.0	16.0	16.2	14.9	8.5	3.8	-8.9	-17.5	-28.3	-42.1	-56.8	-81.7		-85.4	-88.4	-92.9
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	25.5	-0.6	7.3	11.6	13.6	14.6	15.4	16.2	17.0	16.4	15.6	15.8	14.5	8.0	3.0	-11.4	-21.2	-33.3	-50.3	-66.5	-95.4		-99.2		
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	18.7	-6.9	0.9	5.2	7.2	8.2	9.0	9.7	10.2	9.4	8.4	8.4	6.9	0.1	-4.6	-19.9	-29.0	-42.0	-63.9	-83.0					
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	37.3	7.1	15.7	20.4	22.6	23.8	24.9	26.1	27.8	28.3	28.7	29.7	29.1	23.5	18.4	8.0	-1.7	-9.8	-16.5	-24.4	-39.7	-62.7	-43.9	-47.2	-52.4
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	29.0	4.4	12.3	16.5	18.5	19.5	20.2	20.6	20.3	19.1	17.6	17.3	15.4	8.0	2.5	-13.7	-24.7	-40.1	-69.6	-92.5					
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	29.4	2.3	10.2	14.5	16.4	17.4	18.1	18.7	19.4	20.1	20.8	21.4	20.7	14.3	10.3	-1.5	-8.0	-17.4	-29.6	-46.3	-64.7	-91.5	-68.9	-72.0	-76.3
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	29.7	3.7	11.5	15.8	17.7	18.7	19.2	19.7	19.8	20.2	20.5	20.9	20.0	13.1	9.2	-4.3	-11.5	-22.6	-39.7	-62.2	-88.7		-93.0	-96.1	
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	25.7	0.7	8.5	12.8	14.7	15.6	16.1	16.3	15.8	15.9	15.9	16.0	14.7	7.5	3.0	-12.0	-20.8	-33.8	-57.5	-82.5					
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	21.7	-2.3	5.5	9.7	11.6	12.4	12.9	12.9	11.7	11.5	11.1	10.8	9.3	1.6	-3.6	-19.4	-29.8	-44.6	-74.2						
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	31.8	2.5	11.1	15.8	17.9	19.0	19.8	20.5	20.9	21.8	22.7	23.5	23.2	20.6	18.8	14.7	7.0	-4.0	-19.7	-48.8	-82.1		-87.0	-90.1	-93.6
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	36.1	5.0	13.6	18.3	20.5	21.6	22.5	23.4	24.4	25.6	26.9	28.1	28.1	26.1	24.8	21.4	15.0	5.7	-6.8	-31.0	-53.1	-78.5	-57.9	-61.0	-64.8
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	43.5	10.3	19.0	23.7	25.9	27.1	28.2	29.3	30.7	32.2	33.9	35.5	35.8	34.5	33.7	31.1	25.8	18.7	7.6	-0.6	-17.0	-30.5	-21.9	-25.0	-28.5
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	67.6	29.4	38.1	42.9	45.2	46.5	47.7	49.0	50.9	52.9	55.2	57.5	59.1	58.2	58.7	58.1	57.1	56.2	53.7	50.8	46.9	42.5	40.5	37.7	35.2
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	28.9	1.1	9.6	14.3	16.4	17.5	18.2	18.6	18.5	19.1	19.6	20.0	19.3	16.2	14.0	9.0	0.1	-12.6	-32.0	-64.9					

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	24.7	-0.8	7.4	11.9	13.8	14.8	15.3	15.5	14.7	14.7	14.6	14.6	13.3	9.5	6.6	0.7	-9.5	-24.1	-47.4	-84.3					
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	20.9	-3.9	4.3	8.8	10.7	11.6	12.1	12.2	10.7	10.5	10.1	9.7	8.1	3.9	0.6	-6.0	-17.4	-33.7	-60.0						
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	29.8	2.5	10.7	15.2	17.3	18.3	19.2	20.1	21.0	20.8	20.4	20.8	19.7	13.2	9.9	-2.4	-9.4	-20.5	-37.0	-56.1	-82.1		-86.1	-89.3	-94.3
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	28.6	0.2	8.4	12.9	15.0	16.1	17.1	18.1	19.6	19.7	19.6	20.3	19.4	13.4	10.0	-0.5	-7.0	-16.4	-28.2	-41.2	-59.3	-86.3	-63.3	-66.6	-71.5
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	31.4	2.0	10.2	14.7	16.9	18.0	19.1	20.3	22.2	22.5	22.8	23.6	22.9	17.3	12.3	6.4	0.1	-7.8	-15.1	-22.4	-33.8	-51.1	-37.9	-41.1	-46.0
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	33.4	3.2	11.5	16.0	18.1	19.3	20.5	21.8	23.9	24.4	24.9	26.0	25.4	20.3	15.3	11.7	3.4	-2.3	-7.1	-9.7	-18.0	-30.3	-22.0	-25.2	-30.1
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	29.4	3.1	11.3	15.8	17.8	18.8	19.6	20.3	20.7	20.1	19.3	19.4	18.0	11.1	7.3	-6.7	-14.9	-27.8	-49.9	-72.6					
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	28.3	3.0	11.1	15.6	17.6	18.6	19.3	19.8	19.6	18.6	17.5	17.3	15.5	8.2	3.6	-11.3	-21.0	-35.8	-63.1	-89.9					
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	31.6	3.9	12.4	17.1	19.2	20.3	21.2	22.0	22.7	22.5	22.2	22.6	21.5	15.3	10.2	-4.0	-14.5	-29.4	-50.4	-64.5	-96.3				
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	29.5	3.5	11.4	15.7	17.7	18.7	19.5	20.2	20.7	20.1	19.3	19.4	18.2	14.9	12.4	7.3	-1.8	-14.5	-34.0	-65.8					
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	34.6	6.0	13.9	18.3	20.2	21.2	22.0	22.7	23.5	24.5	25.4	26.4	26.2	24.0	22.5	18.9	12.4	3.2	-9.2	-33.0	-54.4	-79.5	-58.7	-61.7	-65.5
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	27.3	0.2	8.5	13.0	15.0	16.0	16.7	17.2	17.3	17.9	18.3	18.8	18.0	11.3	7.5	-6.0	-13.2	-24.4	-41.7	-65.0	-92.0		-96.4	-99.6	
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	26.4	-0.2	8.0	12.5	14.5	15.5	16.1	16.5	16.4	16.9	17.2	17.6	16.7	9.9	5.3	-9.4	-18.1	-30.2	-50.7	-73.4					
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	28.1	3.5	11.0	15.1	17.0	18.0	18.8	19.5	19.9	18.7	17.3	17.1	15.4	8.5	3.2	-12.1	-22.2	-35.4	-56.5	-74.9					
N. Polk Ave - North of W. Shaw Avenue	CNEL	17.2	-6.9	0.5	4.6	6.5	7.5	8.3	8.8	8.9	7.6	6.0	5.7	3.8	-3.4	-8.8	-24.6	-35.1	-49.5	-74.5	-94.8					
Bullard Ave - N Garfield to N. Grantland	CNEL	20.0	-4.9	2.9	7.2	9.1	10.1	10.9	11.4	11.5	10.5	9.3	9.1	7.4	0.5	-5.4	-20.5	-33.2	-49.8	-76.3	-92.2					
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	19.4	-6.2	1.9	6.4	8.4	9.4	10.2	10.7	10.6	9.8	8.8	8.8	7.2	0.3	-6.0	-21.3	-35.7	-52.2	-75.1	-96.3					
N. Grantland Ave - W. Bullard Ave to Bar	CNEL	26.9	2.0	9.8	14.1	16.0	17.0	17.8	18.3	18.2	17.2	16.0	15.7	14.1	10.3	7.3	1.3	-9.1	-23.7	-46.9	-83.1					
Bullard Ave - N Garfield Avenue to N. Gr	CNEL	14.6	-9.5	-1.8	2.5	4.5	5.4	6.1	6.5	5.9	4.5	2.9	2.4	0.3	-7.0	-13.4	-29.2	-43.3	-61.8	-91.8						

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
Bullard Ave - N. Grantland Avenue to N.	CNEL	22.3	-1.9	5.9	10.2	12.2	13.1	13.8	14.2	13.6	12.2	10.6	10.2	8.2	0.8	-6.2	-21.9	-37.8	-55.9	-80.7						
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	32.5	4.2	12.5	17.0	19.1	20.1	20.9	21.6	22.3	23.2	24.0	24.7	24.1	17.9	14.0	2.6	-3.8	-13.3	-25.7	-43.5	-62.3	-89.4	-66.8	-70.0	-74.4
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	41.2	11.0	19.3	23.8	25.9	27.1	28.0	29.0	30.3	31.6	32.9	34.0	33.8	28.5	23.4	19.8	10.3	4.0	-2.8	-7.4	-16.2	-28.0	-20.7	-23.9	-28.2
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	43.4	10.3	19.0	23.7	25.9	27.1	28.3	29.7	31.7	32.6	33.6	35.2	35.6	34.3	33.5	30.8	25.4	18.1	7.4	0.3	-11.5	-23.9	-15.7	-19.0	-23.9
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	27.7	0.1	8.3	12.8	14.9	15.9	16.6	17.2	17.6	18.3	18.9	19.5	18.9	12.5	8.0	-5.3	-13.2	-23.8	-38.6	-58.3	-81.8		-86.2	-89.4	-93.9
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	30.5	3.5	11.7	16.2	18.2	19.3	20.2	20.9	21.8	21.4	20.9	21.3	20.1	13.7	8.9	-5.4	-14.8	-26.8	-44.2	-61.5	-90.4		-94.4	-97.6	
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	29.9	3.8	11.2	15.3	17.1	18.0	18.7	19.3	20.0	20.6	21.1	21.7	20.9	14.6	9.6	-3.6	-12.8	-22.5	-32.9	-44.2	-61.8	-88.0	-65.8	-68.8	-73.0
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	33.0	5.4	13.6	18.1	20.2	21.3	22.2	23.1	24.2	24.1	23.8	24.3	23.3	17.1	12.5	-0.4	-8.9	-19.9	-34.5	-50.3	-75.3		-79.3	-82.5	-87.5
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	28.6	2.9	11.1	15.5	17.5	18.5	19.0	19.3	18.7	18.9	18.9	19.1	17.9	10.8	5.5	-9.6	-20.6	-34.5	-59.8	-84.3					
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	30.3	4.0	12.2	16.7	18.7	19.6	20.2	20.6	20.4	20.7	20.9	21.2	20.3	13.5	8.0	-6.8	-19.4	-34.0	-57.5	-75.9					
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	27.0	2.2	10.0	14.3	16.3	17.2	18.0	18.5	18.5	17.4	16.2	16.0	14.2	7.2	1.0	-14.5	-28.6	-44.7	-67.4	-87.8					
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	19.6	-4.7	3.1	7.4	9.3	10.3	11.0	11.4	10.8	9.5	8.0	7.5	5.5	-2.1	-7.9	-24.3	-36.1	-52.2	-83.1						
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	33.9	4.9	13.1	17.7	19.7	20.8	21.7	22.5	23.5	24.6	25.5	26.4	25.9	20.0	14.8	4.0	-5.9	-14.8	-23.6	-34.2	-49.9	-73.0	-54.3	-57.5	-61.9
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	33.6	5.7	13.9	18.4	20.5	21.6	22.5	23.5	24.7	24.7	24.5	25.1	24.2	18.3	13.2	-0.1	-11.2	-22.2	-33.3	-45.1	-68.1		-72.1	-75.3	-80.3
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	29.8	3.2	11.4	15.9	17.9	18.9	19.5	19.9	19.8	20.3	20.6	21.0	20.1	13.4	7.9	-6.7	-19.2	-33.2	-54.8	-72.9					
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	24.9	0.4	8.2	12.5	14.3	15.2	15.7	15.8	15.0	14.9	14.8	14.7	13.4	6.1	0.0	-15.2	-29.3	-45.5	-71.8	-93.9					
N Brawley Ave - N. Parkway Drive to W. D	CNEL	22.1	-1.5	6.3	10.6	12.4	13.2	13.6	13.6	12.0	11.5	10.9	10.5	8.7	1.0	-5.8	-21.8	-37.3	-55.7	-85.8						
N Brawley Ave - W Shields Avenue to W. C	CNEL	23.4	-0.3	7.5	11.8	13.6	14.5	14.9	14.8	13.3	12.9	12.4	11.9	10.1	2.5	-4.0	-20.0	-34.8	-53.2	-84.1						
W. Sheilds Ave - West of N. Grantland Av	CNEL	62.2	24.2	33.0	37.7	40.0	41.3	42.5	43.9	45.7	47.9	50.2	52.7	54.6	53.2	53.7	52.6	51.0	49.5	46.6	43.3	38.9	33.7	33.5	30.7	28.1

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
N. Grantland Ave - W Shields Avenue to W	CNEL	62.0	24.3	33.0	37.7	40.0	41.3	42.7	44.3	46.8	48.2	49.9	52.3	54.1	52.9	53.4	52.3	50.7	49.3	46.4	43.5	39.1	34.5	34.3	31.4	28.3	
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	35.5	5.1	13.3	17.9	20.0	21.1	22.1	23.1	24.5	25.9	27.2	28.4	28.2	23.0	18.2	14.9	5.1	-1.2	-8.4	-12.9	-21.7	-33.5	-26.3	-29.4	-33.7	
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	32.6	3.7	11.9	16.5	18.5	19.6	20.5	21.3	22.3	23.3	24.3	25.1	24.6	18.7	13.6	2.6	-6.4	-16.2	-25.4	-36.0	-51.8	-74.8	-56.3	-59.4	-63.8	
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	32.4	4.5	12.7	17.2	19.3	20.4	21.3	22.3	23.5	23.5	23.3	23.9	22.9	17.0	11.9	-1.0	-11.5	-23.7	-35.6	-46.5	-69.8		-73.8	-77.0	-82.0	
N. Cornelia Ave - W Shields Avenue to W.	CNEL	28.6	3.1	10.9	15.2	17.1	18.0	18.6	18.9	18.7	19.0	19.2	19.4	18.3	11.5	6.1	-8.5	-20.2	-34.8	-57.8	-74.3						
N. Blythe Ave - W Shields Avenue to W. C	CNEL	25.0	0.5	8.3	12.6	14.4	15.3	15.8	15.9	15.1	15.0	14.8	14.7	13.3	6.1	0.3	-15.1	-28.4	-44.8	-73.5	-93.9						
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	24.6	-0.1	8.1	12.6	14.5	15.4	15.9	16.0	14.5	14.3	13.9	13.6	12.0	4.4	-2.3	-18.0	-33.7	-51.8	-81.3							
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	18.9	-6.9	1.2	5.7	7.7	8.7	9.5	10.0	10.1	9.4	8.5	8.5	7.0	0.2	-6.0	-21.1	-35.5	-51.5	-72.9	-93.6						
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	30.7	3.5	11.3	15.7	17.7	18.7	19.7	20.5	21.6	21.4	21.0	21.5	20.6	18.0	15.9	11.6	3.9	-7.0	-22.6	-49.4	-77.0		-81.0	-84.0	-88.6	
N. Grantland Ave - W. Dakota Avenue to W	CNEL	68.3	30.3	39.0	43.7	46.0	47.4	48.7	50.2	52.6	54.0	55.8	58.1	59.6	59.0	59.5	58.9	57.6	56.7	54.3	51.6	47.6	43.5	41.8	39.0	35.9	
Receive 8 Fl G LrD,lim dB(A LrD 78.4 dB(A																											
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	20.9	-5.3	2.6	6.9	8.9	9.9	10.8	11.6	12.4	11.8	11.1	11.3	10.0	3.5	-1.2	-15.6	-24.5	-36.5	-54.0	-70.1	-99.1					
SR99 - W. Shields Avenue to W. Clinton A	CNEL	41.6	13.0	22.2	27.0	29.2	30.4	31.6	32.8	33.8	32.9	31.3	31.6	29.6	23.4	17.5	1.5	-10.9	-27.1	-56.1	-76.7						
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	49.2	19.3	28.6	33.3	35.6	36.8	38.1	39.5	41.3	40.9	39.7	40.4	38.9	33.2	28.2	13.1	3.2	-10.0	-29.8	-48.2	-81.8		-86.2	-89.8	-95.9	
SR99 - W. Shields Avenue to W. Clinton A	CNEL	46.2	17.1	26.4	31.1	33.3	34.6	35.8	37.1	38.4	37.7	36.3	36.7	34.8	29.0	24.4	10.8	0.4	-15.2	-43.0	-62.6						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	47.0	16.6	25.8	30.6	32.9	34.1	35.5	37.0	39.0	38.7	37.6	38.4	37.0	31.6	27.2	13.8	4.9	-7.6	-26.2	-44.7	-76.0		-80.4	-84.0	-90.1	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	49.9	19.1	28.4	33.2	35.4	36.7	38.1	39.6	41.8	41.6	40.7	41.6	40.4	35.0	30.4	16.6	7.0	-4.7	-20.1	-35.7	-63.8		-68.2	-71.8	-77.9	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	54.0	22.8	32.1	36.9	39.2	40.4	41.9	43.5	45.8	45.7	44.9	45.9	44.8	39.6	34.6	21.5	10.0	-1.6	-13.7	-27.0	-52.9	-90.7	-57.3	-60.9	-67.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	47.6	16.4	25.6	30.4	32.7	34.0	35.4	37.0	39.4	39.4	38.6	39.6	38.4	33.1	29.3	17.2	9.1	-2.0	-16.9	-32.4	-58.1	-95.9	-62.5	-66.2	-72.2	

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	46.9	16.3	25.6	30.4	32.6	33.9	35.2	36.8	38.8	38.6	37.6	38.4	37.1	31.7	26.5	11.9	0.5	-12.3	-27.6	-43.1	-73.4		-77.8	-81.4	-87.5
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	18.2	-7.6	0.2	4.5	6.5	7.4	8.0	8.4	8.4	8.8	9.0	9.3	8.4	1.5	-3.0	-17.7	-26.2	-38.1	-57.9	-78.7					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	17.8	-7.9	0.0	4.3	6.2	7.1	7.6	8.0	7.9	8.2	8.4	8.7	7.7	0.8	-3.8	-18.6	-27.2	-39.4	-60.4	-81.9					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	13.0	-12.5	-4.7	-0.4	1.5	2.4	3.0	3.3	3.2	3.5	3.6	3.9	2.8	-4.1	-8.8	-23.9	-32.9	-45.4	-67.3	-88.6					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	16.0	-9.4	-1.6	2.7	4.6	5.5	6.1	6.4	6.2	6.4	6.6	6.8	5.8	-1.1	-6.6	-21.4	-33.5	-47.4	-69.6	-87.5					
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	50.0	20.7	30.0	34.8	37.0	38.2	39.5	40.8	42.2	41.6	40.2	40.8	39.1	33.3	28.2	13.0	3.1	-11.0	-33.2	-49.9	-83.8		-88.2	-91.8	-97.9
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	48.2	17.1	26.4	31.1	33.4	34.7	36.1	37.7	40.0	40.0	39.2	40.2	39.0	33.8	28.7	15.5	4.0	-7.7	-20.0	-33.4	-59.8	-98.6	-64.2	-67.8	-73.9
	CNEL	17.3	-10.3	-1.8	2.9	5.0	6.1	6.9	7.7	8.4	8.2	7.9	8.3	7.3	0.9	-4.4	-19.3	-31.0	-44.5	-63.6	-80.1					
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	32.2	4.7	13.3	17.9	20.0	21.1	21.9	22.7	23.3	23.0	22.6	23.0	21.8	15.4	10.0	-5.0	-17.1	-31.6	-52.0	-68.0					
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	33.3	5.6	14.2	18.8	20.9	22.0	22.9	23.7	24.4	24.2	23.9	24.3	23.2	16.9	11.7	-3.0	-14.1	-28.7	-49.2	-63.2	-95.0		-99.1		
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	26.6	1.5	9.0	13.1	15.1	16.1	16.9	17.7	18.4	17.5	16.3	16.3	14.8	8.2	2.6	-12.3	-24.3	-38.0	-53.8	-68.2	-99.0				
W. Shaw Ave - N. Grantland Ave to N.	CNEL	30.1	3.1	11.6	16.3	18.4	19.4	20.2	20.9	21.2	20.8	20.2	20.4	19.1	12.4	7.4	-7.9	-18.2	-32.1	-56.8	-76.8					
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	34.8	5.2	13.8	18.5	20.6	21.8	22.8	23.9	25.5	25.9	26.1	26.9	26.2	20.5	16.4	5.4	-1.7	-11.1	-22.1	-34.2	-52.3	-79.2	-56.4	-59.7	-64.9
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	35.2	5.1	13.7	18.3	20.5	21.7	22.8	24.0	25.7	26.2	26.6	27.6	26.9	21.5	16.7	6.6	-2.0	-12.4	-20.3	-28.0	-43.2	-66.2	-47.3	-50.7	-55.8
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	39.3	10.2	18.4	22.9	25.1	26.2	27.3	28.4	30.1	30.4	30.5	31.4	30.6	24.9	19.8	9.2	-0.5	-8.8	-15.2	-22.6	-38.0	-61.2	-42.0	-45.2	-50.2
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	41.2	12.6	20.8	25.3	27.4	28.6	29.6	30.7	32.2	32.3	32.3	33.0	32.2	26.3	22.1	11.1	4.0	-5.3	-15.8	-27.2	-45.2	-71.9	-49.2	-52.4	-57.4
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	25.7	0.0	7.5	11.6	13.6	14.6	15.6	16.4	17.5	16.8	15.8	16.0	14.6	8.3	3.5	-9.4	-18.0	-29.1	-43.3	-57.8	-83.0		-86.7	-89.8	-94.2
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	28.4	1.5	9.3	13.7	15.7	16.8	17.7	18.6	19.8	19.5	19.0	19.4	18.3	12.2	7.1	-5.5	-15.7	-28.4	-40.7	-51.1	-74.8		-78.7	-81.8	-86.5
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	23.4	-3.6	4.3	8.6	10.6	11.7	12.6	13.5	14.8	14.5	14.0	14.5	13.4	7.3	2.1	-11.1	-22.3	-33.4	-44.1	-55.5	-78.7		-82.5	-85.7	-90.4
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	31.9	3.2	11.7	16.4	18.5	19.7	20.6	21.6	22.8	22.9	22.9	23.6	22.8	16.7	12.3	-0.8	-9.2	-20.0	-33.9	-48.5	-71.8		-76.0	-79.3	-84.5

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	37.0	10.0	17.8	22.2	24.2	25.3	26.2	27.1	28.4	28.1	27.6	28.0	26.9	20.7	16.5	4.1	-3.6	-13.9	-27.1	-41.1	-63.8	-97.6	-67.7	-70.8	-75.5
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	38.9	9.7	17.6	22.0	24.0	25.0	25.9	26.9	28.1	29.4	30.6	31.6	31.4	26.1	21.4	17.7	8.2	1.6	-5.6	-9.9	-18.7	-30.6	-23.1	-26.1	-30.3
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	43.0	13.9	21.8	26.2	28.2	29.3	30.1	31.1	32.3	33.6	34.8	35.8	35.4	30.1	24.9	21.6	11.6	5.6	-0.9	-5.0	-13.7	-25.7	-18.0	-21.1	-25.3
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	37.3	9.2	17.1	21.4	23.4	24.4	25.2	26.0	27.1	28.1	29.0	29.8	29.1	23.2	17.8	10.8	4.0	-3.9	-12.1	-22.8	-34.4	-51.8	-38.7	-41.8	-46.0
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	31.3	4.2	12.1	16.4	18.4	19.3	20.0	20.7	21.3	22.0	22.6	23.2	22.5	16.1	12.1	0.1	-6.4	-15.9	-28.4	-45.2	-64.0	-91.3	-68.2	-71.3	-75.6
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	23.8	-2.4	5.5	9.8	11.7	12.6	13.2	13.7	13.9	14.4	14.7	15.1	14.3	7.5	3.7	-9.6	-16.6	-27.7	-44.7	-67.0	-93.5		-97.7		
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	72.9	34.6	43.3	48.1	50.3	51.6	52.7	54.0	55.5	57.4	59.2	61.0	62.6	64.0	65.4	64.2	62.9	62.2	59.4	56.7	52.7	47.5	46.6	43.8	41.2
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	68.7	30.4	39.1	43.9	46.1	47.4	48.6	49.9	51.7	53.7	55.9	58.0	59.3	59.2	60.3	59.7	58.8	57.4	55.0	52.2	48.4	43.9	41.4	38.6	36.1
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	43.5	10.0	18.6	23.4	25.6	26.8	27.8	28.9	30.3	32.0	33.7	35.5	36.5	34.5	33.8	30.8	25.4	17.7	6.6	-3.8	-19.7	-33.9	-24.7	-27.7	-31.1
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	35.6	4.1	12.7	17.4	19.6	20.7	21.6	22.5	23.5	24.8	26.2	27.6	28.3	25.7	24.5	20.6	14.2	4.6	-8.3	-33.0	-56.3	-82.5	-61.1	-64.2	-67.9
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	44.6	11.2	19.9	24.6	26.8	28.0	29.1	30.2	31.6	33.2	34.9	36.6	37.4	35.7	34.9	32.0	26.7	19.2	8.0	-1.4	-17.7	-31.6	-22.7	-25.7	-29.2
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	36.3	6.3	14.6	19.1	21.2	22.3	23.1	23.9	24.7	25.9	27.0	28.2	28.3	26.0	24.6	21.0	14.5	5.1	-7.5	-31.7	-54.0	-79.7	-58.6	-61.6	-65.5
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	32.6	4.3	12.6	17.1	19.1	20.1	20.9	21.4	21.8	22.6	23.3	24.1	23.9	21.0	19.1	14.8	7.1	-4.0	-19.8	-49.0	-82.5		-87.2	-90.2	-93.7
W. Sheilds Ave - N. Valentine Ave to N.	CNEL	27.7	1.2	9.4	13.9	15.9	16.9	17.5	17.8	17.5	17.8	18.1	18.4	17.5	13.2	10.7	5.0	-3.9	-16.7	-36.3	-69.4					
Shields Ave & Valentine Ave East	CNEL	22.1	-5.2	3.0	7.5	9.5	10.5	11.2	11.6	11.6	12.2	12.7	13.2	12.7	9.5	7.4	2.4	-6.1	-18.5	-37.2	-69.4					
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	42.9	12.5	20.8	25.4	27.5	28.7	29.9	31.2	33.3	33.9	34.4	35.4	34.9	29.9	24.9	21.8	13.3	7.6	2.6	0.1	-7.9	-20.0	-12.0	-15.2	-20.1
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	37.8	7.4	15.7	20.2	22.4	23.6	24.8	26.1	28.1	28.7	29.2	30.3	29.9	25.0	20.4	17.0	8.6	2.4	-3.3	-5.9	-13.9	-25.8	-17.9	-21.1	-26.1
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	31.2	1.8	10.1	14.6	16.7	17.9	19.0	20.2	22.0	22.3	22.6	23.4	22.6	17.1	12.2	6.3	-0.2	-8.2	-15.7	-23.2	-34.8	-52.3	-38.8	-42.1	-47.0
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	24.2	-4.1	4.1	8.5	10.6	11.8	12.7	13.8	15.2	15.3	15.2	15.8	15.0	8.9	5.6	-4.9	-11.4	-21.0	-33.0	-46.4	-64.9	-92.4	-68.9	-72.1	-77.1

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	40.9	11.5	19.8	24.3	26.4	27.6	28.7	29.9	31.7	32.1	32.3	33.2	32.4	26.8	21.9	16.0	9.7	1.8	-5.7	-13.1	-24.6	-41.9	-28.6	-31.8	-36.7
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	37.9	9.5	17.8	22.3	24.4	25.5	26.5	27.5	29.0	29.0	29.0	29.6	28.7	22.7	19.3	8.9	2.4	-7.1	-19.0	-32.2	-50.6	-77.8	-54.6	-57.8	-62.7
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	27.8	1.4	9.9	14.5	16.6	17.7	18.4	19.0	18.9	18.3	17.5	17.5	16.0	9.1	3.6	-12.2	-23.6	-38.7	-67.1	-88.5					
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	26.5	1.8	9.6	13.9	15.9	16.8	17.6	18.1	17.9	16.7	15.4	15.1	13.3	6.1	0.4	-15.6	-27.2	-42.3	-70.0	-90.5					
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	27.4	1.8	9.7	14.0	15.9	16.8	17.3	17.7	17.6	17.9	18.1	18.3	17.3	10.5	5.6	-8.9	-18.5	-30.8	-50.5	-72.0					
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	25.8	-0.8	7.4	11.9	13.9	14.9	15.5	15.9	15.8	16.3	16.6	16.9	15.9	9.2	4.6	-10.1	-18.8	-31.2	-52.1	-74.6					
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	27.7	0.6	8.9	13.4	15.4	16.4	17.0	17.5	17.7	18.2	18.7	19.1	18.3	11.6	7.7	-5.9	-13.2	-24.5	-42.2	-65.4	-92.8		-97.3		
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	32.9	5.9	13.4	17.5	19.5	20.6	21.5	22.5	23.7	23.3	22.8	23.8	23.9	20.3	18.2	13.1	5.4	-6.1	-22.0	-49.3	-79.1		-82.9	-85.9	-90.1
N. Polk Ave - North of W. Shaw Avenue	CNEL	20.9	-5.1	2.3	6.5	8.4	9.5	10.3	11.1	12.0	11.4	10.7	11.4	11.3	7.3	4.9	-0.8	-9.3	-22.2	-40.8	-71.4					
Bullard Ave - N Garfield to N. Grantland	CNEL	14.7	-9.5	-1.7	2.6	4.5	5.5	6.2	6.5	6.0	4.6	3.0	2.5	0.5	-7.1	-12.9	-29.4	-41.3	-57.6	-89.1						
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	19.4	-6.2	1.9	6.4	8.4	9.4	10.2	10.7	10.6	9.8	8.8	8.8	7.2	0.3	-5.9	-21.3	-35.4	-52.1	-76.3	-96.2					
N. Grantland Ave - W. Bullard Ave to Bar	CNEL	22.2	-2.0	5.9	10.1	12.1	13.0	13.7	14.1	13.5	12.1	10.5	10.0	7.9	0.3	-5.7	-22.3	-34.9	-51.5	-83.8						
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	30.0	2.5	10.7	15.2	17.3	18.3	19.0	19.6	20.0	20.7	21.3	21.8	21.1	14.7	10.3	-3.1	-11.0	-21.8	-37.1	-56.9	-80.8		-85.3	-88.5	-92.9
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	34.8	6.0	14.3	18.8	20.9	22.0	22.8	23.6	24.4	25.4	26.3	27.2	26.6	20.7	15.7	3.7	-5.8	-15.2	-24.8	-35.9	-52.2	-76.1	-56.7	-59.9	-64.3
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	31.0	2.5	11.1	15.7	17.9	19.0	19.9	20.8	22.0	22.0	21.9	22.6	21.7	15.7	10.7	-3.2	-13.5	-25.3	-39.8	-53.7	-79.2		-83.3	-86.7	-91.9
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	29.8	1.6	9.8	14.3	16.4	17.4	18.2	18.9	19.6	20.4	21.2	21.9	21.3	15.1	11.2	-0.6	-6.9	-16.5	-29.2	-47.1	-66.1	-93.7	-70.6	-73.8	-78.2
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	38.3	7.5	15.8	20.3	22.4	23.5	24.6	25.8	27.5	28.0	28.6	30.2	31.1	28.2	26.8	22.5	16.0	6.1	-6.7	-29.2	-47.3	-72.2	-51.3	-54.5	-59.3
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	33.5	6.6	14.1	18.2	20.1	21.0	21.8	22.5	23.5	24.3	25.1	25.7	24.9	18.8	13.4	6.4	-0.6	-8.5	-16.5	-26.5	-37.9	-55.2	-42.0	-45.0	-49.1
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	45.8	12.9	21.2	25.8	27.9	29.1	30.3	31.7	33.9	34.7	35.7	37.7	38.9	36.6	35.7	32.2	26.8	19.0	8.0	-0.7	-13.3	-25.2	-17.5	-20.6	-25.1

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	35.7	7.6	15.9	20.4	22.5	23.5	24.3	24.9	25.5	26.4	27.1	27.8	27.2	20.9	17.1	5.4	-1.0	-10.6	-23.4	-41.6	-60.7	-88.0	-65.1	-68.3	-72.7
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	41.1	11.8	20.1	24.6	26.7	27.8	28.7	29.6	30.6	31.8	32.9	33.8	33.2	27.4	22.1	15.2	8.4	0.5	-7.9	-19.2	-31.0	-48.5	-35.5	-38.7	-43.0
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	36.4	8.7	16.6	21.0	23.0	24.1	25.1	26.1	27.7	27.5	27.3	27.8	26.9	20.9	16.6	5.7	-1.6	-10.7	-20.9	-31.7	-49.5	-76.1	-53.3	-56.4	-61.1
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	27.3	0.6	8.4	12.8	14.8	15.8	16.8	17.6	18.8	18.4	17.8	18.2	17.0	10.8	5.7	-8.0	-18.3	-29.7	-42.9	-55.7	-80.8		-84.7	-87.8	-92.5
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	40.3	10.0	18.3	22.8	24.9	26.1	27.0	28.0	29.4	30.7	32.0	33.2	32.9	27.6	22.5	19.0	8.9	3.0	-3.8	-8.5	-17.6	-30.0	-22.2	-25.3	-29.6
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	75.5	38.6	47.0	51.5	53.7	54.9	56.1	57.3	59.0	60.7	61.7	64.0	67.0	66.8	67.2	66.3	65.4	64.0	61.5	58.9	54.8	50.6	49.4	46.6	43.2
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	44.8	14.4	22.8	27.3	29.4	30.5	31.5	32.5	33.9	35.3	36.6	37.7	37.5	32.2	27.1	23.9	13.9	7.8	1.1	-3.4	-12.5	-24.7	-17.0	-20.2	-24.5
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	36.0	8.2	16.1	20.4	22.4	23.4	24.2	24.9	25.8	26.7	27.5	28.3	27.6	21.6	16.4	5.2	-4.7	-13.6	-22.3	-32.6	-48.3	-71.7	-52.6	-55.7	-60.0
N Brawley Ave - N. Parkway Drive to W. D	CNEL	30.4	4.1	11.9	16.2	18.1	19.1	19.7	20.2	20.4	21.0	21.4	21.8	21.0	14.5	9.2	-4.9	-15.8	-28.3	-44.6	-60.0	-85.3		-89.6	-92.7	-97.1
N Brawley Ave - W Shields Avenue to W. C	CNEL	32.3	5.8	13.6	17.9	19.9	20.8	21.5	22.0	22.4	23.0	23.5	23.9	23.1	16.8	11.7	-1.7	-11.4	-24.3	-40.2	-54.1	-78.0		-82.3	-85.4	-89.7
W. Sheilds Ave - West of N. Grantland Av	CNEL	30.6	0.9	9.5	14.2	16.3	17.4	18.2	18.9	19.3	20.3	21.3	22.5	22.9	19.6	17.9	13.3	5.7	-5.7	-21.7	-51.2	-85.9		-91.0	-93.9	-97.2
N. Grantland Ave - W Shields Avenue to W	CNEL	30.9	2.1	10.7	15.3	17.5	18.6	19.6	20.6	21.8	22.0	22.0	22.7	21.9	16.0	11.2	-1.7	-11.3	-23.5	-37.4	-49.3	-73.2		-77.4	-80.7	-85.9
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	28.3	-0.5	7.7	12.2	14.3	15.4	16.2	17.0	18.0	19.0	20.0	20.8	20.3	14.4	9.4	-2.0	-10.3	-20.8	-30.6	-41.5	-57.5	-81.1	-62.0	-65.2	-69.5
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	39.1	8.7	17.0	21.6	23.7	24.8	25.8	26.8	28.1	29.5	30.8	31.9	31.7	26.5	21.7	17.9	8.2	1.7	-5.6	-10.5	-19.7	-32.1	-24.3	-27.5	-31.7
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	68.0	31.4	39.8	44.3	46.5	47.8	49.0	50.4	52.4	53.7	55.4	57.6	58.8	58.6	59.4	58.8	57.8	56.4	54.2	51.9	48.5	44.4	42.4	39.6	36.3
N. Cornelia Ave - W Shields Avenue to W.	CNEL	43.4	14.2	22.2	26.5	28.5	29.6	30.5	31.4	32.7	33.9	35.1	36.1	35.8	30.5	25.7	21.9	12.4	5.8	-1.4	-5.7	-14.6	-26.6	-18.9	-22.0	-26.1
N. Blythe Ave - W Shields Avenue to W. C	CNEL	36.1	8.3	16.2	20.5	22.5	23.5	24.2	25.0	25.9	26.8	27.6	28.3	27.7	21.7	16.6	5.4	-3.0	-13.4	-22.9	-33.1	-48.8	-72.1	-53.1	-56.2	-60.5
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	33.7	6.0	14.2	18.7	20.8	21.8	22.5	23.1	23.6	24.3	25.0	25.6	25.0	18.7	13.6	-0.3	-11.1	-23.0	-37.7	-52.9	-76.8		-81.2	-84.4	-88.9
N. Valentine Ave - N. Parkway Drive to W	CNEL	24.5	-1.0	6.8	11.1	13.0	13.9	14.5	14.8	14.6	14.9	15.1	15.3	14.3	7.5	1.9	-12.8	-25.3	-39.4	-60.5	-78.2					

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Valentine Ave - W Shields Avenue to W	CNEL	24.1	-1.3	6.5	10.8	12.7	13.6	14.2	14.5	14.3	14.6	14.7	14.9	13.8	7.1	1.7	-12.9	-24.6	-39.2	-62.7	-79.2					
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	34.3	7.0	15.3	19.7	21.8	22.9	23.8	24.6	25.6	25.3	24.9	25.3	24.2	17.7	14.2	1.6	-5.6	-16.8	-33.5	-52.2	-78.6		-82.6	-85.8	-90.8
W. Clinton Ave - N. Valentine Ave to N.	CNEL	31.7	5.5	13.7	18.2	20.2	21.2	22.0	22.7	23.1	22.5	21.7	21.8	20.4	13.5	9.6	-4.5	-12.7	-25.8	-48.2	-71.0					
N. Marks Ave - W Princeton Avenue to W.	CNEL	25.5	1.0	8.9	13.1	15.0	15.9	16.3	16.5	15.6	15.5	15.3	15.2	13.8	6.6	0.6	-14.8	-28.4	-44.8	-73.2	-94.2					
N. Marks Ave - W Princeton Avenue to W.	CNEL	22.8	-1.8	6.0	10.3	12.2	13.1	13.5	13.7	12.9	12.9	12.7	12.7	11.2	4.1	-1.4	-16.9	-28.9	-45.0	-76.7	-94.5					
W. Clinton Ave - N. Marks Avenue to SR99	CNEL	30.1	4.6	12.8	17.2	19.3	20.3	21.0	21.5	21.3	20.4	19.3	19.1	17.4	10.1	5.9	-8.5	-17.9	-32.7	-59.6	-87.5					
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	17.3	-8.0	0.2	4.6	6.6	7.6	8.4	8.8	8.5	7.6	6.4	6.2	4.5	-2.6	-9.0	-24.6	-39.3	-56.7	-82.6						
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	26.3	0.9	8.7	13.0	15.0	16.0	16.8	17.4	17.8	16.9	15.9	15.8	14.3	7.5	1.9	-13.5	-25.7	-40.2	-61.2	-77.9					
N. Grantland Ave - W. Dakota Avenue to W	CNEL	32.2	3.3	11.9	16.6	18.7	19.9	20.8	21.8	23.1	23.2	23.3	24.0	23.2	17.3	12.5	-1.0	-11.2	-22.4	-35.1	-47.8	-71.4		-75.6	-78.9	-84.1
Receive 9 Fl G LrD,lim dB(A LrD 77.5 dB(A																										
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	16.6	-8.2	-0.4	3.9	5.8	6.8	7.5	8.1	8.0	6.9	5.6	5.4	3.6	-3.6	-9.1	-25.1	-36.3	-51.2	-78.8	-98.9					
SR99 - W. Shields Avenue to W. Clinton A	CNEL	47.8	16.9	26.2	31.0	33.2	34.5	35.9	37.4	39.6	39.5	38.6	39.5	38.2	32.9	28.0	13.7	3.3	-9.1	-23.8	-38.1	-66.6		-71.0	-74.7	-80.7
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	57.0	24.6	33.9	38.7	41.0	42.4	43.9	45.7	48.5	48.7	48.3	49.5	48.5	43.6	39.4	29.1	20.8	11.8	2.8	-7.2	-25.0	-51.3	-29.4	-33.1	-39.1
SR99 - W. Shields Avenue to W. Clinton A	CNEL	53.4	21.6	30.9	35.7	38.0	39.3	40.7	42.4	44.9	45.0	44.3	45.5	44.7	40.1	37.3	28.6	20.9	8.3	-7.6	-21.5	-46.7	-79.6	-51.1	-54.7	-60.8
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	54.8	22.1	31.4	36.2	38.5	39.8	41.4	43.2	46.1	46.4	46.1	47.4	46.4	41.6	37.6	29.0	21.6	12.8	4.0	-5.4	-22.0	-46.6	-26.4	-30.0	-36.1
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	57.1	24.3	33.6	38.4	40.7	42.1	43.6	45.5	48.4	48.8	48.5	49.8	48.8	44.1	39.5	31.2	23.3	15.0	7.5	-0.8	-16.5	-39.6	-20.9	-24.5	-30.6
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	55.9	24.0	33.3	38.1	40.4	41.7	43.2	44.9	47.4	47.5	47.0	48.1	47.2	42.4	38.3	28.5	19.9	7.6	-3.9	-12.8	-32.6	-60.5	-37.0	-40.6	-46.7
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	52.6	19.9	29.2	34.0	36.3	37.7	39.2	41.0	43.9	44.2	43.8	45.1	44.1	39.2	35.6	26.9	19.7	10.8	1.4	-8.6	-25.4	-50.4	-29.8	-33.5	-39.5
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	45.9	15.7	25.0	29.8	32.0	33.2	34.6	36.0	37.9	37.6	36.5	37.2	35.8	30.2	25.3	10.1	0.4	-12.6	-31.6	-48.2	-80.4		-84.9	-88.5	-94.6

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	26.6	-1.4	6.5	10.8	12.8	13.8	14.6	15.4	16.4	17.4	18.2	19.0	18.3	12.3	6.7	-1.7	-10.1	-18.4	-26.9	-37.7	-51.8	-72.9	-56.1	-59.1	-63.4
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	25.9	-2.0	5.9	10.2	12.2	13.2	14.0	14.7	15.6	16.6	17.4	18.2	17.5	11.4	6.4	-3.4	-11.4	-20.1	-29.5	-41.3	-56.6	-79.4	-60.8	-63.9	-68.2
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	20.9	-6.8	1.1	5.4	7.4	8.4	9.1	9.9	10.7	11.7	12.5	13.2	12.5	6.4	1.6	-9.2	-17.0	-25.9	-35.9	-48.3	-64.4	-88.5	-68.7	-71.8	-76.1
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	23.9	-3.8	4.1	8.4	10.4	11.4	12.1	12.9	13.7	14.6	15.4	16.1	15.4	9.4	4.3	-7.6	-17.0	-26.2	-35.6	-46.7	-63.2	-88.1	-67.5	-70.6	-74.9
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	47.5	18.6	27.8	32.6	34.8	36.0	37.2	38.5	39.8	39.0	37.5	38.0	36.2	30.1	25.3	10.2	0.6	-13.6	-37.8	-58.9	-96.2				
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	54.4	21.5	30.9	35.7	38.0	39.3	40.9	42.7	45.7	46.0	45.8	47.1	46.2	41.4	36.4	27.0	17.5	9.7	3.8	-3.8	-19.5	-42.7	-23.9	-27.5	-33.6
	CNEL	25.3	-4.7	3.9	8.6	10.7	11.9	13.0	14.2	15.9	16.3	16.7	17.6	17.0	11.3	6.7	-4.5	-12.9	-21.7	-30.0	-39.1	-55.5	-80.4	-59.7	-63.0	-68.2
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	29.1	2.7	11.3	15.9	18.0	19.0	19.8	20.3	20.3	19.6	18.8	18.8	17.3	10.4	4.8	-11.0	-22.8	-38.1	-66.7	-87.4					
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	31.2	4.2	12.7	17.3	19.5	20.5	21.3	22.0	22.3	21.9	21.3	21.5	20.2	13.5	8.5	-6.6	-16.6	-30.4	-54.9	-75.9					
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	25.3	0.6	8.0	12.2	14.1	15.1	15.9	16.6	17.0	15.9	14.6	14.5	12.8	6.0	0.2	-15.0	-27.6	-42.2	-61.2	-77.0					
W. Shaw Ave - N. Grantland Ave to N.	CNEL	25.6	-0.2	8.3	12.9	15.0	16.0	16.7	17.2	16.6	15.8	14.8	14.6	12.8	5.6	-0.3	-16.7	-29.2	-45.7	-78.9						
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	28.7	1.0	9.5	14.1	16.3	17.4	18.2	19.0	19.8	19.6	19.3	19.7	18.6	12.2	7.7	-7.0	-15.8	-28.2	-47.6	-65.6	-95.4		-99.6		
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	29.9	1.2	9.8	14.4	16.6	17.7	18.7	19.6	20.9	21.0	20.9	21.6	20.8	14.7	10.6	-2.3	-10.1	-20.8	-35.1	-50.6	-74.2		-78.3	-81.7	-86.9
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	37.1	8.5	16.7	21.2	23.4	24.5	25.5	26.6	28.1	28.2	28.2	28.9	28.1	22.2	18.0	7.0	-0.2	-9.5	-20.3	-31.8	-49.8	-76.7	-53.8	-57.0	-61.9
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	43.2	14.1	22.4	26.9	29.1	30.2	31.3	32.4	34.1	34.4	34.5	35.3	34.6	29.0	24.0	13.8	4.9	-5.1	-12.3	-19.6	-34.7	-57.8	-38.7	-41.9	-46.9
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	21.7	-2.8	4.6	8.8	10.7	11.7	12.5	13.1	13.5	12.3	10.9	10.7	9.0	2.0	-3.3	-18.9	-29.4	-43.0	-64.5	-82.0					
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	25.3	-0.7	7.1	11.4	13.4	14.5	15.3	16.1	16.8	16.2	15.4	15.6	14.2	7.7	2.8	-11.7	-21.1	-33.4	-51.1	-67.6	-97.1				
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	21.6	-4.9	3.0	7.3	9.3	10.3	11.2	12.0	13.0	12.6	11.9	12.2	11.0	4.7	-0.6	-14.7	-25.9	-38.3	-52.1	-65.3	-92.2		-96.0	-99.2	
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	26.1	-0.7	7.8	12.4	14.5	15.6	16.4	17.0	17.2	16.7	16.1	16.2	14.9	8.1	3.0	-12.6	-23.0	-37.2	-63.1	-83.2					
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	41.7	13.5	21.4	25.8	27.8	29.0	30.0	31.1	32.8	32.9	32.8	33.4	32.5	26.8	21.5	11.2	1.5	-6.4	-12.1	-19.0	-34.0	-56.9	-37.9	-41.0	-45.7

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	29.1	2.1	9.9	14.3	16.2	17.2	17.9	18.5	19.1	19.8	20.4	21.0	20.3	13.9	9.9	-1.9	-8.3	-17.8	-30.4	-47.8	-66.7	-94.3	-71.0	-74.1	-78.4
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	38.0	9.8	17.7	22.1	24.1	25.1	25.9	26.7	27.7	28.7	29.6	30.4	29.7	23.8	18.5	11.9	5.0	-3.0	-11.4	-22.8	-34.5	-52.1	-38.8	-41.8	-46.0
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	42.2	13.0	21.0	25.3	27.3	28.4	29.3	30.2	31.5	32.7	33.9	34.9	34.6	29.3	24.5	20.8	11.1	4.7	-2.4	-6.7	-15.6	-27.5	-19.9	-22.9	-27.1
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	40.9	11.8	19.7	24.1	26.1	27.1	28.0	29.0	30.2	31.5	32.6	33.6	33.3	27.9	22.7	19.3	9.3	3.4	-3.0	-7.2	-15.9	-28.0	-20.2	-23.3	-27.5
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	32.7	4.4	12.3	16.6	18.6	19.6	20.5	21.3	22.4	23.5	24.4	25.2	24.5	18.7	13.1	7.2	0.6	-7.2	-15.2	-25.8	-37.2	-54.5	-41.5	-44.6	-48.8
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	43.9	10.2	18.8	23.6	25.8	27.0	28.0	29.1	30.6	32.2	34.0	35.9	37.1	35.0	34.3	31.1	25.7	17.9	6.8	-4.0	-20.0	-34.3	-25.0	-28.0	-31.3
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	36.1	4.7	13.4	18.1	20.3	21.4	22.3	23.2	24.1	25.4	26.8	28.2	28.7	26.3	25.0	21.2	14.8	5.2	-7.7	-32.4	-55.8	-82.1	-60.6	-63.7	-67.4
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	31.6	2.1	10.7	15.4	17.5	18.6	19.4	20.0	20.5	21.4	22.4	23.4	23.5	20.5	18.8	14.3	6.6	-4.7	-20.7	-50.2	-84.7		-89.7	-92.7	-96.1
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	26.8	-1.3	7.3	11.9	14.1	15.1	15.8	16.3	16.1	16.7	17.3	18.0	17.9	14.2	12.0	6.5	-2.4	-15.6	-35.5	-68.9					
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	69.9	31.6	40.4	45.1	47.4	48.7	49.9	51.2	53.0	55.0	57.2	59.4	60.7	60.5	61.5	61.0	60.1	58.7	56.2	53.4	49.6	45.1	42.6	39.9	37.3
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	73.4	36.6	44.9	49.5	51.6	52.8	53.9	55.0	56.3	58.0	59.6	61.6	64.1	64.8	65.7	64.2	63.6	62.2	59.8	56.8	52.7	47.4	47.0	44.3	41.6
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	44.8	12.3	20.6	25.2	27.3	28.4	29.4	30.4	31.8	33.3	35.0	36.8	38.0	35.7	34.9	31.6	26.3	18.7	7.5	-1.8	-18.1	-31.8	-22.9	-25.8	-29.2
W. Sheilds Ave - N. Valentine Ave to N.	CNEL	36.5	6.7	14.9	19.5	21.5	22.6	23.4	24.2	25.0	26.1	27.3	28.5	29.0	25.5	24.0	19.7	13.4	3.7	-9.0	-33.3	-56.7	-83.9	-61.3	-64.3	-68.1
Shields Ave & Valentine Ave East	CNEL	32.0	0.8	9.1	13.7	15.8	16.9	17.7	18.6	19.7	21.0	22.5	24.1	25.0	22.3	21.1	17.3	11.2	2.0	-9.9	-33.6	-54.7	-79.1	-59.3	-62.3	-66.0
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	38.0	8.6	16.9	21.4	23.6	24.7	25.8	27.0	28.8	29.2	29.4	30.3	29.5	23.9	19.0	13.1	6.6	-1.3	-8.8	-16.4	-28.0	-45.5	-32.0	-35.2	-40.1
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	28.4	0.0	8.2	12.7	14.8	16.0	16.9	18.0	19.4	19.5	19.4	20.0	19.2	13.1	9.8	-0.5	-6.9	-16.4	-28.5	-42.2	-60.7	-88.2	-64.7	-67.9	-72.9
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	22.7	-4.5	3.7	8.2	10.3	11.3	12.2	13.1	14.0	13.7	13.3	13.7	12.6	6.1	2.7	-9.9	-17.0	-28.2	-45.1	-64.0	-90.4		-94.4	-97.6	
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	17.2	-9.0	-0.8	3.6	5.7	6.7	7.5	8.1	8.5	7.9	7.1	7.1	5.7	-1.2	-5.0	-19.0	-27.2	-40.3	-62.8	-86.1					
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	45.7	15.3	23.6	28.1	30.2	31.5	32.6	33.9	36.0	36.6	37.1	38.2	37.8	32.8	28.2	24.9	16.4	10.2	4.6	2.1	-5.9	-17.8	-9.9	-13.2	-18.1

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	47.3	17.0	25.3	29.8	32.0	33.2	34.3	35.7	37.7	38.3	38.8	39.9	39.4	34.4	29.5	26.4	17.8	12.1	7.1	4.7	-3.3	-15.3	-7.3	-10.5	-15.4
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	22.6	-1.4	6.4	10.6	12.5	13.3	13.8	13.8	12.5	12.3	11.9	11.5	9.9	2.3	-3.3	-19.3	-30.9	-46.4	-77.2						
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	21.9	-3.3	4.9	9.3	11.3	12.2	12.7	12.9	11.9	11.9	11.7	11.7	10.3	3.0	-2.6	-18.5	-30.4	-45.7	-76.9						
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	24.4	-1.5	6.7	11.2	13.1	14.1	14.7	15.0	14.5	14.7	14.8	14.9	13.8	6.7	1.8	-13.6	-23.8	-37.5	-63.6	-86.4					
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	29.7	4.6	12.1	16.2	18.2	19.2	20.0	20.8	21.5	20.5	19.3	19.3	17.8	11.0	6.3	-8.5	-17.1	-29.3	-47.4	-63.8	-93.4		-97.1		
N. Polk Ave - North of W. Shaw Avenue	CNEL	18.5	-6.1	1.4	5.5	7.4	8.4	9.2	9.9	10.2	9.1	7.7	7.5	5.7	-1.3	-6.2	-21.6	-30.9	-44.3	-67.4	-85.7					
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	14.7	-10.4	-2.2	2.2	4.2	5.2	5.9	6.3	5.8	4.8	3.5	3.2	1.3	-5.9	-12.5	-28.4	-43.5	-61.4	-88.5						
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	24.7	-1.0	7.2	11.6	13.6	14.6	15.1	15.4	14.8	15.0	15.0	15.2	14.0	6.9	1.9	-13.3	-23.4	-37.2	-63.2	-88.1					
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	27.0	0.6	8.8	13.3	15.3	16.3	16.9	17.3	17.1	17.4	17.7	18.0	17.1	10.3	4.8	-9.9	-22.5	-37.0	-59.7	-78.0					
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	25.0	-1.5	7.1	11.7	13.8	14.8	15.6	16.2	16.1	15.5	14.7	14.8	13.4	6.5	0.5	-15.0	-28.7	-44.8	-70.7	-91.3					
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	24.8	-1.9	6.3	10.8	12.8	13.8	14.4	14.9	14.8	15.3	15.6	16.0	15.1	8.4	3.6	-10.9	-20.2	-32.6	-52.7	-74.9					
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	32.9	5.1	13.4	17.9	19.9	21.0	22.0	22.9	24.1	24.0	23.7	24.2	23.3	17.1	12.7	-0.2	-8.4	-19.1	-32.9	-47.3	-70.6		-74.6	-77.8	-82.7
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	25.9	0.9	8.3	12.4	14.2	15.0	15.6	16.0	16.1	16.5	16.7	17.0	15.9	9.2	4.5	-8.8	-17.1	-28.3	-44.5	-64.6	-90.5		-94.5	-97.5	
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	36.4	7.9	16.1	20.6	22.7	23.8	24.9	25.9	27.4	27.6	27.5	28.3	27.4	21.6	17.2	5.9	-1.6	-11.0	-21.4	-32.5	-50.6	-77.5	-54.6	-57.8	-62.7
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	35.7	7.6	15.8	20.4	22.4	23.4	24.2	24.9	25.5	26.3	27.0	27.7	27.1	20.8	16.9	5.2	-1.1	-10.8	-23.7	-42.0	-61.2	-88.7	-65.7	-68.9	-73.3
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	41.0	11.7	20.0	24.5	26.6	27.7	28.6	29.4	30.5	31.7	32.7	33.6	33.1	27.3	22.0	15.2	8.2	0.1	-8.3	-19.9	-31.8	-49.5	-36.3	-39.5	-43.7
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	44.7	13.7	21.6	26.0	28.1	29.3	30.4	31.7	33.8	34.3	34.9	36.4	37.0	35.0	34.1	30.8	25.4	17.9	7.2	-0.6	-11.5	-23.6	-15.4	-18.5	-23.0
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	32.7	4.6	12.5	16.8	18.9	20.0	21.1	22.2	23.9	23.9	23.8	24.4	23.5	17.8	12.6	1.8	-8.0	-16.0	-21.9	-29.2	-44.6	-68.2	-48.5	-51.6	-56.3
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	28.9	1.2	9.4	13.9	16.0	17.0	17.7	18.3	18.8	19.5	20.2	20.8	20.1	13.9	8.8	-5.1	-15.9	-27.9	-42.9	-58.1	-82.1		-86.5	-89.7	-94.2

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	37.9	8.9	17.1	21.6	23.8	24.9	26.0	27.1	28.8	29.1	29.2	30.0	29.2	23.6	18.5	7.7	-2.0	-10.4	-16.9	-24.5	-40.0	-63.4	-44.0	-47.2	-52.2
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	44.5	14.2	22.6	27.1	29.2	30.4	31.3	32.3	33.7	35.0	36.3	37.4	37.2	31.9	26.7	23.1	13.1	7.1	0.4	-4.3	-13.5	-25.9	-18.1	-21.2	-25.5
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	71.9	36.6	44.6	49.0	51.0	52.1	53.1	54.1	55.4	57.0	58.5	60.2	62.3	63.1	64.1	62.6	61.7	60.6	58.1	55.4	51.5	46.4	46.1	43.4	40.7
N Brawley Ave - N. Parkway Drive to W. D	CNEL	38.4	10.1	18.0	22.4	24.3	25.4	26.2	27.0	28.1	29.1	30.0	30.8	30.2	24.3	18.8	12.8	6.1	-1.7	-10.0	-21.2	-32.7	-50.2	-37.0	-40.1	-44.3
N Brawley Ave - W Shields Avenue to W. C	CNEL	43.7	14.5	22.5	26.8	28.8	29.9	30.8	31.7	33.0	34.2	35.4	36.4	36.1	30.8	26.0	22.4	12.6	6.2	-0.8	-5.1	-13.9	-25.8	-18.2	-21.3	-25.4
W. Sheilds Ave - West of N. Grantland Av	CNEL	23.5	-3.4	5.2	9.8	11.9	12.9	13.5	13.8	13.1	13.4	13.6	13.9	13.5	9.2	6.5	0.2	-10.0	-25.2	-48.8	-86.3					
N. Grantland Ave - W Shields Avenue to W	CNEL	24.3	-2.3	6.2	10.8	12.9	13.9	14.7	15.3	15.4	14.9	14.2	14.2	12.8	6.1	0.5	-15.0	-27.6	-43.8	-72.8	-89.0					
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	20.0	-6.4	1.8	6.2	8.2	9.2	9.8	10.2	10.1	10.5	10.8	11.1	10.1	3.5	-1.8	-16.2	-27.5	-42.4	-66.4	-83.8					
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	27.7	0.1	8.3	12.8	14.8	15.9	16.6	17.2	17.6	18.4	19.0	19.6	18.9	12.7	7.6	-5.7	-15.4	-28.4	-44.8	-59.4	-83.7		-88.2	-91.3	-95.8
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	36.7	7.7	15.9	20.4	22.6	23.7	24.8	25.9	27.6	27.9	28.0	28.8	28.0	22.5	17.6	7.2	-1.5	-11.8	-19.2	-26.6	-41.8	-65.1	-45.8	-49.0	-53.9
N. Cornelia Ave - W Shields Avenue to W.	CNEL	43.4	14.2	22.2	26.5	28.5	29.6	30.5	31.4	32.7	33.9	35.0	36.1	35.8	30.4	25.7	21.8	12.2	5.7	-1.5	-5.9	-14.9	-27.0	-19.2	-22.2	-26.4
N. Blythe Ave - W Shields Avenue to W. C	CNEL	67.4	32.2	40.1	44.5	46.6	47.7	48.8	49.9	51.5	53.3	55.2	57.1	58.2	57.8	58.6	58.0	57.0	55.7	53.5	50.9	47.5	43.3	41.1	38.5	35.7
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	45.2	14.8	23.1	27.7	29.8	30.9	31.9	32.9	34.2	35.6	36.9	38.1	37.8	32.6	27.5	24.2	14.2	8.2	1.4	-3.1	-12.2	-24.4	-16.7	-19.9	-24.2
N. Valentine Ave - N. Parkway Drive to W	CNEL	32.8	5.0	12.9	17.2	19.2	20.2	21.0	21.7	22.6	23.6	24.4	25.1	24.5	18.5	13.2	2.2	-7.7	-16.5	-25.0	-35.0	-50.6	-73.8	-54.8	-57.9	-62.2
N. Valentine Ave - W Shields Avenue to W	CNEL	32.4	4.6	12.5	16.9	18.8	19.8	20.6	21.3	22.2	23.1	24.0	24.7	24.0	18.0	12.9	1.7	-6.9	-17.1	-26.4	-36.7	-52.4	-75.5	-56.6	-59.7	-64.0
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	42.8	13.4	21.7	26.2	28.3	29.5	30.6	31.8	33.6	34.0	34.2	35.1	34.3	28.7	23.8	17.9	11.6	3.7	-3.7	-11.0	-22.4	-39.7	-26.4	-29.7	-34.6
W. Clinton Ave - N. Valentine Ave to N.	CNEL	38.8	10.4	18.6	23.1	25.2	26.4	27.4	28.4	29.8	29.9	29.9	30.5	29.6	23.6	20.2	9.6	3.2	-6.3	-18.1	-31.1	-49.3	-76.3	-53.3	-56.5	-61.5
N. Marks Ave - W Princeton Avenue to W.	CNEL	32.1	5.5	13.3	17.7	19.6	20.5	21.2	21.7	22.1	22.7	23.2	23.7	22.9	16.5	11.3	-2.5	-13.1	-25.2	-40.4	-54.8	-78.6		-82.9	-86.0	-90.3
N. Marks Ave - W Princeton Avenue to W.	CNEL	29.7	2.9	10.8	15.1	17.0	18.0	18.7	19.2	19.7	20.3	20.9	21.4	20.6	14.3	9.4	-4.1	-13.0	-24.9	-39.7	-54.0	-76.9		-81.1	-84.2	-88.6

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
W. Clinton Ave - N. Marks Avenue to SR99	CNEL	36.1	8.6	16.9	21.3	23.4	24.5	25.4	26.3	27.3	27.1	26.7	27.2	26.1	19.7	16.4	4.2	-2.8	-13.8	-30.2	-49.0	-75.0		-79.0	-82.2	-87.2	
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	19.8	-4.5	3.3	7.6	9.6	10.5	11.2	11.6	11.0	9.7	8.1	7.6	5.6	-1.8	-8.5	-24.5	-39.6	-57.4	-84.3							
N. Grantland Ave - W. Dakota Avenue to W	CNEL	25.5	-1.1	7.4	12.0	14.1	15.2	16.0	16.6	16.6	16.1	15.4	15.6	14.2	7.4	1.5	-13.9	-27.4	-43.1	-67.7	-87.8						
Receive 10 Fl	G	LrD,lim		dB(A	LrD	69.7	dB(A																				
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	20.0	-5.9	1.9	6.3	8.2	9.3	10.1	10.8	11.5	10.9	10.0	10.1	8.7	2.3	-3.0	-17.5	-28.0	-42.8	-63.2	-75.7						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	40.6	12.6	21.8	26.6	28.8	29.9	31.1	32.2	32.8	31.7	29.8	29.9	27.7	21.2	15.4	-1.0	-13.0	-29.8	-60.7	-87.3						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	43.1	14.8	24.0	28.8	31.0	32.2	33.3	34.5	35.3	34.3	32.6	32.8	30.7	24.4	18.3	2.0	-10.9	-27.5	-56.1	-79.4						
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	47.6	18.7	28.0	32.7	34.9	36.1	37.4	38.6	39.8	39.0	37.5	37.9	36.0	30.0	23.9	8.3	-5.0	-20.9	-45.3	-66.5						
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	40.4	11.8	21.0	25.8	28.0	29.2	30.4	31.6	32.7	31.9	30.2	30.5	28.6	22.4	17.4	2.2	-8.1	-23.3	-50.5	-75.7						
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	42.0	13.3	22.5	27.3	29.5	30.7	31.9	33.1	34.2	33.4	31.9	32.2	30.3	24.3	18.0	2.3	-11.9	-28.6	-52.2	-74.0						
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	12.0	-11.8	-4.0	0.2	2.1	2.9	3.3	3.3	1.9	1.5	1.0	0.6	-1.2	-9.0	-14.8	-31.3	-43.4	-59.7	-95.8							
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	11.7	-11.9	-4.2	0.1	2.0	2.8	3.2	3.1	1.6	1.1	0.5	0.1	-1.7	-9.5	-15.8	-32.3	-46.0	-63.2								
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	7.1	-16.5	-8.7	-4.4	-2.6	-1.7	-1.4	-1.4	-3.1	-3.5	-4.2	-4.6	-6.5	-14.3	-20.8	-37.3	-51.4	-68.8								
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	45.2	16.9	26.1	30.9	33.1	34.3	35.5	36.6	37.4	36.5	34.8	35.0	32.9	26.7	20.7	4.9	-7.2	-23.1	-50.7	-75.9						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	41.1	12.5	21.8	26.5	28.7	29.9	31.1	32.3	33.3	32.5	30.8	31.1	29.2	23.1	16.7	1.0	-13.5	-30.5	-54.9	-77.3						
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	29.9	3.2	11.8	16.4	18.5	19.5	20.3	20.9	21.0	20.5	19.8	20.0	18.6	11.9	5.8	-9.4	-23.5	-39.4	-62.3	-83.2						
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	29.8	3.3	11.8	16.4	18.5	19.6	20.3	20.9	20.9	20.3	19.5	19.6	18.2	11.3	5.2	-10.2	-24.3	-40.7	-64.9	-86.3						
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	22.7	-1.2	6.2	10.3	12.2	13.2	13.9	14.4	14.2	12.8	11.1	10.6	8.5	1.1	-4.1	-19.8	-30.0	-44.8	-72.1	-95.6						
W. Shaw Ave - N. Grantland Ave to N.	CNEL	29.2	2.5	11.0	15.6	17.8	18.8	19.6	20.2	20.3	19.8	19.1	19.2	17.8	11.0	5.3	-10.0	-23.1	-39.5	-66.4	-83.8						

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	32.3	3.4	12.0	16.6	18.8	19.9	20.9	21.9	23.2	23.3	23.4	24.1	23.4	17.5	12.4	-0.9	-12.0	-23.3	-35.2	-47.6	-71.1		-75.3	-78.6	-83.8
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	29.3	0.8	9.4	14.0	16.1	17.3	18.2	19.1	20.3	20.3	20.2	20.9	20.0	13.9	9.5	-3.4	-11.9	-22.9	-38.3	-55.1	-80.7		-84.8	-88.1	-93.3
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	31.5	4.6	12.8	17.2	19.3	20.4	21.2	22.0	22.8	22.4	21.9	22.3	21.1	14.7	9.8	-4.5	-13.9	-26.1	-44.0	-61.3	-90.6		-94.6	-97.8	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	33.3	7.1	15.3	19.8	21.8	22.8	23.6	24.3	24.7	24.1	23.3	23.4	22.0	15.3	10.1	-5.3	-15.6	-29.3	-52.2	-70.9					
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	23.4	-1.6	5.8	9.9	11.9	12.9	13.8	14.5	15.2	14.2	13.0	13.0	11.5	4.9	-0.8	-15.5	-28.1	-41.5	-56.9	-72.4					
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	24.1	-1.5	6.3	10.6	12.6	13.6	14.4	15.1	15.6	14.9	14.0	14.0	12.6	6.0	0.3	-14.7	-27.3	-41.4	-59.4	-76.0					
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	18.0	-7.3	0.5	4.8	6.8	7.8	8.5	9.2	9.5	8.6	7.5	7.5	5.9	-1.1	-5.7	-20.8	-29.8	-43.2	-66.8	-87.3					
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	32.4	3.5	12.1	16.8	18.9	20.1	21.0	22.0	23.3	23.4	23.5	24.2	23.4	17.5	12.6	-0.3	-10.6	-23.1	-36.3	-47.7	-71.5		-75.6	-79.0	-84.2
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	29.9	5.1	12.9	17.2	19.1	20.1	20.9	21.4	21.3	20.2	18.9	18.7	16.9	9.7	4.3	-11.6	-22.4	-37.2	-64.6	-85.5					
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	30.0	2.7	10.6	14.9	16.8	17.8	18.5	19.2	19.9	20.7	21.3	22.0	21.3	15.0	10.7	-0.9	-7.7	-17.1	-29.0	-45.1	-63.6	-90.5	-67.8	-70.9	-75.2
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	31.1	4.7	12.5	16.9	18.8	19.7	20.4	20.9	21.2	21.7	22.2	22.7	21.8	15.3	10.8	-2.7	-10.6	-21.3	-36.3	-55.4	-79.0		-83.3	-86.4	-90.7
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	27.4	1.9	9.7	14.0	15.9	16.8	17.3	17.7	17.5	17.8	17.9	18.2	17.1	10.2	5.5	-9.4	-18.4	-30.8	-51.5	-72.8					
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	23.4	-1.3	6.6	10.8	12.7	13.6	14.0	14.2	13.5	13.4	13.3	13.2	11.9	4.6	-0.7	-16.4	-27.0	-41.2	-69.5	-91.5					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	17.1	-6.9	0.9	5.2	7.0	7.9	8.3	8.3	7.1	6.8	6.4	6.1	4.5	-3.2	-8.8	-25.1	-36.7	-52.3	-87.1						
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	34.2	4.8	13.4	18.1	20.3	21.4	22.2	23.0	23.8	24.8	25.7	26.6	26.1	20.0	16.2	4.5	-1.8	-11.4	-24.1	-42.6	-61.8	-89.5	-66.6	-69.8	-74.3
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	38.3	7.8	16.4	21.2	23.3	24.5	25.5	26.4	27.6	28.9	30.1	31.1	30.7	25.0	19.8	13.0	6.1	-1.9	-10.4	-22.4	-34.4	-52.1	-39.1	-42.4	-46.7
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	43.6	12.1	20.7	25.5	27.7	28.9	29.9	31.0	32.5	34.0	35.4	36.7	36.6	31.4	26.4	23.1	13.1	7.1	0.1	-4.8	-14.2	-26.6	-19.0	-22.2	-26.5
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	42.5	10.9	19.6	24.3	26.6	27.8	28.8	29.9	31.3	32.8	34.3	35.6	35.5	30.4	25.8	22.2	12.4	5.9	-1.5	-6.5	-16.1	-28.4	-20.9	-24.1	-28.3
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	31.1	2.9	11.5	16.2	18.3	19.4	20.1	20.7	20.9	21.7	22.2	22.8	22.1	15.6	11.7	-2.0	-9.3	-20.6	-38.3	-61.7	-89.1		-93.8	-97.1	

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	26.7	0.8	9.0	13.4	15.4	16.4	17.0	17.3	16.8	17.0	17.1	17.3	16.2	9.1	4.6	-10.4	-19.2	-32.3	-56.5	-82.0					
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	25.1	0.1	8.3	12.8	14.8	15.7	16.1	16.3	15.1	15.0	14.8	14.6	13.2	5.6	0.5	-15.4	-25.8	-40.8	-71.0	-98.9					
Shields Ave & Valentine Ave East	CNEL	15.6	-8.9	-0.7	3.7	5.7	6.6	7.0	7.1	5.5	5.2	4.7	4.4	2.7	-5.2	-10.8	-27.2	-38.8	-55.2	-89.0						
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	36.7	5.9	14.1	18.6	20.8	21.9	23.0	24.1	25.9	26.4	26.9	28.6	29.5	26.6	25.2	20.9	14.4	4.5	-8.3	-30.8	-49.0	-74.0	-53.0	-56.2	-61.0
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	38.5	5.7	14.0	18.5	20.7	21.9	23.1	24.4	26.6	27.5	28.4	30.4	31.7	29.3	28.5	25.0	19.6	11.8	0.8	-7.8	-20.4	-32.3	-24.6	-27.7	-32.2
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	66.7	29.9	38.2	42.8	44.9	46.1	47.3	48.5	50.3	52.0	52.9	55.2	58.3	58.0	58.4	57.4	56.7	55.2	52.7	50.1	45.8	41.7	40.6	37.7	34.3
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	59.1	22.6	30.9	35.4	37.6	38.9	40.1	41.4	43.2	44.7	46.4	48.5	49.6	49.8	50.8	50.0	48.8	47.7	45.4	43.1	39.7	35.6	33.8	31.0	27.8
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	34.7	5.6	13.8	18.3	20.4	21.5	22.4	23.4	24.6	24.7	24.9	26.2	26.7	23.3	21.4	16.4	8.7	-2.8	-18.8	-46.8	-77.7		-81.8	-85.0	-89.4
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	32.5	4.9	13.1	17.6	19.6	20.7	21.5	22.3	22.9	22.7	22.5	23.4	23.5	19.5	17.1	11.3	2.4	-11.0	-30.8	-63.2					
W. Shaw Ave - N Garfield Avenue to N. Gr	CNEL	28.0	1.5	10.1	14.7	16.8	17.8	18.6	19.2	19.1	18.5	17.8	17.8	16.4	9.6	3.5	-11.9	-25.8	-42.4	-67.7	-88.0					
N. Grantland Ave - W. Barstow Ave to Sha	CNEL	26.0	1.5	9.3	13.6	15.6	16.5	17.2	17.7	17.4	16.2	14.7	14.4	12.5	5.0	0.0	-15.5	-25.6	-40.5	-68.3	-93.1					
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	28.4	2.5	10.3	14.6	16.6	17.5	18.1	18.5	18.5	19.0	19.2	19.6	18.6	11.8	7.8	-5.8	-13.1	-24.4	-41.9	-64.5	-91.5		-95.8	-98.9	
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	25.4	-1.8	6.4	10.9	12.9	13.9	14.5	14.9	14.7	15.3	15.8	16.6	16.7	12.6	10.3	4.5	-4.3	-17.7	-37.6	-70.9					
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	24.4	-1.5	6.7	11.2	13.2	14.1	14.7	15.0	14.5	14.7	14.8	15.0	13.9	6.7	2.3	-12.6	-21.3	-34.5	-58.5	-84.6					
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	27.1	2.9	10.3	14.4	16.3	17.3	18.1	18.7	18.8	17.5	16.0	15.7	13.9	6.8	1.4	-14.2	-24.5	-38.3	-61.9	-81.4					
N. Polk Ave - North of W. Shaw Avenue	CNEL	16.1	-7.7	-0.3	3.8	5.7	6.7	7.4	7.9	7.7	6.2	4.5	4.0	1.9	-5.5	-11.0	-27.1	-38.0	-53.1	-80.8						
Bullard Ave - N Garfield to N. Grantland	CNEL	14.3	-9.8	-2.0	2.3	4.2	5.2	5.9	6.2	5.5	4.1	2.5	2.0	-0.1	-7.6	-14.4	-30.4	-45.8	-64.3	-91.5						
Bullard Ave - N. Bryan Avenue to N. Cont	CNEL	17.4	-7.6	0.6	5.0	7.0	8.0	8.7	9.1	8.5	7.4	6.1	5.7	3.9	-3.5	-10.3	-26.1	-42.0	-60.2	-86.0						
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	30.4	1.7	9.9	14.5	16.5	17.5	18.2	18.8	19.2	20.1	21.1	22.2	22.7	19.2	17.4	12.5	4.9	-6.5	-22.5	-51.8	-86.4		-91.2	-94.0	-97.3

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	40.5	8.4	16.7	21.2	23.3	24.4	25.4	26.3	27.6	29.1	30.7	32.6	33.7	31.2	30.4	27.0	21.6	13.7	2.5	-7.0	-23.5	-37.2	-28.3	-31.2	-34.5
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	34.0	4.6	13.2	17.8	20.0	21.2	22.2	23.2	24.7	25.0	25.2	26.0	25.3	19.3	15.7	4.3	-2.4	-12.1	-24.0	-36.7	-55.1	-82.5	-59.3	-62.6	-67.8
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	25.9	-1.2	7.0	11.5	13.6	14.6	15.2	15.7	15.8	16.4	16.9	17.3	16.5	9.8	5.9	-7.6	-14.9	-26.1	-43.6	-67.0	-94.2		-98.7		
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	29.9	3.1	11.3	15.8	17.9	18.9	19.8	20.5	21.2	20.8	20.3	20.6	19.4	12.8	8.3	-6.3	-14.9	-27.1	-46.0	-63.8	-93.4		-97.4		
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	28.9	3.0	10.4	14.5	16.4	17.3	17.9	18.5	19.0	19.6	20.1	20.5	19.7	13.2	8.8	-4.3	-11.6	-21.4	-33.4	-47.5	-65.8	-93.0	-69.8	-72.9	-77.1
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	33.5	5.7	14.0	18.5	20.5	21.6	22.6	23.5	24.7	24.6	24.3	24.9	23.9	17.8	13.3	0.2	-8.3	-18.9	-32.5	-46.5	-69.6		-73.6	-76.8	-81.8
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	28.7	2.9	11.1	15.6	17.6	18.5	19.1	19.4	18.8	19.0	19.1	19.2	18.1	11.0	5.8	-9.6	-20.4	-34.3	-60.0	-82.6					
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	31.4	4.7	12.9	17.4	19.4	20.4	21.0	21.5	21.4	21.9	22.3	22.6	21.8	15.1	10.2	-4.4	-14.2	-26.6	-46.8	-68.0	-98.1				
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	28.3	3.0	10.9	15.2	17.1	18.1	18.9	19.5	19.8	18.9	17.8	17.7	16.1	9.2	4.0	-11.4	-21.8	-35.6	-59.0	-78.1					
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	20.6	-4.1	3.8	8.1	10.0	11.0	11.7	12.2	11.9	10.8	9.4	9.1	7.2	0.0	-6.2	-22.1	-35.8	-52.2	-78.5	-99.5					
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	35.5	6.1	14.4	19.0	21.0	22.1	23.0	23.9	25.0	26.2	27.2	28.1	27.6	21.8	16.4	9.6	2.7	-5.2	-13.6	-25.1	-36.9	-54.5	-41.4	-44.5	-48.8
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	36.0	7.3	15.6	20.1	22.2	23.3	24.3	25.4	26.9	27.1	27.1	27.8	27.0	21.1	16.9	5.9	-1.2	-10.5	-21.1	-32.5	-50.4	-77.1	-54.4	-57.6	-62.6
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	32.1	4.8	13.0	17.5	19.5	20.5	21.2	21.8	22.1	22.7	23.2	23.8	23.0	16.6	12.0	-1.2	-9.4	-20.6	-37.0	-58.5	-84.8		-89.2	-92.4	-96.9
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	27.0	1.8	9.6	13.9	15.8	16.7	17.2	17.5	17.1	17.3	17.4	17.6	16.4	9.5	3.9	-11.0	-23.6	-38.2	-61.8	-79.8					
N Brawley Ave - N. Parkway Drive to W. D	CNEL	23.5	-0.6	7.2	11.5	13.4	14.2	14.6	14.7	13.5	13.2	12.8	12.6	11.0	3.4	-2.3	-18.3	-30.2	-45.8	-77.2						
N Brawley Ave - W Shields Avenue to W. C	CNEL	25.8	1.3	9.1	13.4	15.3	16.1	16.6	16.7	15.9	15.8	15.6	15.6	14.2	6.9	0.9	-14.5	-28.4	-44.6	-72.1	-93.6					
W. Sheilds Ave - West of N. Grantland Av	CNEL	37.4	6.9	15.5	20.3	22.4	23.6	24.6	25.5	26.7	28.0	29.2	30.2	29.8	24.2	19.3	13.3	6.8	-1.3	-10.2	-23.6	-35.6	-53.5	-40.4	-43.6	-47.8
N. Grantland Ave - W Shields Avenue to W	CNEL	42.3	10.8	19.5	24.2	26.4	27.6	28.8	30.2	32.3	33.1	33.8	35.1	34.7	29.8	25.1	22.1	13.4	7.5	1.9	-0.8	-9.1	-21.1	-13.2	-16.5	-21.7
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	65.5	28.6	37.0	41.5	43.7	44.8	45.8	46.9	48.3	49.8	51.5	53.8	56.9	56.9	57.4	56.2	55.8	54.1	51.6	48.6	44.2	38.4	38.4	35.6	32.9

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	39.4	9.0	17.3	21.8	23.9	25.1	26.0	27.1	28.4	29.8	31.1	32.3	32.0	26.8	21.9	18.5	8.6	2.4	-4.5	-9.1	-18.2	-30.3	-22.7	-25.9	-30.1
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	36.9	7.8	16.1	20.6	22.7	23.9	24.9	26.1	27.8	28.1	28.2	29.0	28.2	22.6	17.5	7.0	-2.6	-11.3	-17.8	-25.2	-40.4	-63.5	-44.4	-47.7	-52.6
N. Cornelia Ave - W Shields Avenue to W.	CNEL	32.1	5.5	13.4	17.7	19.6	20.6	21.2	21.8	22.1	22.7	23.2	23.7	22.9	16.6	11.4	-2.5	-13.1	-25.2	-40.0	-54.4	-78.1		-82.3	-85.5	-89.8
N. Blythe Ave - W Shields Avenue to W. C	CNEL	27.9	2.4	10.2	14.5	16.4	17.3	17.9	18.2	18.0	18.3	18.4	18.7	17.6	10.8	5.3	-9.4	-21.6	-35.9	-58.1	-75.2					
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	26.5	1.2	9.4	13.8	15.8	16.7	17.3	17.4	16.5	16.5	16.4	16.4	15.1	7.9	1.8	-13.6	-27.8	-44.4	-72.9	-96.0					
N. Valentine Ave - N. Parkway Drive to W	CNEL	18.7	-4.9	2.9	7.2	9.1	9.9	10.3	10.2	8.6	8.1	7.5	7.0	5.2	-2.5	-9.3	-25.3	-40.9	-59.4	-89.6						
N. Valentine Ave - W Shields Avenue to W	CNEL	18.8	-4.9	2.9	7.2	9.0	9.8	10.2	10.2	8.6	8.3	7.7	7.3	5.6	-2.1	-8.8	-24.8	-40.1	-58.4	-88.5						
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	29.6	3.3	11.5	15.9	18.0	19.0	19.7	20.3	20.4	19.8	19.2	19.7	19.3	14.8	11.8	5.3	-4.9	-20.2	-43.5	-80.4					
Bullard Ave - N. Grantland Ave to N. Bry	CNEL	16.3	-8.6	-0.5	3.9	5.9	6.9	7.6	8.0	7.4	6.3	5.0	4.6	2.7	-4.6	-11.1	-27.0	-41.9	-60.3	-90.0						
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	26.3	0.9	8.7	13.0	15.0	16.0	16.8	17.4	17.8	16.9	15.9	15.8	14.3	7.4	2.6	-12.8	-22.1	-35.4	-58.2	-76.9					
N. Grantland Ave - W. Dakota Avenue to W	CNEL	38.7	8.2	16.8	21.5	23.7	24.9	26.0	27.3	29.1	29.7	30.2	31.2	30.6	25.1	20.4	14.7	8.4	0.4	-7.4	-15.7	-27.2	-44.6	-31.4	-34.7	-39.9
Receive 11 Fl G LrD,lim dB(A LrD 77.6 dB(A																										
W. Gettysburg Ave - West of N. Bryan Ave	CNEL	16.7	-8.1	-0.3	4.0	5.9	6.9	7.7	8.2	8.1	7.1	5.8	5.6	3.8	-3.3	-8.8	-24.7	-35.7	-50.4	-77.5	-97.9					
SR99 - W. Shields Avenue to W. Clinton A	CNEL	44.6	14.9	24.1	28.9	31.1	32.4	33.7	35.1	36.7	36.3	35.0	35.7	34.1	28.4	23.2	7.6	-2.8	-16.6	-38.1	-56.3	-92.2		-96.6		
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	51.6	20.8	30.1	34.9	37.1	38.4	39.8	41.3	43.5	43.3	42.4	43.3	42.0	36.6	31.8	17.7	7.8	-4.3	-19.9	-35.4	-64.3		-68.7	-72.3	-78.4
SR99 - W. Shields Avenue to W. Clinton A	CNEL	49.1	19.0	28.2	33.0	35.2	36.5	37.8	39.3	41.2	40.8	39.7	40.5	39.1	33.4	28.9	14.4	5.6	-7.1	-26.4	-44.8	-77.0		-81.5	-85.1	-91.2
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	48.5	17.6	26.9	31.7	33.9	35.2	36.6	38.2	40.4	40.2	39.4	40.3	39.0	33.6	29.5	16.1	7.7	-4.0	-20.2	-36.1	-64.1		-68.5	-72.1	-78.2
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	50.6	19.6	28.9	33.7	35.9	37.2	38.6	40.2	42.5	42.4	41.5	42.5	41.3	36.0	31.5	18.2	8.9	-2.6	-17.4	-32.2	-59.2	-98.7	-63.6	-67.3	-73.3
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	51.7	21.3	30.6	35.3	37.6	38.8	40.2	41.7	43.7	43.4	42.4	43.2	41.8	36.4	31.3	16.7	6.5	-6.2	-22.3	-37.5	-66.7		-71.1	-74.8	-80.8

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	46.8	15.8	25.1	29.9	32.1	33.4	34.8	36.4	38.7	38.6	37.7	38.6	37.4	32.0	27.9	14.6	6.0	-5.6	-21.2	-36.7	-64.0		-68.4	-72.0	-78.1	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	43.6	14.3	23.5	28.3	30.5	31.7	33.0	34.3	35.8	35.2	33.8	34.3	32.7	26.9	21.0	5.5	-7.1	-22.0	-43.1	-62.9						
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	19.9	-6.4	1.4	5.7	7.6	8.6	9.2	9.7	10.0	10.5	10.9	11.4	10.5	4.0	-1.0	-15.2	-25.1	-37.1	-53.7	-69.8	-95.2		-99.4			
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	19.5	-6.7	1.1	5.4	7.4	8.3	8.9	9.4	9.6	10.1	10.4	10.8	10.0	3.4	-1.7	-16.0	-26.1	-38.3	-56.0	-72.6	-99.1					
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	14.8	-11.3	-3.5	0.8	2.8	3.7	4.3	4.7	4.9	5.3	5.7	6.1	5.1	-1.5	-6.6	-21.0	-31.3	-43.7	-62.2	-79.0						
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	17.8	-8.2	-0.3	4.0	5.9	6.8	7.4	7.8	7.9	8.4	8.7	9.1	8.1	1.6	-3.8	-18.1	-29.5	-42.6	-61.0	-77.0						
SR99 - W. Herndon Avenue to W. Shaw Aven	CNEL	44.6	16.1	25.3	30.0	32.2	33.4	34.7	35.9	36.9	36.0	34.4	34.7	32.8	26.6	20.8	4.8	-7.0	-22.5	-48.7	-71.3						
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	48.1	17.0	26.3	31.1	33.3	34.6	36.0	37.6	39.9	39.9	39.1	40.1	38.9	33.7	28.6	15.2	3.7	-8.3	-20.7	-34.0	-60.6	-99.7	-65.0	-68.7	-74.7	
	CNEL	19.3	-9.0	-0.5	4.2	6.3	7.4	8.4	9.2	10.3	10.3	10.1	10.7	9.8	3.7	-1.3	-15.6	-25.8	-38.1	-54.3	-68.9	-96.4					
W. Shaw Ave - N. Bryan Ave to N. Hayes A	CNEL	28.4	2.3	10.8	15.4	17.5	18.5	19.3	19.8	19.5	18.8	17.9	17.8	16.2	9.1	3.4	-12.5	-24.4	-40.1	-69.5	-93.0						
W. Shaw Ave - N. Hayes Ave to N. Polk Av	CNEL	29.8	3.3	11.8	16.4	18.5	19.6	20.3	20.9	20.9	20.3	19.5	19.6	18.2	11.3	5.3	-10.2	-24.2	-40.6	-65.1	-86.3						
W. Shaw Ave - N. Polk Avenue to State Ro	CNEL	23.5	-0.6	6.8	10.9	12.8	13.8	14.6	15.1	15.2	13.9	12.3	12.0	10.1	3.1	-3.3	-18.7	-32.8	-48.7	-69.4	-89.5						
W. Shaw Ave - N. Grantland Ave to N.	CNEL	23.8	-2.0	6.5	11.1	13.2	14.2	14.9	15.4	14.8	14.0	12.9	12.7	11.0	3.6	-2.1	-18.6	-30.8	-47.3	-79.7							
W. Ashlan Ave - N. Bryan Avenue to N. Ha	CNEL	29.1	1.2	9.8	14.4	16.5	17.6	18.5	19.3	20.2	20.0	19.7	20.2	19.2	12.9	8.1	-6.4	-16.1	-28.4	-46.8	-64.0	-93.5		-97.6			
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	29.3	0.8	9.3	14.0	16.1	17.3	18.2	19.1	20.2	20.3	20.2	20.8	20.0	13.9	9.5	-2.9	-11.1	-22.1	-37.6	-55.1	-80.7		-84.9	-88.2	-93.4	
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	34.7	6.7	15.0	19.5	21.5	22.6	23.6	24.5	25.8	25.7	25.5	26.1	25.2	19.2	14.1	0.8	-10.4	-21.5	-32.9	-44.9	-68.2		-72.2	-75.5	-80.4	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	38.7	10.8	19.0	23.5	25.6	26.7	27.6	28.6	29.8	29.7	29.5	30.1	29.1	23.2	18.1	5.2	-5.2	-17.5	-29.9	-40.9	-64.5	-99.3	-68.5	-71.7	-76.7	
W. Gettysburg Ave - N. Bryan Avenue to N	CNEL	21.4	-3.0	4.4	8.5	10.5	11.5	12.3	12.9	13.1	11.9	10.5	10.2	8.5	1.5	-3.9	-19.4	-29.9	-43.6	-66.3	-85.0						
W. Gettysburg Ave - N. Hayes Ave to N Po	CNEL	24.1	-1.5	6.3	10.6	12.6	13.6	14.4	15.1	15.6	14.9	13.9	14.0	12.6	6.0	0.3	-14.7	-27.2	-41.4	-59.6	-76.0						
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	19.6	-6.3	1.5	5.8	7.8	8.9	9.7	10.4	11.1	10.4	9.5	9.7	8.3	1.8	-3.9	-18.6	-31.1	-44.9	-61.6	-77.5						

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
W. Ashlan Ave - N. Grantland Ave to N Br	CNEL	27.0	-0.1	8.4	13.0	15.2	16.2	17.1	17.7	18.1	17.8	17.2	17.5	16.3	9.6	4.5	-10.9	-21.3	-34.9	-58.4	-77.5					
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	36.0	9.3	17.1	21.5	23.5	24.5	25.5	26.3	27.5	27.1	26.5	26.8	25.7	19.4	15.0	2.1	-5.9	-16.9	-31.6	-46.6	-71.5		-75.4	-78.5	-83.2
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	29.9	2.7	10.5	14.9	16.8	17.8	18.5	19.2	19.9	20.6	21.3	21.9	21.2	15.0	10.8	-0.3	-6.9	-16.3	-28.3	-45.2	-63.7	-90.8	-68.0	-71.1	-75.4
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	36.2	8.5	16.4	20.7	22.6	23.7	24.4	25.2	26.0	27.0	27.8	28.5	27.9	21.9	16.6	5.4	-4.4	-13.3	-22.1	-32.4	-48.2	-71.6	-52.4	-55.5	-59.8
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	35.5	7.7	15.6	19.9	21.9	22.9	23.7	24.4	25.3	26.2	27.0	27.7	27.1	21.1	16.0	4.8	-3.8	-14.1	-23.4	-33.6	-49.3	-72.6	-53.6	-56.7	-60.9
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	32.1	4.8	12.7	17.0	18.9	19.9	20.6	21.3	22.0	22.7	23.4	24.1	23.3	17.1	12.8	1.2	-5.6	-15.0	-27.0	-43.1	-61.5	-88.5	-65.8	-68.9	-73.2
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	25.3	-1.3	6.5	10.9	12.8	13.7	14.4	15.0	15.4	16.0	16.5	17.0	16.2	9.7	5.3	-8.0	-15.5	-26.1	-40.9	-59.5	-82.8		-87.0	-90.1	-94.4
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	43.9	12.3	21.0	25.7	28.0	29.2	30.2	31.3	32.7	34.2	35.7	37.0	36.8	31.7	26.7	23.4	13.5	7.4	0.5	-4.4	-13.8	-26.1	-18.6	-21.8	-26.1
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	38.2	7.7	16.4	21.1	23.3	24.4	25.4	26.4	27.5	28.8	30.0	31.0	30.6	25.0	19.8	13.3	6.5	-1.5	-10.2	-22.7	-34.8	-52.7	-39.5	-42.8	-47.1
W. Sheilds Ave - N. Bryan Avenue to N. H	CNEL	33.9	4.5	13.1	17.8	20.0	21.1	21.9	22.7	23.5	24.5	25.4	26.2	25.8	19.6	15.8	3.8	-2.7	-12.3	-25.1	-43.2	-62.6	-90.4	-67.3	-70.6	-75.1
W. Sheilds Ave - N. Grantland Ave to Bry	CNEL	28.8	0.7	9.3	13.9	16.1	17.1	17.9	18.4	18.7	19.4	19.9	20.5	19.9	13.3	9.3	-4.4	-11.8	-23.1	-40.9	-64.3	-91.8		-96.5	-99.7	
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	44.9	13.3	21.9	26.7	28.9	30.1	31.1	32.2	33.7	35.2	36.7	38.0	37.9	32.9	28.4	24.9	15.3	8.6	1.0	-4.0	-13.4	-25.6	-18.2	-21.5	-25.7
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	38.6	9.3	17.6	22.1	24.2	25.3	26.2	27.0	28.1	29.3	30.3	31.2	30.7	24.9	19.6	12.8	5.9	-2.1	-10.5	-21.9	-33.7	-51.3	-38.2	-41.4	-45.7
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	35.0	6.7	15.0	19.5	21.6	22.6	23.4	24.1	24.8	25.6	26.4	27.1	26.5	20.3	16.4	4.4	-2.1	-11.7	-24.3	-41.9	-60.9	-88.4	-65.4	-68.6	-73.0
W. Sheilds Ave - N. Valentine Ave to N.	CNEL	30.4	3.3	11.6	16.1	18.1	19.1	19.7	20.2	20.4	21.0	21.4	21.9	21.1	14.5	10.1	-3.7	-11.6	-23.1	-41.0	-63.7	-91.8		-96.3	-99.5	
Shields Ave & Valentine Ave East	CNEL	24.4	-3.1	5.1	9.6	11.7	12.7	13.4	14.0	14.3	15.0	15.6	16.1	15.4	8.8	5.2	-7.6	-14.3	-25.1	-41.5	-64.3	-90.3		-94.8	-98.0	
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	68.4	31.8	40.1	44.7	46.9	48.1	49.3	50.7	52.5	53.9	55.7	57.8	58.9	59.0	60.0	59.2	58.2	56.9	54.7	52.3	49.0	44.9	43.0	40.2	37.0
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	38.3	5.5	13.8	18.4	20.5	21.7	22.9	24.3	26.5	27.3	28.3	30.3	31.5	29.1	28.3	24.7	19.3	11.4	0.4	-9.0	-21.2	-33.4	-25.4	-28.5	-33.0
W. Clinton Ave - N. Bryan Ave to N. Haye	CNEL	29.8	-1.0	7.2	11.7	13.8	15.0	16.0	17.2	18.9	19.4	20.0	21.6	22.5	19.6	18.2	13.9	7.4	-2.5	-15.4	-37.8	-56.3	-81.6	-60.3	-63.5	-68.3

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Clinton Ave - N. Grantland Ave to Bry	CNEL	22.5	-6.5	1.7	6.2	8.3	9.4	10.3	11.3	12.5	12.6	12.8	14.1	14.5	11.1	9.2	4.2	-3.5	-15.1	-31.1	-59.4	-90.4		-94.5	-97.7	
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	74.6	37.9	46.2	50.8	52.9	54.2	55.3	56.5	58.0	59.8	61.3	63.1	64.5	65.8	66.8	65.6	64.3	63.5	61.0	58.6	55.1	50.5	49.4	46.6	43.4
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	48.0	15.1	23.4	27.9	30.1	31.3	32.5	33.9	36.1	36.9	37.9	39.9	41.1	38.7	37.9	34.4	29.0	21.2	10.2	1.5	-11.1	-23.0	-15.3	-18.4	-22.9
N. Grantland Ave - W. Ashlan Avenue to W	CNEL	23.3	-0.9	6.9	11.1	13.0	13.8	14.3	14.4	13.3	13.2	12.9	12.7	11.2	3.7	-2.0	-17.8	-29.5	-44.6	-75.3	-98.9					
N. Bryan Ave - W. Shaw Avenue to W. Gett	CNEL	21.7	-3.5	4.7	9.2	11.2	12.1	12.6	12.8	11.7	11.7	11.5	11.4	10.0	2.6	-3.0	-19.0	-30.7	-46.0	-78.6						
N. Hayes Ave - W. Shaw Avenue to W. Gett	CNEL	23.5	-2.1	6.1	10.6	12.6	13.5	14.0	14.3	13.6	13.7	13.7	13.7	12.5	5.3	0.2	-15.4	-25.9	-40.0	-68.2	-91.5					
N. Polk Ave - W. Shaw Avenue to W. Getty	CNEL	28.0	3.5	10.9	15.0	16.9	17.9	18.7	19.4	19.7	18.6	17.2	17.0	15.3	8.2	3.6	-11.1	-19.7	-32.7	-54.3	-74.9					
N. Polk Ave - North of W. Shaw Avenue	CNEL	16.8	-7.2	0.2	4.3	6.2	7.2	7.9	8.5	8.4	7.1	5.4	5.0	3.1	-4.3	-9.2	-24.4	-34.0	-48.4	-74.0	-97.6					
N. Bryan Ave - W. Gettysburg Ave to W As	CNEL	25.1	-0.8	7.4	11.9	13.9	14.8	15.4	15.7	15.2	15.4	15.5	15.7	14.6	7.5	2.5	-12.8	-23.0	-36.6	-62.4	-85.4					
N. Bryan Ave - W. Ashlan Avenue to W Shi	CNEL	29.0	1.9	10.1	14.6	16.7	17.6	18.3	18.8	19.0	19.5	20.0	20.5	19.7	13.2	8.4	-5.3	-14.2	-25.6	-42.3	-63.7	-90.3		-94.7	-97.9	
N. Grantland Ave - W. Ashlan Ave to W Da	CNEL	26.5	-0.5	8.0	12.6	14.7	15.8	16.6	17.3	17.6	17.2	16.6	16.8	15.6	8.9	3.3	-12.0	-24.5	-39.3	-62.9	-80.8					
N. Hayes Ave - W. Gettysburg Avenue to W	CNEL	24.4	-2.1	6.1	10.6	12.6	13.6	14.2	14.6	14.5	14.9	15.2	15.6	14.6	7.8	3.3	-11.5	-20.2	-32.5	-53.3	-75.9					
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	31.3	4.1	12.3	16.7	18.8	19.9	20.8	21.6	22.6	22.3	21.9	22.3	21.2	14.8	11.0	-2.0	-9.4	-20.5	-37.0	-55.1	-81.2		-85.2	-88.4	-93.4
N. Hayes Ave - W. Ashland Avenue to W. D	CNEL	26.7	1.4	8.8	12.9	14.7	15.6	16.2	16.6	16.8	17.2	17.5	17.9	16.9	10.3	5.5	-8.2	-16.4	-27.2	-42.1	-59.7	-83.0		-87.1	-90.1	-94.3
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	35.7	7.3	15.6	20.1	22.2	23.3	24.3	25.3	26.8	26.9	26.8	27.5	26.6	20.6	16.8	5.6	-1.2	-10.7	-22.1	-34.4	-52.8	-80.0	-56.8	-60.0	-64.9
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	34.0	5.3	13.5	18.0	20.1	21.1	21.8	22.4	22.7	23.6	24.5	25.7	26.3	22.6	20.8	15.7	8.1	-3.5	-19.6	-49.1	-84.0		-88.8	-91.7	-94.9
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	39.5	8.8	17.1	21.6	23.7	24.7	25.6	26.4	27.3	28.6	29.9	31.6	32.5	29.5	28.2	24.0	17.6	7.8	-4.9	-29.4	-52.4	-78.3	-57.0	-59.9	-63.6
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	35.6	8.2	16.0	20.4	22.4	23.5	24.5	25.5	26.9	26.8	26.4	26.9	25.9	19.8	16.0	4.8	-2.0	-11.4	-22.5	-34.1	-52.2	-79.3	-56.0	-59.2	-63.9
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	26.8	0.3	8.1	12.4	14.4	15.5	16.4	17.3	18.3	17.9	17.3	17.6	16.4	10.2	4.9	-9.0	-20.1	-32.3	-45.4	-58.3	-84.3		-88.2	-91.3	-96.0

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	31.5	3.0	11.3	15.8	17.9	18.9	19.7	20.4	21.2	22.1	22.9	23.7	23.1	17.0	12.8	1.2	-5.6	-15.1	-27.2	-44.0	-62.8	-90.1	-67.3	-70.5	-74.9
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	39.8	10.4	18.6	23.2	25.3	26.5	27.6	28.8	30.6	31.0	31.2	32.1	31.3	25.7	20.5	13.9	7.4	-0.3	-7.2	-13.9	-25.4	-42.6	-29.4	-32.6	-37.6
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	45.0	12.4	20.7	25.3	27.4	28.5	29.5	30.5	31.9	33.4	35.1	37.0	38.2	35.8	35.1	31.8	26.5	18.8	7.7	-1.4	-17.8	-31.5	-22.6	-25.5	-29.0
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	37.8	9.7	17.6	21.9	23.9	24.9	25.7	26.5	27.5	28.6	29.5	30.2	29.6	23.6	18.3	11.4	4.5	-3.4	-11.7	-22.5	-34.0	-51.4	-38.3	-41.4	-45.6
N Brawley Ave - N. Parkway Drive to W. D	CNEL	31.2	4.6	12.5	16.8	18.7	19.7	20.3	20.9	21.2	21.8	22.3	22.8	21.9	15.4	11.1	-2.4	-9.9	-20.6	-35.7	-54.7	-78.3		-82.5	-85.7	-90.0
N Brawley Ave - W Shields Avenue to W. C	CNEL	37.0	9.2	17.1	21.4	23.4	24.4	25.2	25.9	26.8	27.7	28.5	29.2	28.6	22.6	17.4	6.1	-3.6	-12.7	-21.4	-31.7	-47.4	-70.8	-51.7	-54.8	-59.1
W. Sheilds Ave - West of N. Grantland Av	CNEL	25.4	-1.6	7.0	11.6	13.7	14.8	15.4	15.8	15.4	15.8	16.0	16.3	15.3	8.3	4.1	-10.5	-19.0	-32.1	-55.7	-82.9					
N. Grantland Ave - W Shields Avenue to W	CNEL	27.3	-0.4	8.2	12.8	14.9	16.0	16.9	17.7	18.4	18.2	17.9	18.3	17.3	11.0	5.7	-9.2	-20.8	-34.3	-53.4	-69.4					
N. Bryan Ave - W Shields Avenue to W. Cl	CNEL	23.8	-3.9	4.3	8.8	10.8	11.9	12.6	13.2	13.6	14.4	15.0	15.7	15.0	8.8	3.6	-10.2	-21.0	-33.0	-47.9	-63.0	-87.0		-91.4	-94.6	-99.1
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	32.4	3.5	11.8	16.3	18.4	19.4	20.3	21.1	22.0	23.1	24.1	24.9	24.4	18.5	13.4	2.1	-7.6	-16.8	-25.9	-36.7	-52.8	-76.6	-57.3	-60.5	-64.9
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	43.4	13.1	21.4	25.9	28.1	29.3	30.4	31.8	33.8	34.4	34.9	36.0	35.5	30.5	25.4	22.1	12.6	7.3	3.2	0.9	-7.0	-18.9	-11.0	-14.3	-19.2
N. Cornelia Ave - W Shields Avenue to W.	CNEL	73.2	37.9	45.9	50.2	52.3	53.4	54.3	55.3	56.6	58.1	59.6	61.6	64.5	64.6	65.1	63.7	63.3	61.6	59.3	56.5	52.4	46.8	46.8	44.1	41.3
N. Blythe Ave - W Shields Avenue to W. C	CNEL	42.8	13.7	21.6	26.0	28.0	29.1	29.9	30.9	32.2	33.4	34.6	35.6	35.2	29.9	24.7	21.4	11.3	5.3	-1.2	-5.4	-14.1	-26.1	-18.4	-21.5	-25.7
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	36.2	7.8	16.0	20.6	22.6	23.7	24.5	25.2	25.9	26.9	27.7	28.4	27.9	21.8	17.5	6.0	-0.8	-10.3	-22.4	-39.2	-57.9	-85.1	-62.4	-65.6	-70.0
N. Valentine Ave - N. Parkway Drive to W	CNEL	27.0	0.7	8.6	12.9	14.8	15.7	16.3	16.8	17.1	17.6	18.0	18.4	17.5	11.0	6.3	-6.9	-15.1	-26.3	-42.4	-62.9	-88.7		-92.9	-96.0	
N. Valentine Ave - W Shields Avenue to W	CNEL	27.8	1.2	9.1	13.4	15.3	16.3	16.9	17.4	17.8	18.4	18.9	19.5	18.7	12.3	7.1	-6.8	-17.6	-29.4	-44.0	-58.6	-82.2		-86.5	-89.6	-93.9
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	41.3	10.5	18.7	23.3	25.4	26.5	27.6	28.7	30.5	31.0	31.6	33.2	34.1	31.2	29.8	25.5	19.0	9.2	-3.7	-26.1	-44.3	-69.3	-48.4	-51.5	-56.3
W. Clinton Ave - N. Valentine Ave to N.	CNEL	37.1	8.0	16.2	20.7	22.8	23.9	24.9	25.8	27.0	27.2	27.4	28.7	29.1	25.7	23.8	18.8	11.1	-0.4	-16.3	-44.4	-75.3		-79.4	-82.6	-87.0
N. Marks Ave - W Princeton Avenue to W.	CNEL	28.6	3.1	10.9	15.2	17.1	18.0	18.6	18.9	18.7	19.0	19.2	19.5	18.4	11.6	6.1	-8.6	-21.0	-35.1	-56.7	-74.2					

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)	
N. Marks Ave - W Princeton Avenue to W.	CNEL	25.7	0.1	8.0	12.3	14.2	15.1	15.6	16.0	15.8	16.1	16.3	16.6	15.6	8.8	3.3	-11.4	-23.5	-37.3	-58.8	-76.3						
W. Clinton Ave - N. Marks Avenue to SR99	CNEL	34.4	6.6	14.9	19.3	21.4	22.4	23.3	24.1	24.9	24.7	24.5	25.5	25.6	21.7	19.4	13.7	4.9	-8.3	-27.7	-59.8						
N. Grantland Ave - W. Shaw Avenue to W.	CNEL	22.7	-1.5	6.3	10.5	12.5	13.5	14.1	14.5	13.9	12.6	11.0	10.5	8.5	1.1	-5.6	-21.7	-36.5	-54.0	-81.7							
N. Grantland Ave - W. Dakota Avenue to W	CNEL	27.8	0.4	8.9	13.5	15.6	16.7	17.6	18.3	18.9	18.6	18.2	18.6	17.5	11.0	5.7	-9.4	-21.2	-35.2	-55.8	-72.5						
Receive 12 Fl G	LrD,lim		dB(A	LrD	83.9	dB(A																					
SR99 - W. Shields Avenue to W. Clinton A	CNEL	70.2	33.3	42.7	47.5	49.9	51.4	53.1	55.3	58.9	59.9	60.5	62.8	63.3	61.3	59.2	54.7	50.0	46.2	42.4	41.0	36.8	30.4	32.4	28.8	22.8	
SR99 - W. Dakota Avenue to W. Sheilds Av	CNEL	62.1	28.5	37.8	42.6	45.0	46.3	47.9	49.9	53.0	53.5	53.4	54.9	54.0	49.9	46.0	41.1	35.8	28.3	21.7	16.9	7.4	-6.3	3.0	-0.6	-6.6	
SR99 - W. Shields Avenue to W. Clinton A	CNEL	71.0	34.7	44.0	48.9	51.2	52.7	54.4	56.6	60.1	61.0	61.5	63.7	64.0	61.7	59.3	54.9	50.4	46.1	42.2	40.8	36.2	29.4	31.8	28.2	22.2	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	53.4	20.8	30.1	34.9	37.2	38.5	40.0	41.8	44.6	44.8	44.4	45.6	44.7	41.2	39.8	34.6	27.8	18.2	5.3	-12.2	-31.2	-58.6	-35.6	-39.2	-45.2	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	52.2	20.6	29.9	34.7	37.0	38.3	39.7	41.4	43.9	43.9	43.2	44.3	43.1	38.0	34.0	22.2	13.5	2.9	-9.7	-22.9	-45.9	-79.1	-50.3	-53.9	-60.0	
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	48.0	18.9	28.2	32.9	35.1	36.4	37.6	38.9	40.2	39.5	38.0	38.5	36.7	30.6	26.6	12.9	4.0	-9.8	-32.8	-55.9	-92.2		-96.6			
SR99 - W. Shaw Avenue to W. Ashlan Avenu	CNEL	44.7	14.5	23.7	28.5	30.8	32.0	33.4	34.8	36.8	36.5	35.3	36.0	34.6	29.1	26.6	16.2	8.1	-4.4	-24.0	-48.0	-80.7		-85.1	-88.7	-94.8	
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	23.3	-4.0	3.9	8.2	10.1	11.1	11.9	12.5	13.2	14.0	14.7	15.3	14.6	8.5	3.6	-10.1	-18.7	-29.0	-40.4	-52.8	-71.8		-76.0	-79.1	-83.4	
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	23.9	-3.5	4.3	8.7	10.6	11.6	12.3	13.0	13.8	14.6	15.3	16.0	15.3	9.1	4.2	-9.2	-17.7	-27.9	-38.7	-50.5	-68.7	-95.9	-72.9	-76.0	-80.4	
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	19.8	-7.7	0.2	4.6	6.5	7.5	8.2	8.9	9.7	10.5	11.2	11.9	11.2	4.9	1.1	-9.8	-15.9	-25.2	-37.0	-53.3	-71.1	-97.7	-75.4	-78.5	-82.8	
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	23.5	-4.1	3.8	8.1	10.1	11.0	11.8	12.5	13.3	14.1	14.9	15.5	14.8	8.8	6.2	-1.2	-7.0	-16.1	-28.1	-47.8	-65.7	-91.5	-69.9	-73.0	-77.3	
SR99 - W. Ashlan Avenue to W. Dakota Ave	CNEL	47.2	16.4	25.7	30.5	32.7	34.0	35.4	37.0	39.1	39.0	38.0	38.9	37.6	32.2	29.4	18.3	10.7	-0.9	-18.4	-38.3	-67.0		-71.4	-75.1	-81.1	
	CNEL	25.5	-4.6	4.0	8.7	10.9	12.1	13.2	14.3	16.0	16.5	16.8	17.8	17.1	11.4	7.3	-2.5	-9.4	-18.4	-28.0	-38.5	-54.5	-78.9	-58.6	-61.9	-67.1	
W. Ashlan Ave - N. Hayes Avenue to N. Po	CNEL	18.2	-7.5	1.0	5.6	7.7	8.7	9.4	9.9	9.3	8.4	7.3	7.0	5.3	-2.1	-7.9	-24.4	-36.7	-53.3	-86.5							
W. Ashlan - N. Polk Ave to N. Cornelia	CNEL	27.1	1.6	9.8	14.3	16.3	17.3	18.0	18.5	18.4	17.5	16.4	16.3	14.6	7.5	1.8	-14.2	-26.0	-41.3	-69.5	-90.1						

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
W. Ashlan Ave - N. Cornelia Ave to N. Bl	CNEL	33.3	7.1	15.3	19.8	21.8	22.8	23.6	24.3	24.6	24.0	23.2	23.4	22.0	15.2	10.2	-5.2	-15.2	-28.7	-51.8	-70.9					
W. Gettysburg Ave - N. Polk Ave to N. Ba	CNEL	14.0	-10.1	-2.3	2.0	4.0	4.9	5.6	5.9	5.1	3.7	2.1	1.5	-0.6	-8.2	-14.9	-31.2	-46.3	-64.3	-93.5						
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	33.3	7.4	15.2	19.5	21.5	22.5	23.4	24.1	24.8	24.1	23.3	23.4	22.1	15.5	10.1	-4.8	-16.3	-29.7	-47.3	-62.5	-93.4		-97.3		
W. Dakota Ave - N. Hayes Avenue to N. Po	CNEL	18.9	-4.9	2.9	7.1	9.0	9.8	10.2	10.2	8.8	8.5	8.0	7.6	5.9	-1.8	-7.6	-24.0	-36.0	-51.9	-86.4						
W. Dakota Ave - N. Polk Avenue to N. Cor	CNEL	25.4	0.8	8.6	12.9	14.8	15.6	16.1	16.3	15.5	15.5	15.3	15.3	13.9	6.6	1.4	-14.4	-25.0	-39.2	-67.6	-89.6					
W. Dakota Ave - N. Cornelia Avenue to N.	CNEL	27.3	1.8	9.7	14.0	15.9	16.8	17.3	17.7	17.5	17.8	17.9	18.1	17.1	10.2	5.4	-9.5	-18.5	-30.8	-51.7	-73.0					
W. Dakota Ave - N. Blythe Avenue to N Br	CNEL	29.0	2.6	10.5	14.8	16.7	17.6	18.3	18.8	19.1	19.6	20.1	20.6	19.7	13.2	8.7	-4.9	-12.8	-23.6	-38.8	-57.7	-81.4		-85.6	-88.7	-93.1
W. Dakota Ave - N Brawley Avenue to N. P	CNEL	26.8	-0.3	7.6	11.9	13.9	14.8	15.5	16.2	16.7	17.5	18.1	18.7	18.0	11.7	6.8	-7.0	-16.0	-26.7	-39.1	-52.5	-72.9		-77.2	-80.3	-84.6
W. Sheilds Ave - N. Polk Avenue to N. Co	CNEL	26.9	-0.1	8.4	13.1	15.2	16.2	16.9	17.3	16.9	17.2	17.5	17.8	16.8	9.8	5.4	-9.5	-18.3	-31.5	-55.8	-81.9					
W. Sheilds Ave - N. Hayes Avenue to N. P	CNEL	23.5	-2.5	6.0	10.7	12.8	13.8	14.3	14.5	13.5	13.5	13.4	13.3	12.0	4.5	-0.4	-16.2	-26.4	-41.5	-71.4						
W. Sheilds Ave - N. Cornelia Ave to N Bl	CNEL	31.0	2.9	11.5	16.2	18.3	19.4	20.1	20.7	20.9	21.6	22.2	22.8	22.1	15.5	11.6	-2.1	-9.4	-20.8	-38.6	-62.0	-89.4		-94.1	-97.4	
W. Sheilds Ave - N. Blythe Ave to N. Bra	CNEL	33.9	5.6	13.9	18.4	20.4	21.5	22.3	23.0	23.6	24.5	25.3	26.0	25.4	19.2	15.2	3.2	-3.2	-12.8	-25.4	-43.0	-62.0	-89.6	-66.5	-69.7	-74.1
W. Sheilds Ave - N Brawley Ave to N. Val	CNEL	39.7	10.3	18.7	23.2	25.3	26.4	27.2	28.1	29.2	30.4	31.4	32.3	31.8	26.0	20.8	14.2	7.4	-0.7	-9.2	-21.0	-32.8	-50.5	-37.4	-40.5	-44.8
W. Sheilds Ave - N. Valentine Ave to N.	CNEL	44.4	13.8	22.2	26.7	28.8	30.0	30.9	32.0	33.3	34.7	36.1	37.3	37.1	32.0	27.3	23.7	15.1	9.1	1.6	-3.1	-11.7	-23.0	-16.3	-19.4	-23.6
Shields Ave & Valentine Ave East	CNEL	34.2	4.4	12.7	17.3	19.4	20.5	21.4	22.4	23.6	24.9	26.0	27.0	26.4	20.7	14.8	5.8	0.5	-6.4	-13.1	-20.9	-31.5	-47.4	-36.1	-39.2	-43.5
W. Clinton Ave - N. Polk Avenue to N. Co	CNEL	28.0	0.5	8.7	13.1	15.2	16.3	17.1	17.8	18.5	18.3	18.1	19.0	19.0	15.0	12.6	6.8	-2.1	-15.6	-35.4	-67.9					
W. Clinton Ave - N. Hayes Ave to N. Polk	CNEL	19.8	-6.4	1.7	6.2	8.2	9.3	10.0	10.6	10.6	10.0	9.4	9.9	9.5	5.0	2.0	-4.6	-14.8	-30.2	-53.5	-90.6					
W. Clinton Ave - N. Cornelia Avenue to N	CNEL	34.6	5.5	13.7	18.2	20.3	21.4	22.4	23.3	24.5	24.7	24.8	26.1	26.6	23.2	21.3	16.2	8.5	-3.0	-19.0	-47.3	-78.3		-82.4	-85.5	-90.0
W. Clinton Ave - N. Blythe Avenue to N B	CNEL	41.0	10.2	18.5	23.0	25.1	26.3	27.3	28.5	30.2	30.7	31.3	32.9	33.8	30.9	29.5	25.2	18.7	8.8	-4.1	-26.5	-44.9	-70.1	-48.9	-52.1	-56.9

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
N. Polk Ave - W. Gettysburg Avenue to W.	CNEL	23.0	-1.9	6.2	10.7	12.7	13.7	14.4	14.8	14.1	13.0	11.7	11.3	9.4	1.9	-3.8	-20.3	-32.3	-48.7	-80.8						
N. Polk Ave - W. Ashland Avenue to W. Da	CNEL	26.0	0.7	8.9	13.3	15.3	16.3	17.0	17.5	17.2	16.3	15.1	14.9	13.2	5.9	0.2	-15.8	-27.7	-43.4	-72.3	-95.4					
N. Cornelia Ave - N. Parkway Drive to W.	CNEL	26.8	1.7	9.9	14.3	16.3	17.2	17.7	17.9	16.8	16.8	16.6	16.5	15.1	7.7	2.0	-13.8	-26.2	-41.6	-72.5	-96.4					
N. Cornelia Ave - W. Ashland Avenue to W	CNEL	28.8	3.0	11.2	15.6	17.6	18.6	19.1	19.4	18.8	19.0	19.1	19.2	18.0	10.9	5.8	-9.5	-20.0	-33.9	-60.6	-84.2					
N. Blythe Ave - W. Ashlan Avenue to W. D	CNEL	30.8	4.7	12.6	16.9	18.9	19.9	20.8	21.5	22.3	21.7	20.9	21.1	19.8	13.3	8.2	-6.3	-16.0	-28.3	-45.7	-61.7	-90.8		-94.7	-97.8	
W. Ashlan Ave - N. Blythe Avenue to SR99	CNEL	25.3	-0.8	7.0	11.3	13.3	14.4	15.2	16.0	16.8	16.2	15.4	15.6	14.3	7.9	2.6	-12.2	-23.4	-36.5	-52.8	-67.3	-97.0				
N. Hayes Ave - W. Dakota Avenue to W Shi	CNEL	16.5	-8.0	0.2	4.6	6.6	7.5	7.9	8.0	6.4	6.1	5.7	5.3	3.6	-4.0	-10.6	-26.6	-42.0	-60.6	-91.2						
N. Polk Ave - W. Dakota Avenue to W Shie	CNEL	26.3	0.7	8.9	13.3	15.4	16.4	17.1	17.7	17.6	16.8	15.8	15.7	14.1	7.2	1.0	-14.4	-28.5	-44.9	-69.0	-89.5					
N. Cornelia Ave - W. Dakota Avenue to W	CNEL	28.8	2.6	10.8	15.3	17.3	18.2	18.8	19.2	18.9	19.2	19.5	19.7	18.7	12.0	6.4	-8.4	-21.0	-35.7	-59.8	-78.3					
N. Blythe Ave - W. Dakota Avenue to W Sh	CNEL	30.1	3.9	11.8	16.1	18.0	18.9	19.5	20.0	20.2	20.7	21.1	21.5	20.6	14.1	9.4	-3.8	-12.1	-23.3	-39.6	-60.5	-86.6		-90.8	-93.9	-98.3
N Brawley Ave - N. Parkway Drive to W. D	CNEL	31.2	4.6	12.5	16.8	18.7	19.7	20.3	20.9	21.2	21.8	22.3	22.8	21.9	15.4	11.1	-2.4	-9.9	-20.5	-35.6	-54.7	-78.3		-82.6	-85.7	-90.0
N Brawley Ave - W Shields Avenue to W. C	CNEL	36.9	9.2	17.1	21.4	23.3	24.4	25.1	25.9	26.7	27.7	28.5	29.2	28.5	22.5	17.3	6.0	-3.4	-12.8	-21.8	-32.0	-47.8	-71.3	-52.1	-55.2	-59.5
N. Hayes Ave - W Shields Avenue to W. Cl	CNEL	18.6	-6.0	2.2	6.7	8.6	9.5	10.0	10.0	8.5	8.3	7.9	7.6	5.9	-1.7	-8.2	-24.1	-39.3	-57.7	-88.4						
N. Polk Ave - W Shields Avenue to W. Cli	CNEL	25.7	-0.1	8.1	12.5	14.6	15.6	16.3	16.9	17.0	16.2	15.3	15.3	13.7	6.9	0.9	-14.4	-28.0	-44.2	-68.6	-87.2					
N. Cornelia Ave - W Shields Avenue to W.	CNEL	28.5	3.1	10.9	15.2	17.1	18.0	18.5	18.9	18.7	18.9	19.1	19.3	18.2	11.5	6.0	-8.6	-20.6	-35.0	-57.6	-74.6					
N. Blythe Ave - W Shields Avenue to W. C	CNEL	31.4	4.9	12.7	17.0	19.0	19.9	20.6	21.1	21.5	22.1	22.6	23.1	22.2	15.9	10.7	-3.0	-13.4	-25.7	-40.9	-55.1	-78.9		-83.1	-86.2	-90.6
N Brawley Ave - W. Dakota Avenue to W Sh	CNEL	36.2	7.8	16.0	20.6	22.6	23.7	24.5	25.2	25.9	26.9	27.7	28.5	27.9	21.8	17.5	6.0	-0.8	-10.3	-22.3	-39.2	-57.8	-85.0	-62.3	-65.5	-69.9
N. Valentine Ave - N. Parkway Drive to W	CNEL	34.7	6.6	14.5	18.8	20.8	21.8	22.6	23.4	24.5	25.5	26.4	27.2	26.5	20.6	15.1	8.4	1.3	-6.6	-14.7	-25.1	-36.7	-54.1	-40.9	-44.0	-48.3
N. Valentine Ave - W Shields Avenue to W	CNEL	39.0	9.9	17.8	22.2	24.2	25.3	26.1	27.1	28.3	29.6	30.7	31.7	31.4	26.0	21.0	17.4	7.3	1.3	-5.5	-9.9	-18.8	-31.0	-23.2	-26.2	-30.4

Fresno West EIR
Contribution spectra - Situatiion 1: Outdoor SP

Source	Time slice	Sum dB(A)	50Hz dB(A)	63Hz dB(A)	80Hz dB(A)	100Hz dB(A)	125Hz dB(A)	160Hz dB(A)	200Hz dB(A)	250Hz dB(A)	315Hz dB(A)	400Hz dB(A)	500Hz dB(A)	630Hz dB(A)	800Hz dB(A)	1kHz dB(A)	1.25kHz dB(A)	1.6kHz dB(A)	2kHz dB(A)	2.5kHz dB(A)	3.15kHz dB(A)	4kHz dB(A)	5kHz dB(A)	6.3kHz dB(A)	8kHz dB(A)	10kHz dB(A)
W. Clinton Ave - N Brawley Ave to N. Val	CNEL	48.1	15.2	23.5	28.1	30.2	31.5	32.6	34.0	36.2	37.0	38.0	40.0	41.2	38.8	38.0	34.4	29.0	21.1	10.1	0.7	-11.5	-23.6	-15.7	-18.8	-23.3
W. Clinton Ave - N. Valentine Ave to N.	CNEL	74.1	37.4	45.8	50.3	52.5	53.7	54.9	56.3	58.0	59.5	61.2	63.3	64.4	64.8	65.8	64.9	63.7	62.7	60.3	58.0	54.5	50.3	48.5	45.7	42.5
N. Marks Ave - W Princeton Avenue to W.	CNEL	75.6	40.2	48.2	52.5	54.6	55.6	56.6	57.6	58.8	60.2	61.8	64.2	67.4	66.9	67.1	66.1	65.5	63.9	61.4	58.5	53.9	48.7	48.4	45.8	43.0
N. Marks Ave - W Princeton Avenue to W.	CNEL	45.7	14.9	22.9	27.3	29.3	30.4	31.3	32.4	33.8	35.3	36.9	38.5	39.1	35.1	32.5	27.3	24.5	17.9	10.1	3.3	-2.1	-10.8	-6.6	-9.6	-13.3
W. Clinton Ave - N. Marks Avenue to SR99	CNEL	81.9	45.0	53.4	57.9	60.1	61.3	62.5	63.8	65.7	67.1	68.0	71.0	74.1	73.1	73.2	72.7	71.4	70.3	67.7	64.9	60.6	56.5	54.9	52.0	48.5

Source	Source ty	Tr. lane	CNEL dB(A)	A dB
Receiver 4669,4766 Fl G dB(A) CNEL 71.3 dB(A)				
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0
SR99 - W. Dakota Avenue to W. Sheilds Av	Road			0.0
SR99 - W. Shields Avenue to W. Clinton A	Road			0.0
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		40.8	0.0
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		44.1	0.0
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		54.7	0.0
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		42.0	0.0
SR99 - W. Shaw Avenue to W. Ashlan Avenu	Road		54.1	0.0
W. Dakota Ave - N Brawley Avenue to N. P	Road		11.8	0.0
W. Dakota Ave - N Brawley Avenue to N. P	Road		11.6	0.0
W. Dakota Ave - N Brawley Avenue to N. P	Road		7.0	0.0
W. Dakota Ave - N Brawley Avenue to N. P	Road			0.0
SR99 - W. Herndon Avenue to W. Shaw Aven	Road		63.6	0.0
SR99 - W. Ashlan Avenue to W. Dakota Ave	Road		43.0	0.0
N Garfield Ave - W. Herndon Avenue to W.	Road		33.1	0.0
N Garfield Ave - W. Bullard Avenue to W.	Road		34.3	0.0
N Garfield Ave - W. Barstow Avenue to W.	Road		37.6	0.0
N Garfield Ave - W. Shaw Avenue to W. Ge	Road		37.3	0.0
N Garfield Ave - W. Ashlan Avenue to W.	Road		33.3	0.0
N Garfield Ave - W. Sheilds Avenue to W.	Road		27.0	0.0
W. Clinton Ave - N. Garfield Ave to N. G	Road		22.9	0.0
W. Gettysburg Ave - N Garfield Ave to Gr	Road		40.0	0.0

Fresno West EIR
Assessed contribution level - Situatiion 2: Outdoor SP

Source	Source ty	Tr. lane	CNEL dB(A)	A dB	
W. Gettysburg Ave - N. Grantland Ave to	Road		49.2	0.0	
W. Ashlan Ave - N. Garfield Ave to N. Gr	Road		47.0	0.0	
W. Dakota Ave - N. Garfield Ave to N. Gr	Road		36.1	0.0	
W. Dakota Ave - N. Grantland Avenue to N	Road		37.7	0.0	
W. Dakota Ave - N. Bryan Avenue to N. Ha	Road		38.1	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road			0.0	
W. Shaw Ave - N. Bryan Ave to N. Hayes A	Road		66.7	0.0	
W. Shaw Ave - N. Hayes Ave to N. Polk Av	Road		56.7	0.0	
W. Shaw Ave - N. Polk Avenue to State Ro	Road		39.2	0.0	
W. Shaw Ave - N. Grantland Ave to N.	Road		60.7	0.0	
W. Ashlan Ave - N. Bryan Avenue to N. Ha	Road		50.6	0.0	
W. Ashlan Ave - N. Hayes Avenue to N. Po	Road		48.3	0.0	
W. Ashlan - N. Polk Ave to N. Cornelia	Road		46.2	0.0	
W. Ashlan Ave - N. Cornelia Ave to N. Bl	Road		43.4	0.0	
W. Gettysburg Ave - N. Bryan Avenue to N	Road		54.4	0.0	
W. Gettysburg Ave - N. Hayes Ave to N Po	Road		44.3	0.0	
W. Gettysburg Ave - N. Polk Ave to N. Ba	Road		38.4	0.0	
W. Ashlan Ave - N. Grantland Ave to N Br	Road		49.4	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		33.9	0.0	
W. Dakota Ave - N. Hayes Avenue to N. Po	Road		36.7	0.0	
W. Dakota Ave - N. Polk Avenue to N. Cor	Road		34.4	0.0	
W. Dakota Ave - N. Cornelia Avenue to N.	Road		31.6	0.0	
W. Dakota Ave - N. Blythe Avenue to N Br	Road		26.8	0.0	

Source	Source ty	Tr. lane	CNEL dB(A)	A dB	
W. Dakota Ave - N Brawley Avenue to N. P	Road		16.9	0.0	
W. Sheilds Ave - N. Polk Avenue to N. Co	Road		27.7	0.0	
W. Sheilds Ave - N. Hayes Avenue to N. P	Road		36.7	0.0	
W. Sheilds Ave - N. Bryan Avenue to N. H	Road		35.0	0.0	
W. Sheilds Ave - N. Grantland Ave to Bry	Road		35.7	0.0	
W. Sheilds Ave - N. Cornelia Ave to N Bl	Road		33.4	0.0	
W. Sheilds Ave - N. Blythe Ave to N. Bra	Road		30.4	0.0	
W. Sheilds Ave - N Brawley Ave to N. Val	Road		25.8	0.0	
W. Sheilds Ave - N. Valentine Ave to N.	Road			0.0	
Shields Ave & Valentine Ave East	Road			0.0	
W. Clinton Ave - N. Polk Avenue to N. Co	Road		32.8	0.0	
W. Clinton Ave - N. Hayes Ave to N. Polk	Road		31.9	0.0	
W. Clinton Ave - N. Bryan Ave to N. Haye	Road		31.4	0.0	
W. Clinton Ave - N. Grantland Ave to Bry	Road		29.8	0.0	
W. Clinton Ave - N. Cornelia Avenue to N	Road		32.2	0.0	
W. Clinton Ave - N. Blythe Avenue to N B	Road		28.9	0.0	
W. Shaw Ave - N Garfield Avenue to N. Gr	Road		50.2	0.0	
N. Grantland Ave - W. Barstow Ave to Sha	Road		50.1	0.0	
N. Grantland Ave - W. Ashlan Avenue to W	Road		37.4	0.0	
N. Bryan Ave - W. Shaw Avenue to W. Gett	Road		63.7	0.0	
N. Hayes Ave - W. Shaw Avenue to W. Gett	Road		54.9	0.0	
N. Polk Ave - W. Shaw Avenue to W. Getty	Road		45.6	0.0	
N. Polk Ave - North of W. Shaw Avenue	Road		37.1	0.0	

Source	Source ty	Tr. lane	CNEL dB(A)	A dB	
Bullard Ave - N Garfield to N. Grantland	Road		40.4	0.0	
Bullard Ave - N. Bryan Avenue to N. Cont	Road		46.3	0.0	
N. Grantland Ave - W. Bullard Ave to Bar	Road		41.4	0.0	
Bullard Ave - N Garfield Avenue to N. Gr	Road		35.1	0.0	
Bullard Ave - N. Grantland Avenue to N.	Road		29.4	0.0	
N. Grantland Ave - N. Parkway Drive to W	Road		36.7	0.0	
N. Bryan Ave - W. Gettysburg Ave to W As	Road		42.9	0.0	
N. Bryan Ave - W. Dakota Avenue to W. Sh	Road		36.6	0.0	
N. Grantland Ave - W. Ashlan Ave to W Da	Road		46.0	0.0	
N. Hayes Ave - W. Gettysburg Avenue to W	Road		50.1	0.0	
N. Polk Ave - W. Gettysburg Avenue to W.	Road		45.1	0.0	
N. Hayes Ave - W. Ashland Avenue to W. D	Road		30.8	0.0	
N. Polk Ave - W. Ashland Avenue to W. Da	Road		41.5	0.0	
N. Cornelia Ave - N. Parkway Drive to W.	Road		37.9	0.0	
N. Cornelia Ave - W. Ashland Avenue to W	Road		36.4	0.0	
N. Blythe Ave - W. Ashlan Avenue to W. D	Road		33.5	0.0	
W. Ashlan Ave - N. Blythe Avenue to SR99	Road		24.3	0.0	
N. Hayes Ave - W. Dakota Avenue to W Shi	Road		37.3	0.0	
N. Polk Ave - W. Dakota Avenue to W Shie	Road		37.8	0.0	
N. Cornelia Ave - W. Dakota Avenue to W	Road		32.3	0.0	
N. Blythe Ave - W. Dakota Avenue to W Sh	Road		30.4	0.0	
N Brawley Ave - N. Parkway Drive to W. D	Road		28.9	0.0	
N Brawley Ave - W Shields Avenue to W. C	Road		23.1	0.0	

Source	Source ty	Tr. lane	CNEL dB(A)	A dB	
W. Sheilds Ave - West of N. Grantland Av	Road		33.9	0.0	
N. Grantland Ave - W Shields Avenue to W	Road		36.0	0.0	
N. Bryan Ave - W Shields Avenue to W. Cl	Road		35.1	0.0	
N. Hayes Ave - W Shields Avenue to W. Cl	Road		29.5	0.0	
N. Polk Ave - W Shields Avenue to W. Cli	Road		31.1	0.0	
N. Cornelia Ave - W Shields Avenue to W.	Road		30.5	0.0	
N. Blythe Ave - W Shields Avenue to W. C	Road		29.7	0.0	
N Brawley Ave - W. Dakota Avenue to W Sh	Road		28.6	0.0	
N. Valentine Ave - N. Parkway Drive to W	Road			0.0	
N. Valentine Ave - W Shields Avenue to W	Road			0.0	
W. Clinton Ave - N Brawley Ave to N. Val	Road			0.0	
W. Clinton Ave - N. Valentine Ave to N.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
N. Marks Ave - W Princeton Avenue to W.	Road			0.0	
W. Clinton Ave - N. Marks Avenue to SR99	Road			0.0	
N. Parkway Drive - W. Herndon Avenue to	Road		28.9	0.0	
N. Parkway Drive - W. Herndon Avenue to	Road		32.5	0.0	
N. Parkway Drive - W. Herndon Avenue to	Road		17.6	0.0	
Bullard Ave - N. Grantland Ave to N. Bry	Road		31.2	0.0	
N. Grantland Ave - W. Shaw Avenue to W.	Road		52.5	0.0	
N. Grantland Ave - W. Dakota Avenue to W	Road		40.1	0.0	
N. Bryan Ave - W. Ashlan Avenue to W. Da	Road		42.9	0.0	
N. Cornelia Ave - North of W. Gettysburg	Road		35.5	0.0	

Fresno West EIR
Octave spectra of the sources in dB(A) - Situatiion 3: Outdoor GNM

Name	Source type	l or A m,m²	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	KI dB	KT dB	LwMax dB(A)	DO-Wall dB(A)	Day histogram	Emission spectrum	500Hz dB(A)	
Union Pacific Railroad	Line	12751.74			99.3	140.4	0.0	0.0		0	100%/24h		140.4	

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
05 / 02 / 2019	☒ Railroad ☐ Transit ☐ State ☐ Other	☐ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☒ Admin. Correction	757313H

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	FRESNO

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near FRESNO	CARNEGIE AVENUE (Street/Road Name) | * (Block Number)	LS

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None NORTHERN CALIFORN	☐ None Fresno Sub	☒ None	(prefix) | 0197.190 | (suffix) (nnnn.nnn)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☒ Open Space ☐ Farm ☐ Residential ☐ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 36.821008	(WGS84 std: -nnn.nnnnnnn) -119.895484	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use * CPUC 001B-197.20
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
7	7	4	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2016	3.A. Maximum Timetable Speed (mph) 60 3.B. Typical Speed Range Over Crossing (mph) From 30 to 60

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☒ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
05/02/2019		757313H

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1) (count)*	2.C. YIELD Signs *(R1-2) (count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 1 ☒ W10-3 2 ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☒ One Approach ☐ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs ☒ Yes ☐ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type _____ Count _____ Specify Type _____ Count _____ Specify Type _____ Count _____	☐ Yes ☐ No	0

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 2 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☒ LED ☒ Back Lights Included ☐ Side Lights Included	4

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☒ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 2	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 40

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 65	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☒ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☒ (7) Local	☐ Yes ☒ No	30 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2016 AADT 8683	40 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
05 / 02 / 2019	☒ Railroad ☐ Transit ☐ State ☐ Other	☐ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☒ Admin. Correction	760966M

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	FRESNO

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☐ In ☒ Near HERNDON	AVENUE 7 (Street/Road Name) | * (Block Number)	NA

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None NORTHERN CALIFORN	☐ None Fresno Sub	☒ None	(prefix) | 0193.670 | (suffix) (nnnn.nnn)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☐ At Grade ☒ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☒ Open Space ☐ Farm ☐ Residential ☐ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 36.8517145	(WGS84 std: -nnn.nnnnnnn) -119.9456857	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day
0	0	0	0	☒ How many trains per week? 1

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2016	3.A. Maximum Timetable Speed (mph) 60 3.B. Typical Speed Range Over Crossing (mph) From 30 to 60

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☐ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☒ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
05/02/2019		760966M

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☐ Yes ☒ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
0	0		☐ W10-1 _____ ☐ W10-3 _____ ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☐ None	☐ Yes ☒ No	☐ Yes ☒ No

2.J. Other MUTCD Signs ☐ Yes ☒ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count _____	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 0	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian _____	☐ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	0

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☐ No	☐ Yes ☒ No	0

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☐ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☐ Two-way Traffic ☐ Divided Traffic Number of Lanes 0	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☐ Yes ☒ No If Yes, Approximate Distance *(feet)* _____	☐ 0° – 29° ☐ 30° – 59° ☐ 60° - 90°	☐ Yes ☒ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☐ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	_____ MPH ☐ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 1970 AADT 1	_____ %	☐ Yes ☒ No Average Number per Day 0	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date *(MM/DD/YYYY)*	B. Reporting Agency	C. Reason for Update *(Select only one)*	D. DOT Crossing Inventory Number
05 / 02 / 2019	☒ Railroad ☐ Transit ☐ State ☐ Other	☐ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☒ Admin. Correction	757320T

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	FRESNO

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near FRESNO	West Clinton Avenue *(Street/Road Name)* | * *(Block Number)*	NA

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No	8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR	If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None NORTHERN CALIFORN	☐ None Fresno Sub	☒ None	| 0201.910 | *(prefix) | (nnnn.nnn) | (suffix)*

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR *(if applicable)*	16. Crossing Owner *(if applicable)*
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access *(if Private Crossing)*	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☐ At Grade ☒ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☒ Open Space ☐ Farm ☐ Residential ☐ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone *(FRA provided)*
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	*(WGS84 std: nn.nnnnnnn)* 36.7720002	*(WGS84 std: -nnn.nnnnnnn)* -119.8372268	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative *(Railroad Use)* *	32.B. Narrative *(State Use)* *

33. Emergency Notification Telephone No. *(posted)*	34. Railroad Contact *(Telephone No.)*	35. State Contact *(Telephone No.)*
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains *(6 AM to 6 PM)*	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☒ How many trains per week? 1
0	0	0	0	

2. Year of Train Count Data *(YYYY)*	3. Speed of Train at Crossing
2016	3.A. Maximum Timetable Speed *(mph)* 40 3.B. Typical Speed Range Over Crossing *(mph)* From 20 to 40

4. Type and Count of Tracks

Main 2 Siding 0 Yard 1 Transit 0 Industry 0

5. Train Detection *(Main Track only)*
☐ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☒ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
05/02/2019		757320T

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☐ Yes ☒ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
0	0		☐ W10-1 _____ ☐ W10-3 _____ ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☐ None	☐ Yes ☒ No	☐ Yes ☒ No

2.J. Other MUTCD Signs ☐ Yes ☒ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count _____	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 0	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian _____	☐ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	0

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☐ No	☐ Yes ☒ No	0

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☐ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☐ Two-way Traffic ☐ Divided Traffic Number of Lanes 0	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☐ Yes ☒ No If Yes, Approximate Distance *(feet)* _____	☐ 0° – 29° ☐ 30° – 59° ☐ 60° - 90°	☐ Yes ☒ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☐ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	_____ MPH ☐ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 1970 AADT 1	_____ %	☐ Yes ☒ No Average Number per Day 0	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
05 / 02 / 2019	☒ Railroad ☐ Transit ☐ State ☐ Other	☐ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☒ Admin. Correction	753317W

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Union Pacific Railroad Company [UP]	CALIFORNIA	FRESNO

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near FRESNO	ASHLAN AVENUE (Street/Road Name) | * (Block Number)	NA

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None NORTHERN CALIFORN	☐ None Fresno Sub	☒ None	(prefix) | 0199.950 (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
		☒ N/A	☐ N/A UP

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☐ At Grade ☒ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☐ Commercial ☒ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 36.7934600	(WGS84 std: -nnn.nnnnnnn) -119.8608629	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-848-8715	402-544-3721	415-703-3722

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day
0	0	0	0	☒ How many trains per week? 1

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2016	3.A. Maximum Timetable Speed (mph) 40 3.B. Typical Speed Range Over Crossing (mph) From 20 to 40

4. Type and Count of Tracks
Main 2 Siding 0 Yard 2 Transit 0 Industry 0

5. Train Detection (Main Track only)
☐ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☒ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
05/02/2019		753317W

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☐ Yes ☒ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
0	0		☐ W10-1 _____ ☐ W10-3 _____ ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☐ None	☐ Yes ☒ No	☐ Yes ☒ No

2.J. Other MUTCD Signs ☐ Yes ☒ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count _____	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 0	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian _____	☐ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	0

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☐ No	☐ Yes ☒ No	0

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☐ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☐ Two-way Traffic ☐ Divided Traffic Number of Lanes 0	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☐ Yes ☒ No If Yes, Approximate Distance *(feet)* _____	☐ 0° – 29° ☐ 30° – 59° ☐ 60° - 90°	☐ Yes ☒ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☐ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	_____ MPH ☐ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 1970 AADT 1	_____ %	☐ Yes ☒ No Average Number per Day 0	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Appendix B:

Noise Measurement Data and Field Sheets

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10-Minute Continuous Noise Measurement Datasheet

Project: 04621901 Fresno West EIR
Site Address/Location: Fresno, CA
Date: 6/3/2019
Field Tech/Engineer: Mike Dickerson, INCE

Site Observations: Sunny, Ambient noise consisted of traffic along roads as lited for each measurement.

General Location:
Sound Meter: XL2 **SN:** 08562-E0
Settings: A-weighted, fast, 1-sec, 10-minute duration
Meteorological Con.: Sunny, clear
Site ID: ST-1 thru ST-12

Table 1: Morning - Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
1	9:28 AM	9:38 AM	67.6	78.3	54.5	74.7	71.3	68.0	65.6	59.8
2	9:48 AM	9:58 AM	69.5	84.1	40.9	78.3	75.8	69.4	60.4	45.7
3	10:15 AM	10:25 AM	61.5	82.5	41.3	68.1	62.2	58.8	54.2	46.0
4	10:32 AM	10:42 AM	54.4	69.5	37.8	63.1	58.4	53.7	50.0	43.7
5	12:13 PM	12:23 PM	64.6	86.5	45.4	71.6	67.7	64.3	60.8	51.7
6	2:19 PM	2:29 PM	74.8	99.8	50.2	79.2	72.6	67.5	64.3	58.5
7	12:38 PM	12:48 PM	72.8	93.4	37.5	81.4	74.7	65.0	56.2	43.2
8	12:54 PM	1:04 PM	66.1	86.3	51.5	75.5	70.1	62.6	58.9	54.4
9	1:09 PM	1:19 PM	64.4	79.9	48.1	73.5	68.9	63.4	59.5	52.4
10	1:26 PM	1:36 PM	59.6	79.5	31.9	70.4	61.6	52.7	43.8	34.5
11	1:42 PM	1:52 PM	65.8	85.0	44.7	73.4	68.7	64.7	60.4	51.8
12	2:00 PM	2:10 PM	68.8	85.2	55.2	75.9	72.7	69.6	65.6	58.7

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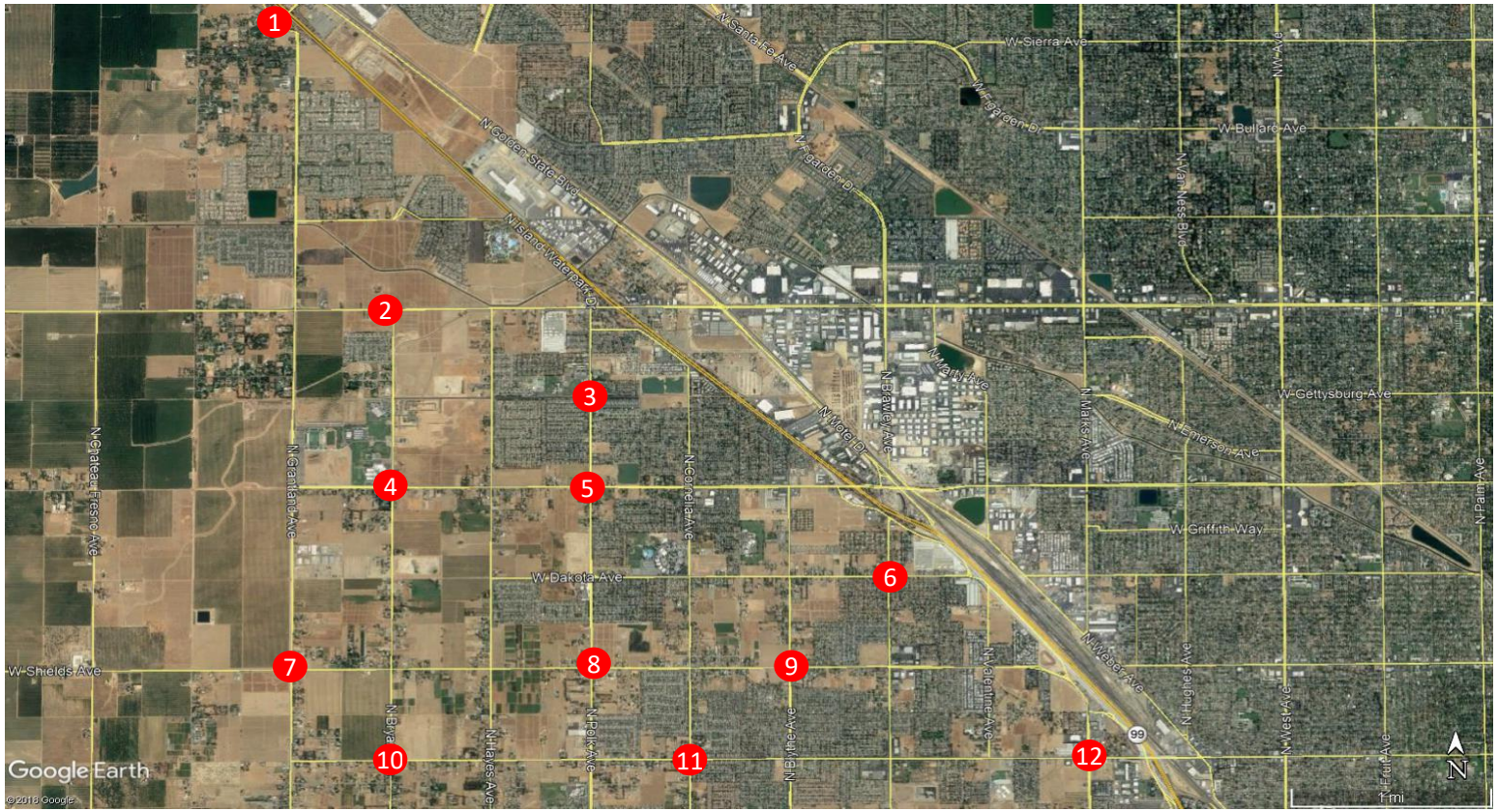
10-Minute Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR
Site Address/Location: Fresno, CA
Site ID: ST-1 thru ST-12

Figure 1: Monitoring Locations 1-12



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10-Minute Continuous Noise Measurement Datasheet - ST-1

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Herdon Ave. & Parkway Dr.		Sunny, clear, 1-3 mph wind	C/L of Herdon Ave. is 30ft from meter	
Site ID:	ST-1	**Ground Type:**	Soft site, w/ street surface hard	C/L of Parkway Dr. is 50ft from meter	

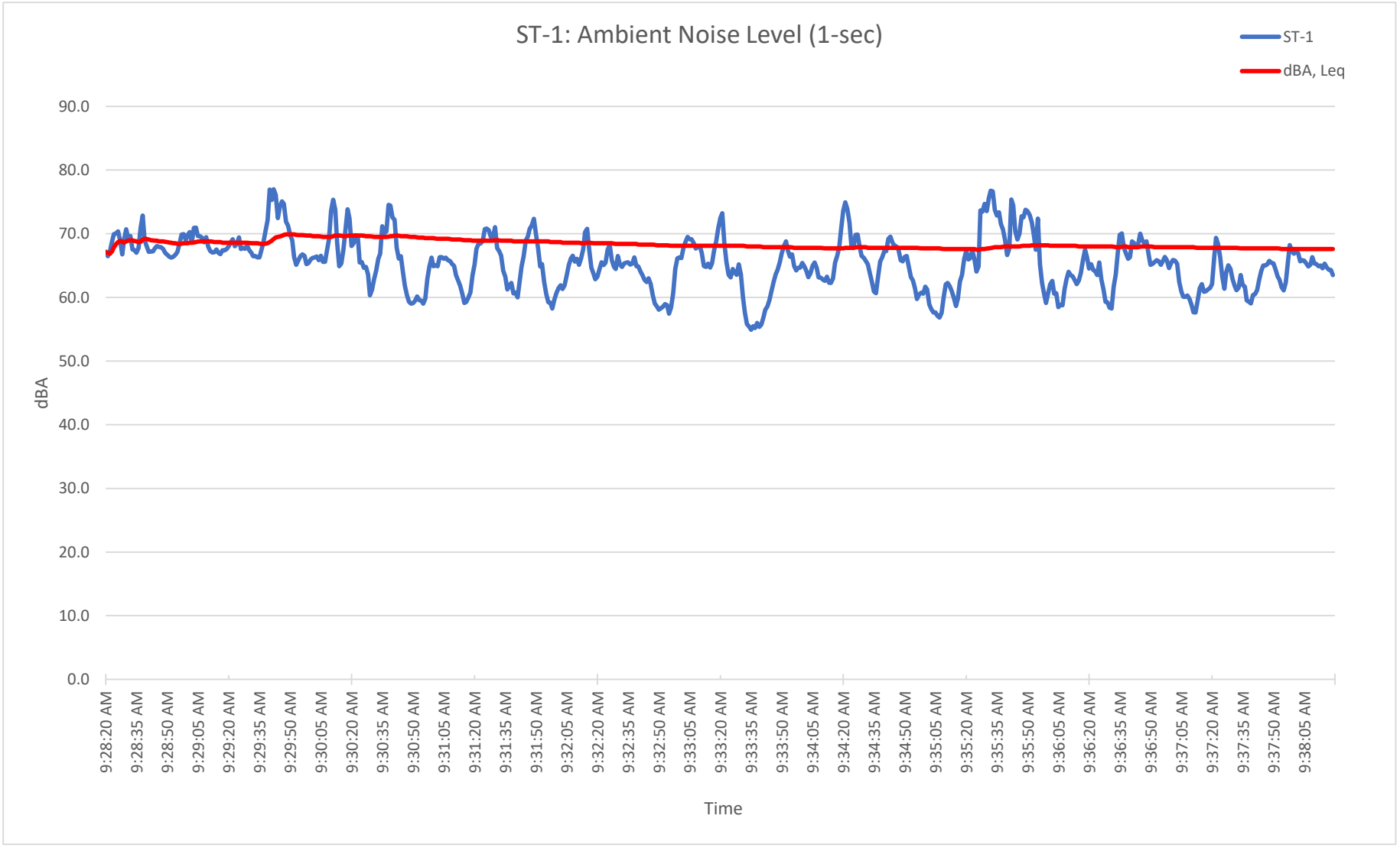

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Figure 2-1: ST-1 Site

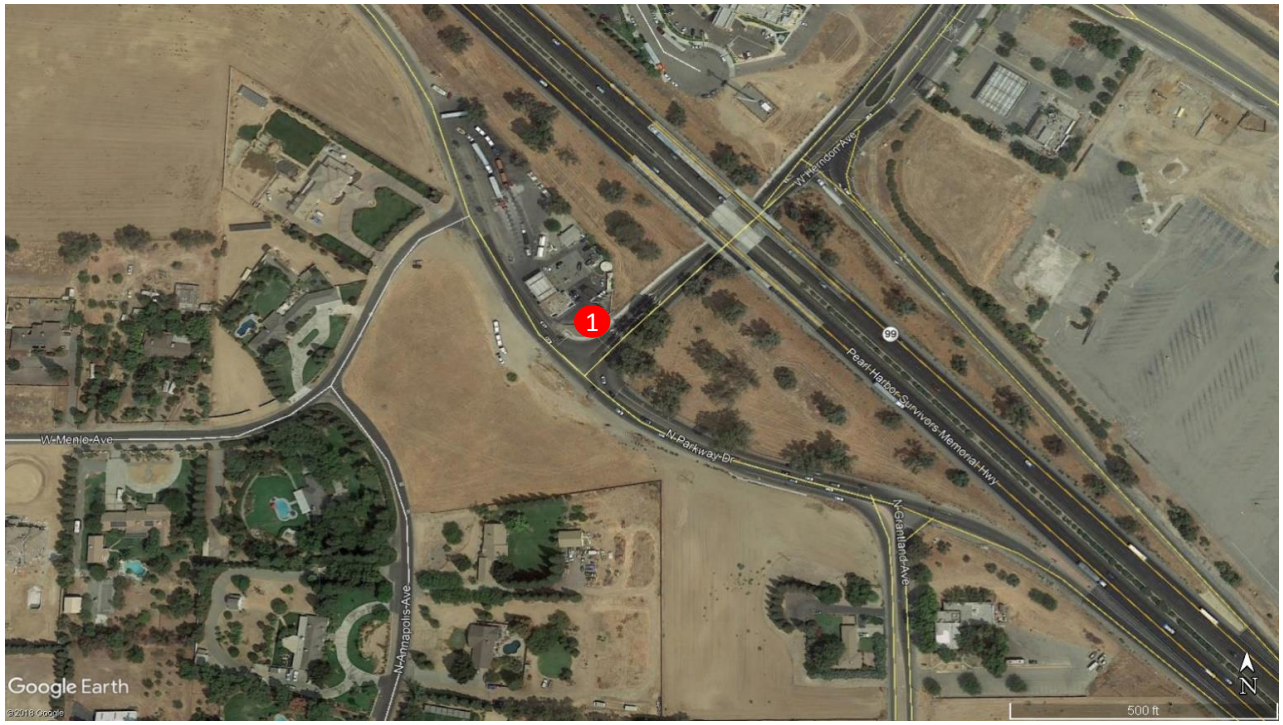

Figure 2-2: ST-1 Photo

Figure 2-3: ST-1 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-2

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Bryan Ave. & Shaw Ave.		Sunny, clear, 1-3 mph wind	C/L of Bryan Ave is 40ft from meter	
Site ID:	ST-2	**Ground Type:**	Soft site, w/ street surface hard	C/L of Shaw Ave. is 40ft from meter	

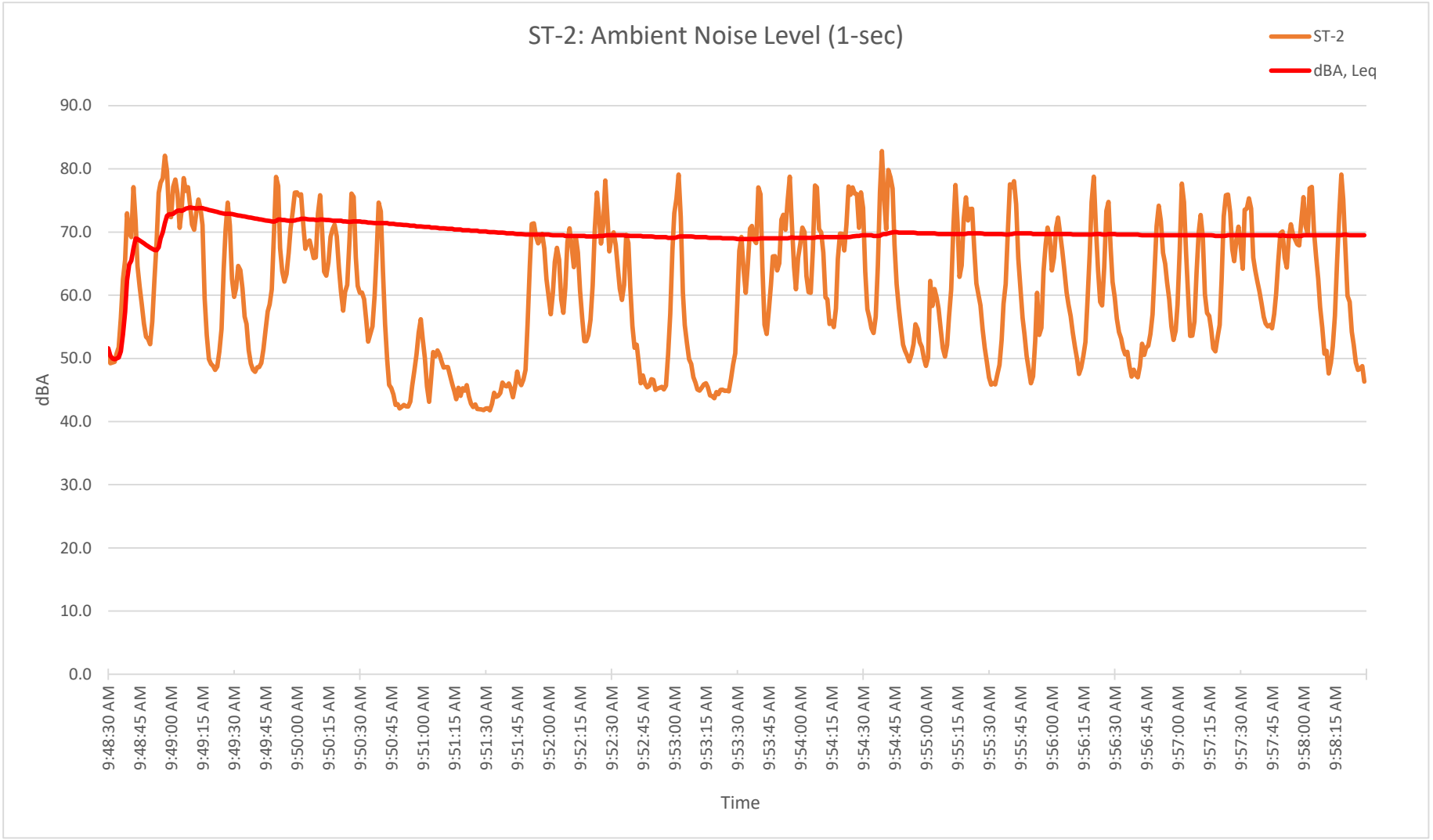

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Figure 3-1: ST-2 Site

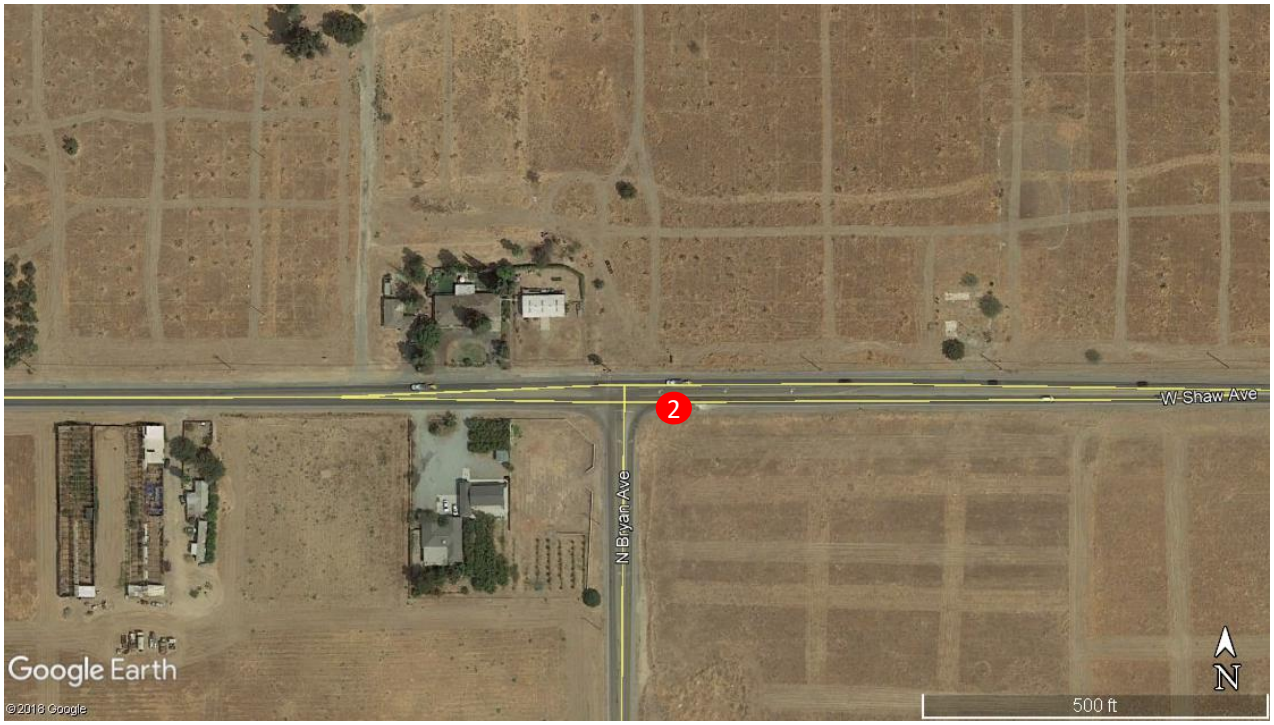

Figure 3-2: ST-2 Photo

Figure 3-3: ST-2 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-3

Project: 04621901 Fresno West EIR
Site Address/Location: Polk Ave. & Gettysburg Ave.
Site ID: ST-3

Site Topo: 85 Degrees
Sunny, clear, 1-3 mph wind
Ground Type: Hard site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Polk Ave. is 55ft from meter
C/L of Gettysburg Ave. is 55ft from meter

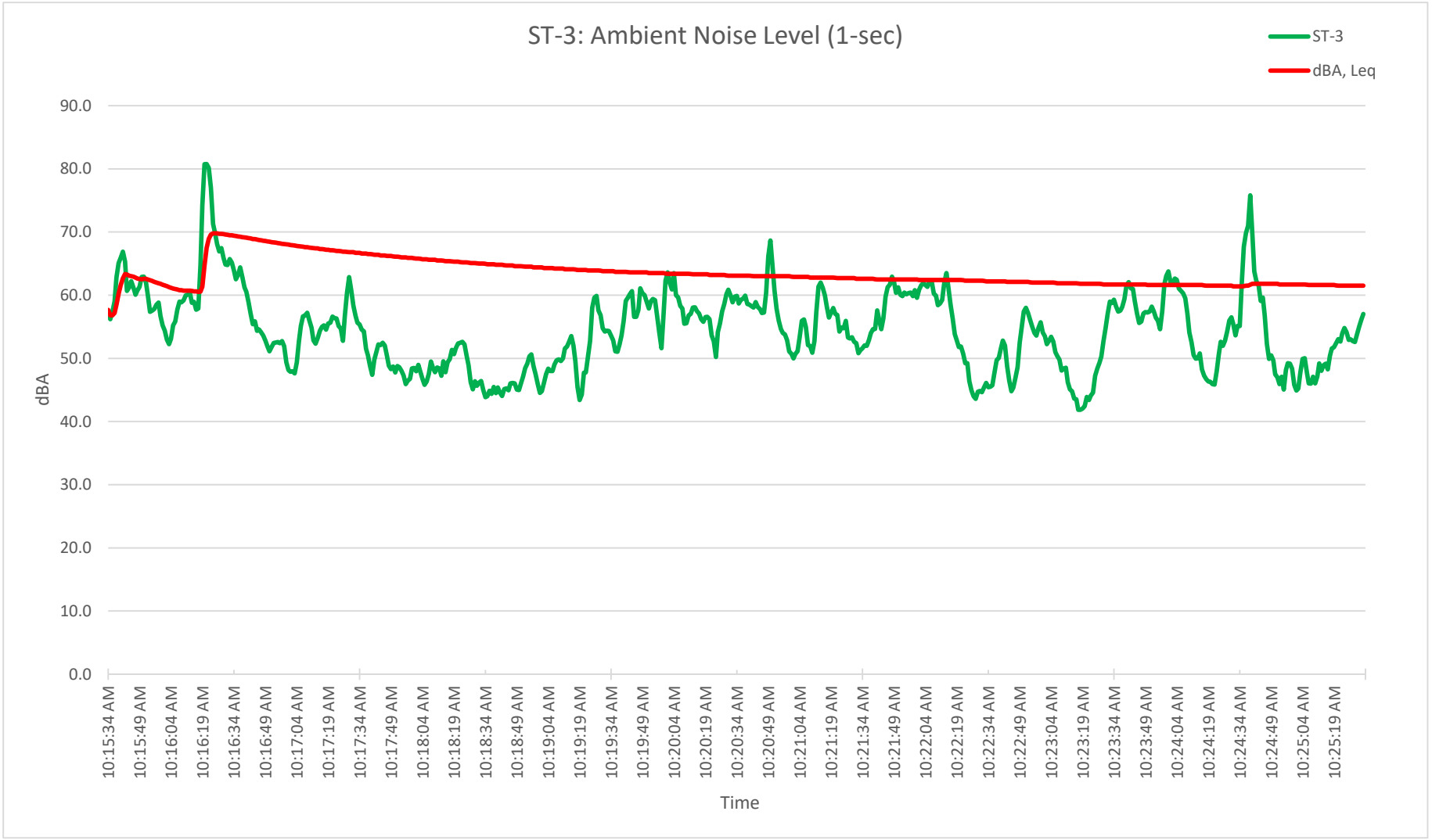

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Figure 4-1: ST-3 Site

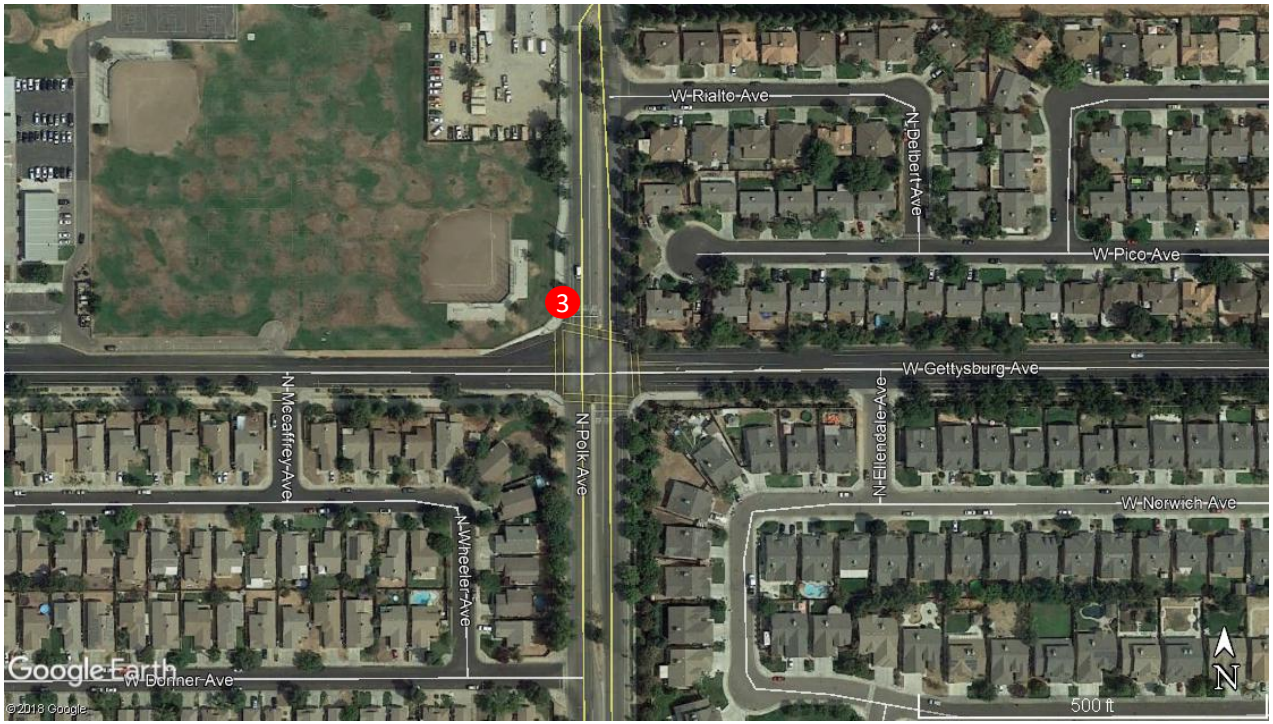

Figure 4-2: ST-3 Photo

Figure 4-3: ST-3 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-4

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Bryan Ave. & Ashlan Ave.		Sunny, clear, 1-3 mph wind	C/L of Bryan Ave. is 45ft from meter	
Site ID:	ST-4	**Ground Type:**	Soft site, w/ street surface hard	C/L of Ashlan Ave. 50ft from meter	

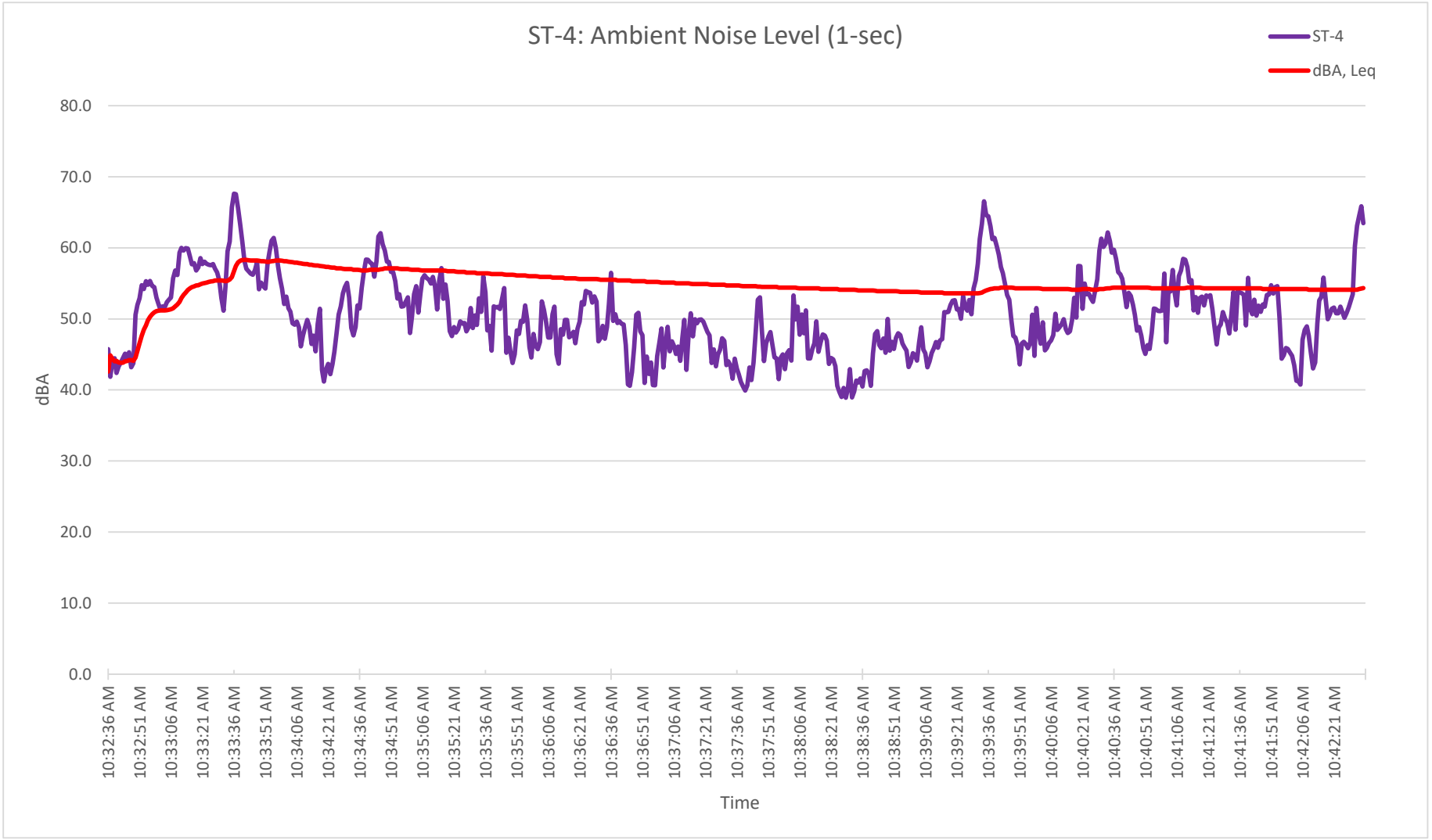

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Figure 5-1: ST-4 Site

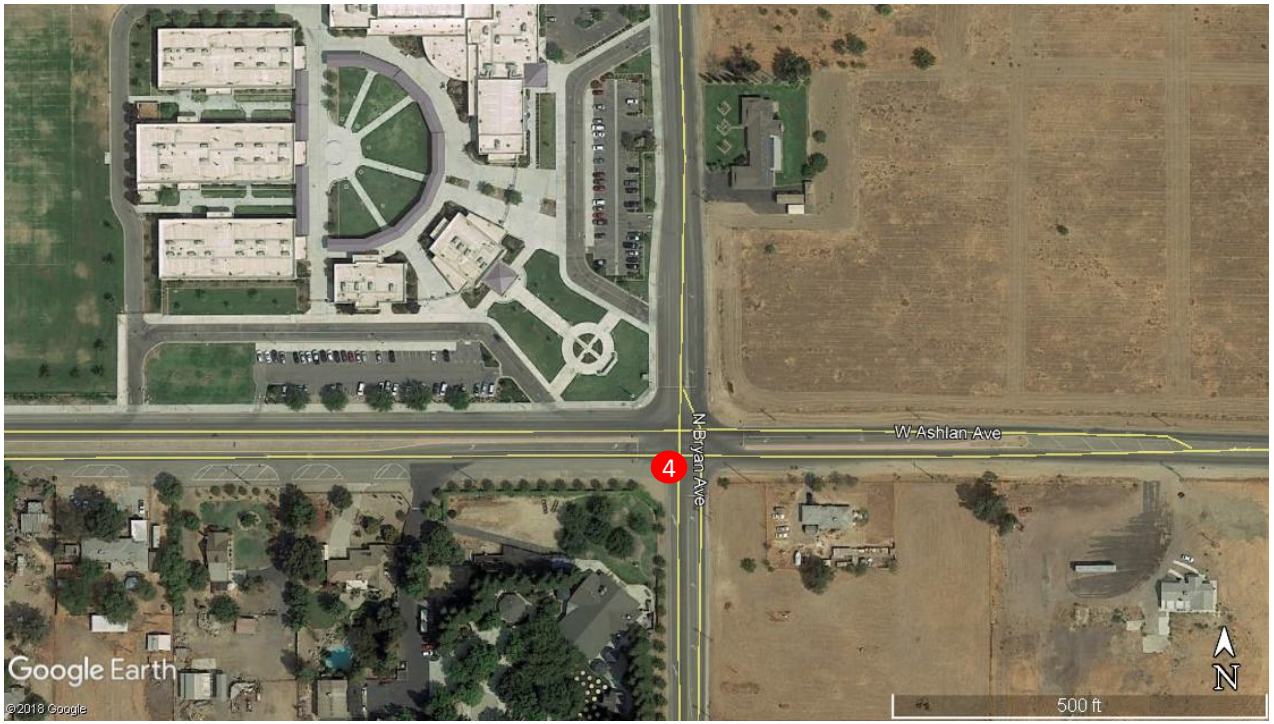

Figure 5-2: ST-4 Photo

Figure 5-3: ST-4 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-5

Project: 04621901 Fresno West EIR
Site Address/Location: Polk Ave. & Ashlan Ave.
Site ID: ST-5

Site Topo: 85 Degrees
Sunny, clear, 1-3 mph wind
Ground Type: Soft site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Polk Ave. is 40ft from meter
C/L of Ashlan Ave. 40ft from meter

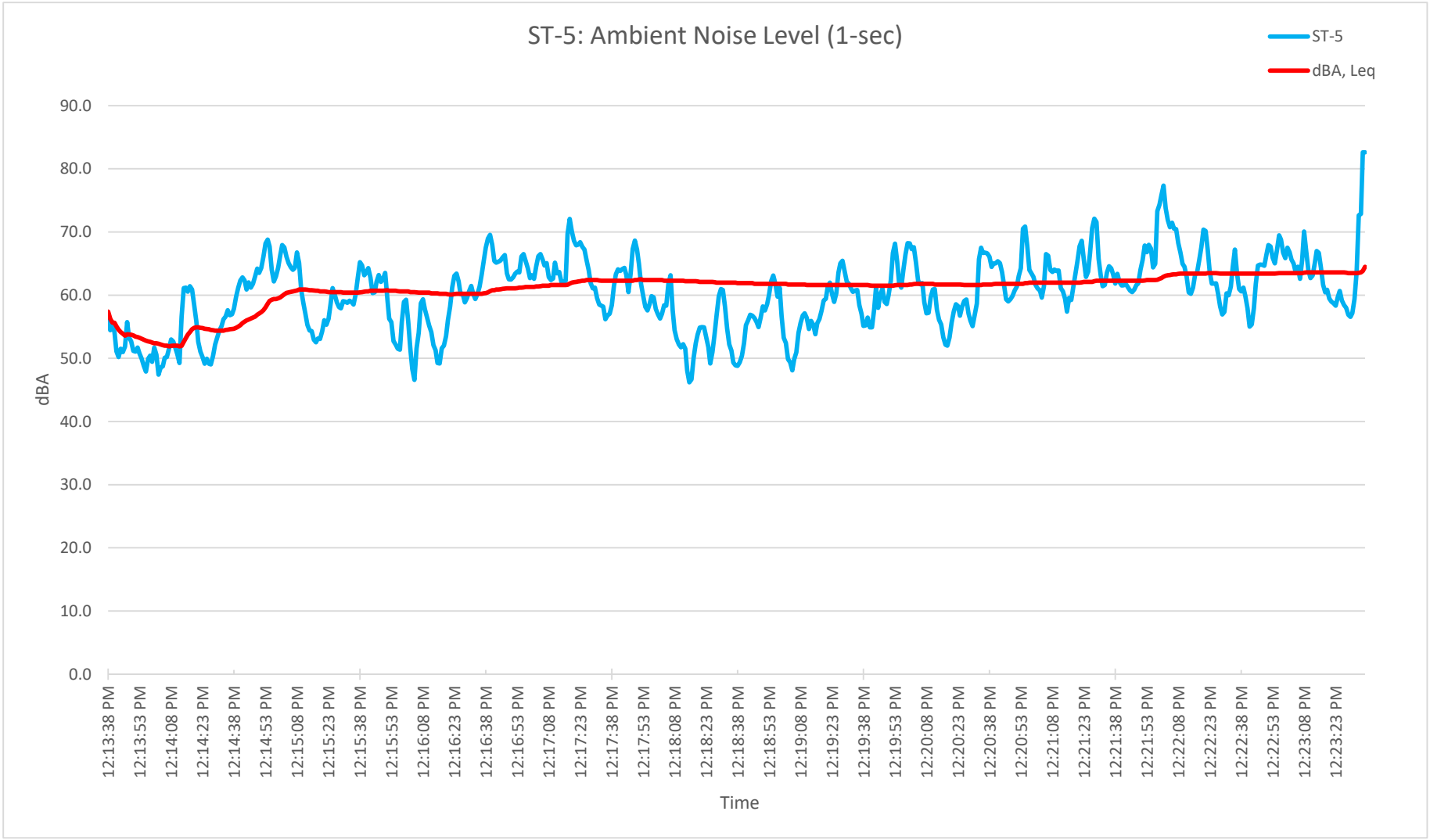

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Figure 6-1: ST-5 Site

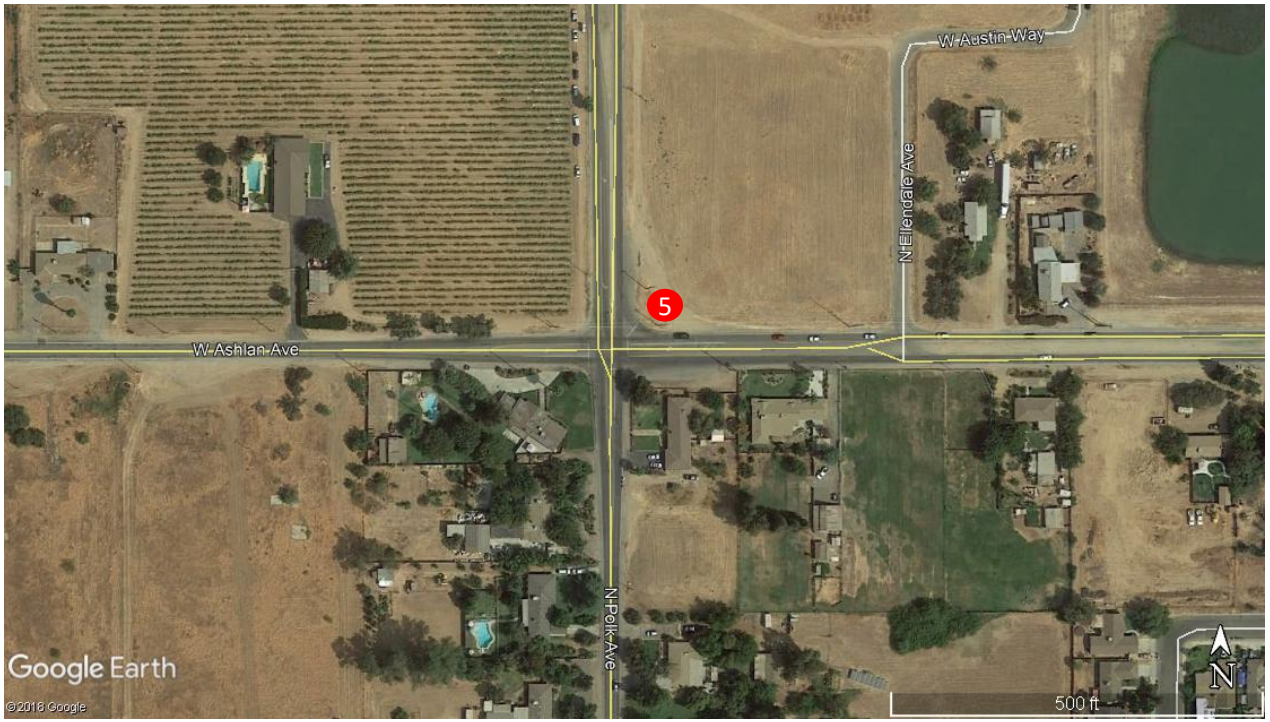

Figure 6-2: ST-5 Photo

Figure 6-3: ST-5 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-6

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Dakota Ave & Brawley Ave		Sunny, clear, 1-3 mph wind	C/L of Dakota Ave is 30ft from meter	
Site ID:	ST-6	**Ground Type:**	Soft site, w/ street surface hard	C/L of Brawley Ave is 35ft from meter	

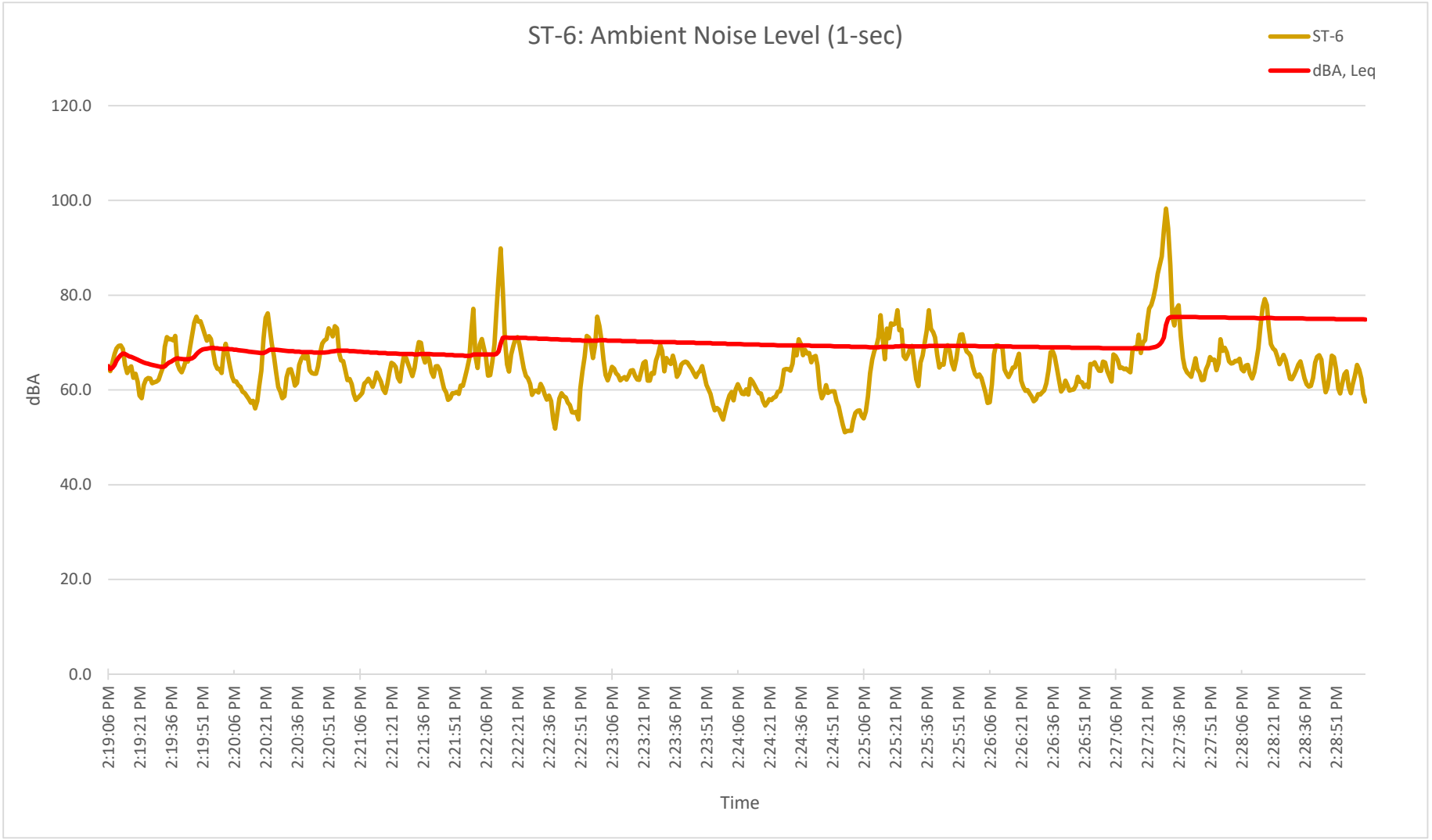

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Figure 7-1: ST-6 Site

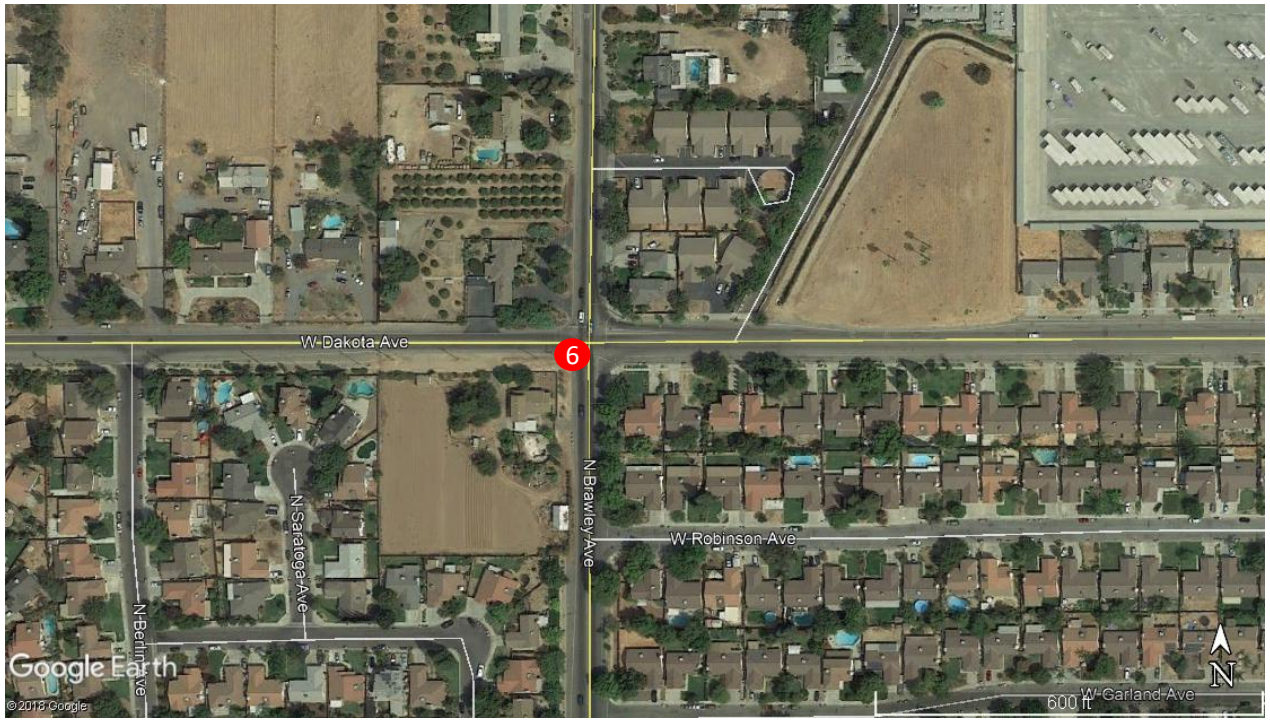

Figure 7-2: ST-6 Photo

Figure 7-3: ST-6 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-7

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Grantlan Ave. & Shields Ave.		Sunny, clear, 1-3 mph wind	C/L of Grantlan Ave. is 35ft from meter	
Site ID:	ST-7	**Ground Type:**	Soft site, w/ street surface hard	C/L of Shields Ave. is 35ft from meter	

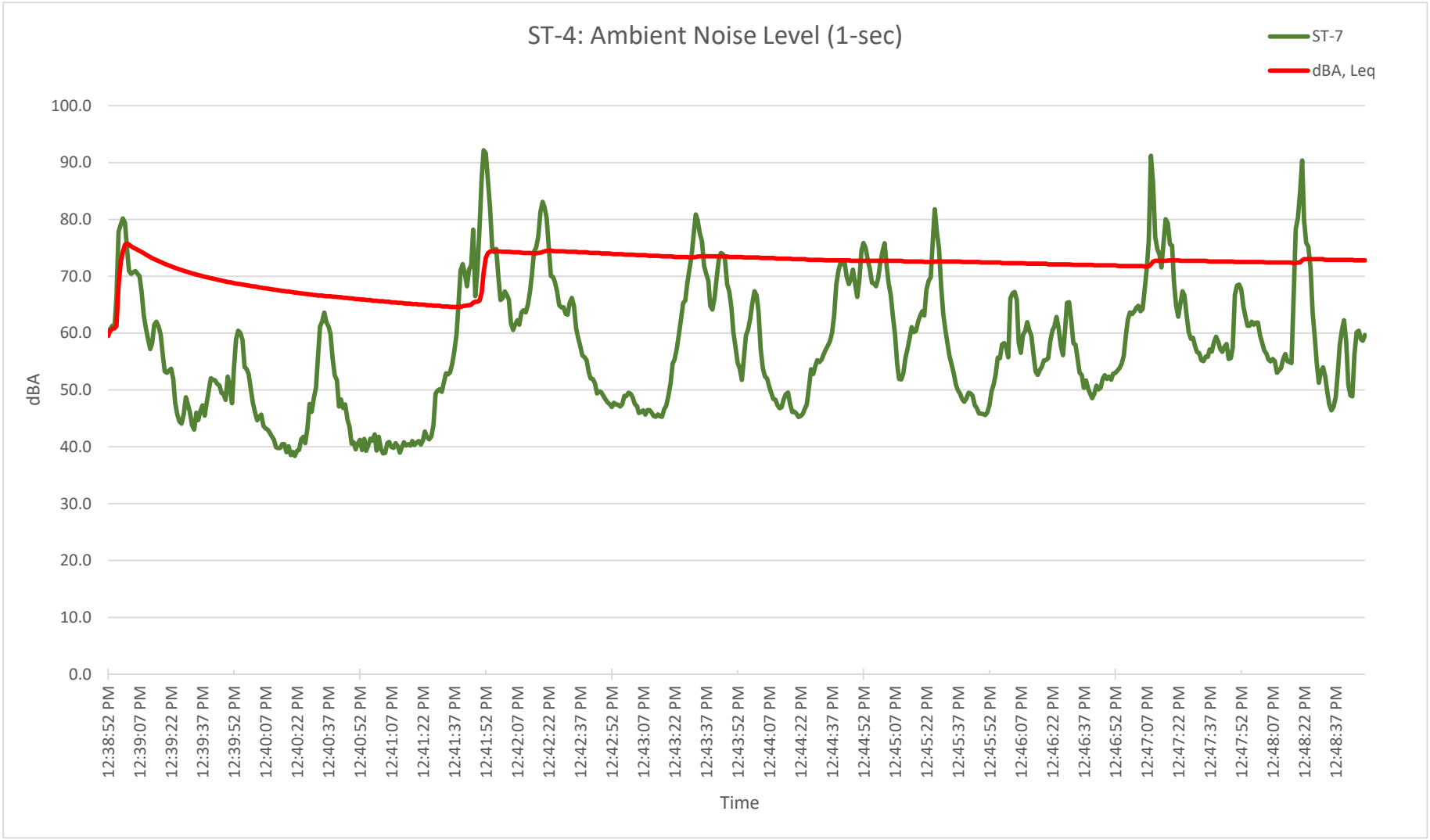

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Figure 8-1: ST-7 Site

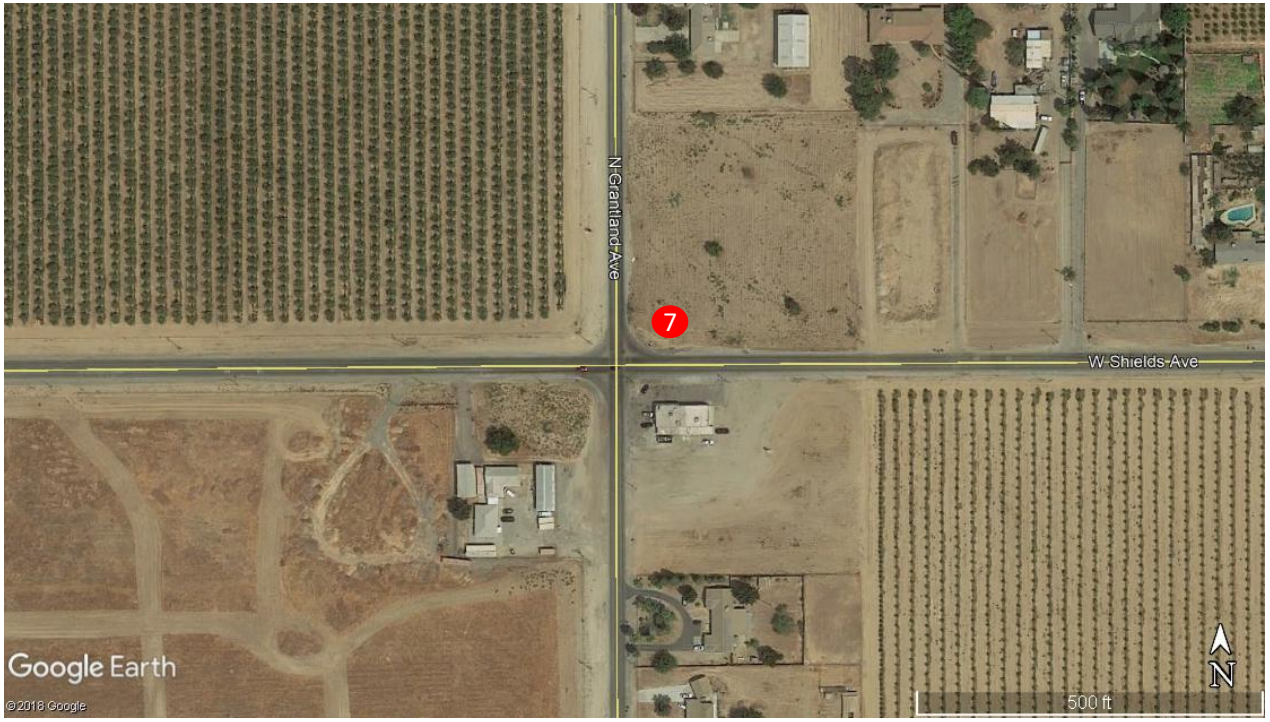

Figure 8-2: ST-7 Photo

Figure 8-3: ST-7 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-8

Project: 04621901 Fresno West EIR
Site Address/Location: Polk Ave. & Shields Ave.
Site ID: ST-8

Site Topo: 85 Degrees
Sunny, clear, 1-3 mph wind
Ground Type: Soft site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Grantlan Ave. is 35ft from meter
C/L of Shields Ave. is 35ft from meter

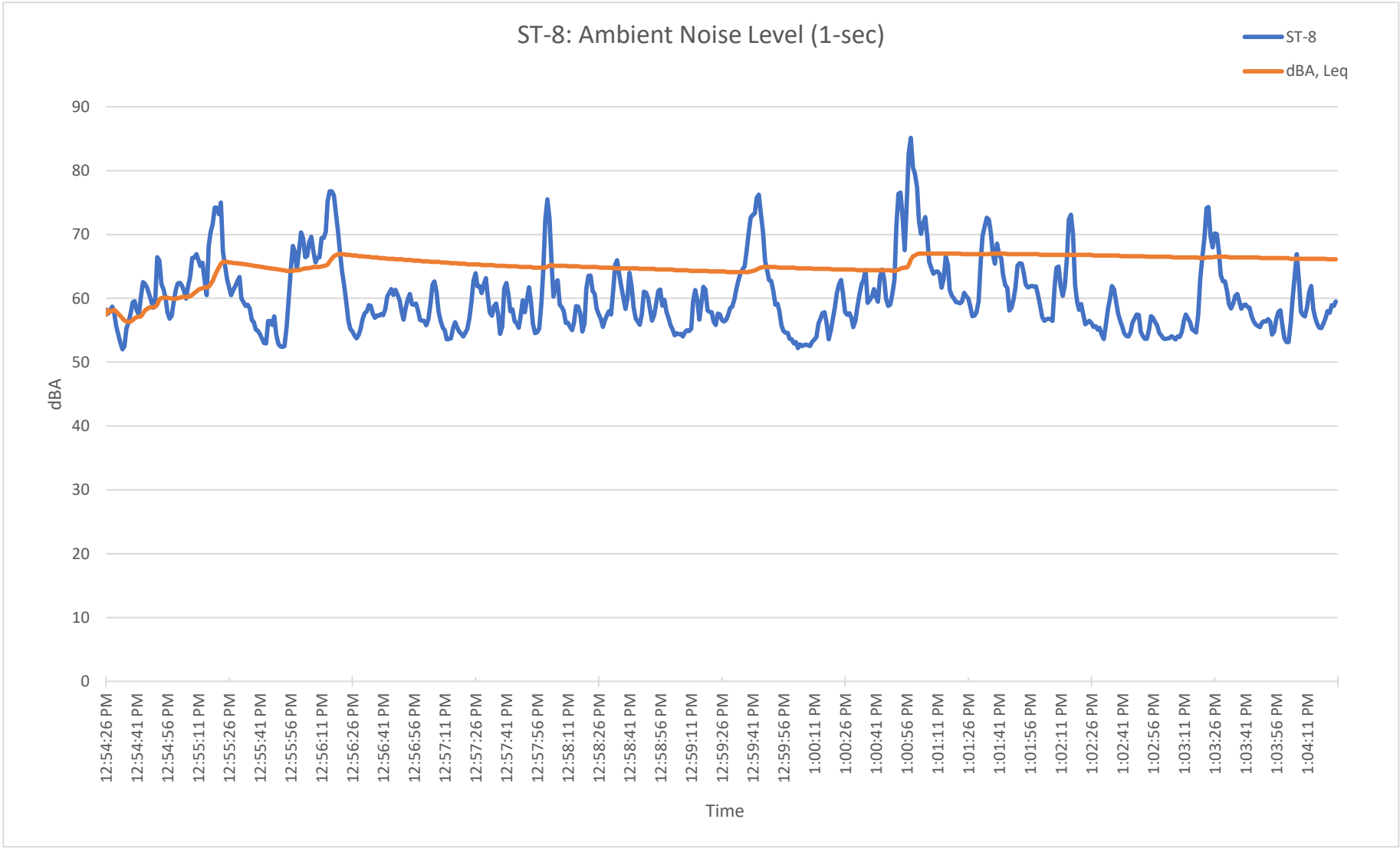

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Figure 9-1: ST-8 Site

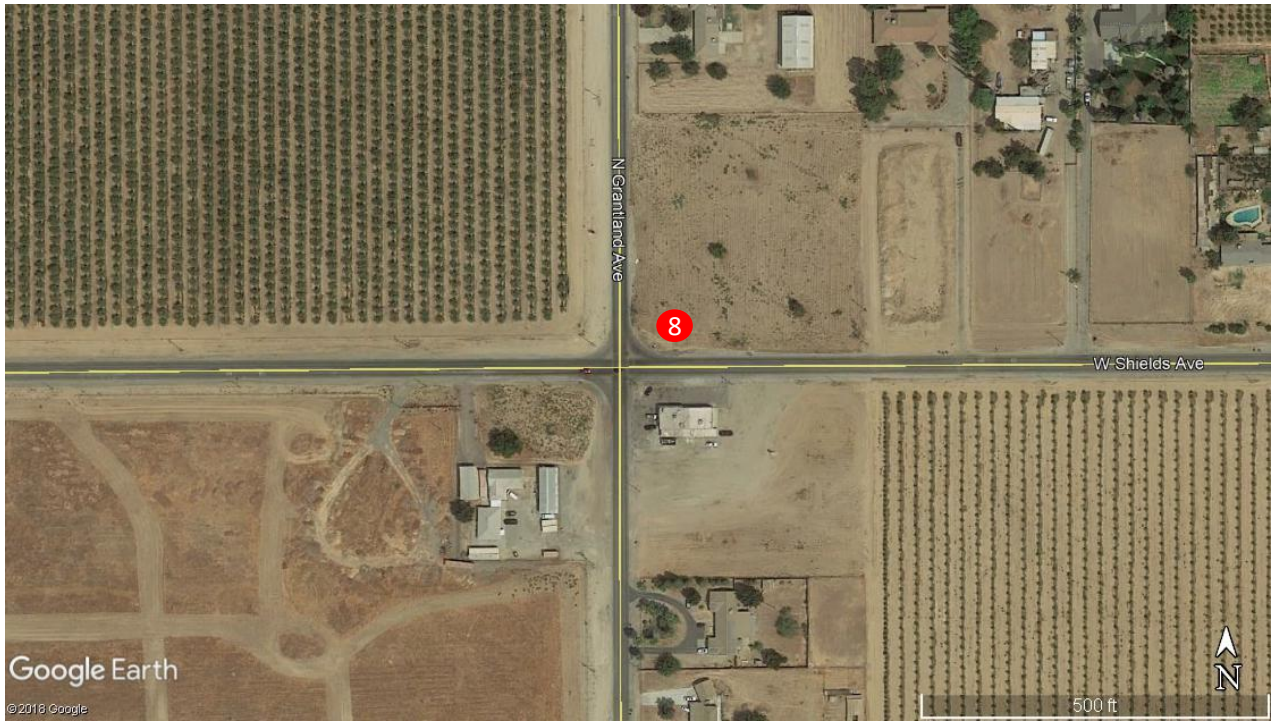

Figure 9-2: ST-8 Photo

Figure 9-3: ST-8 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-9

Project: 04621901 Fresno West EIR
Site Address/Location: Blythe Ave. & Shields Ave.
Site ID: ST-9

Site Topo: 85 Degrees
Sunny, clear, 1-3 mph wind
Ground Type: Soft site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Blythe Ave is 50ft from meter
C/L of Shields Ave. is 45ft from meter

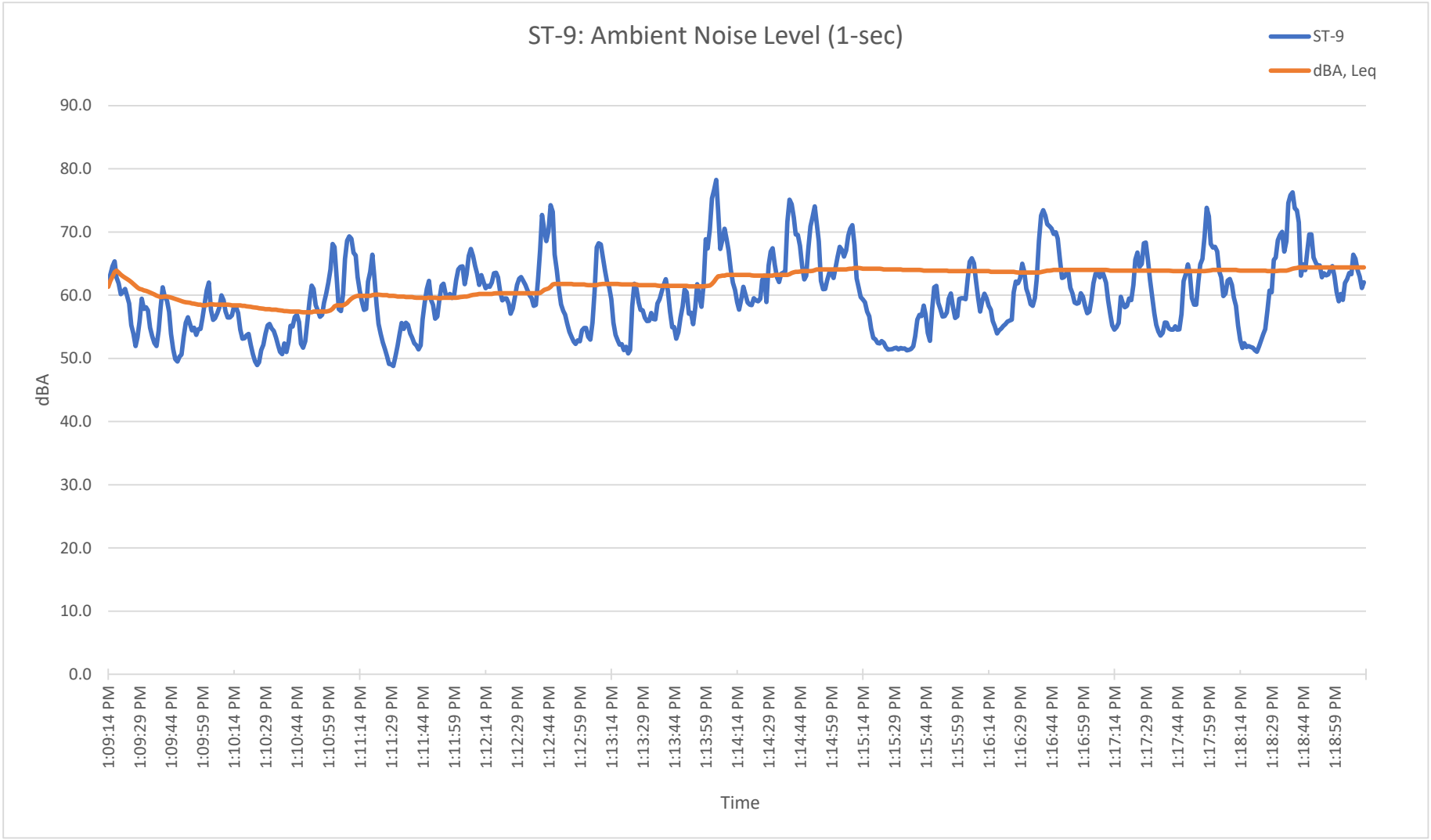

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Figure 10-1: ST-9 Site

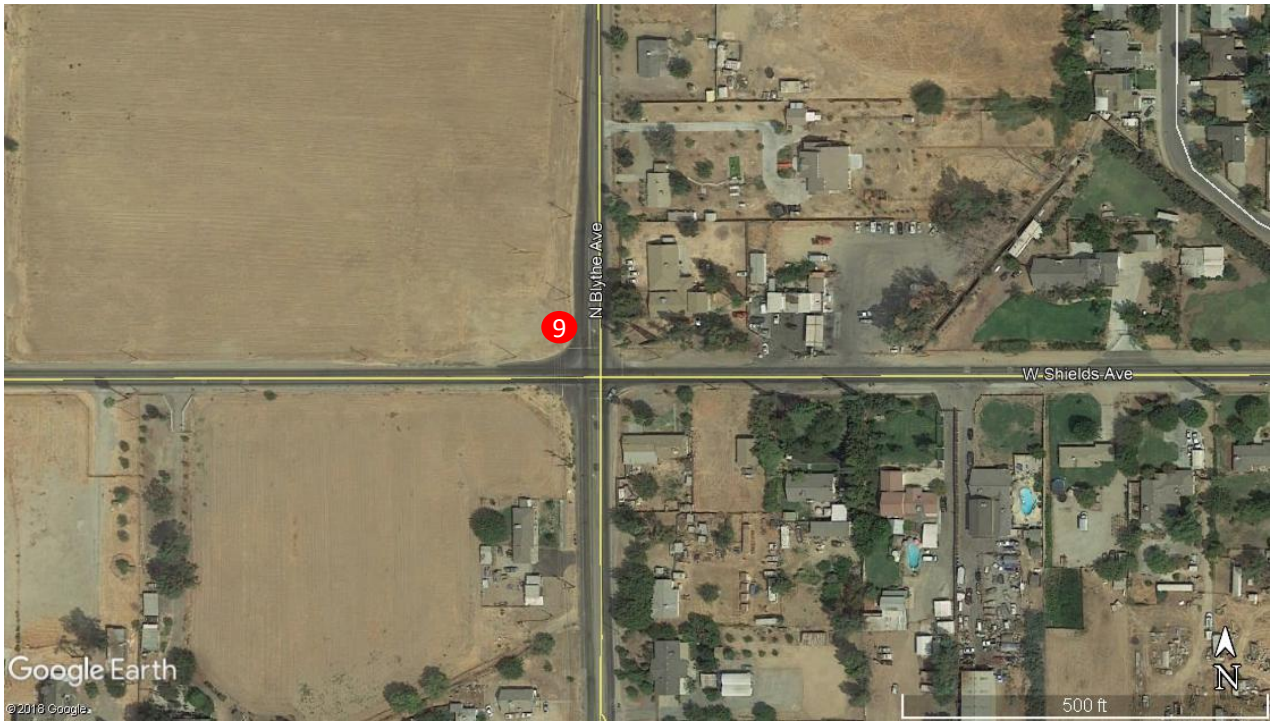

Figure 10-2: ST-9 Site

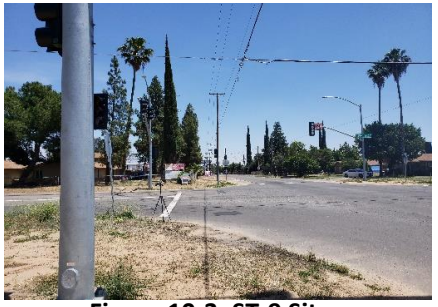

Figure 10-3: ST-9 Site

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10-Minute Continuous Noise Measurement Datasheet - ST-10

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Clinton Ave. & Bryan Ave.		Sunny, clear, 1-3 mph wind	C/L of Clinton Ave. is 15ft from meter	
Site ID:	ST-10	**Ground Type:**	Hard site, w/ street surface hard	C/L of Bryan Ave. is 25ft from meter	

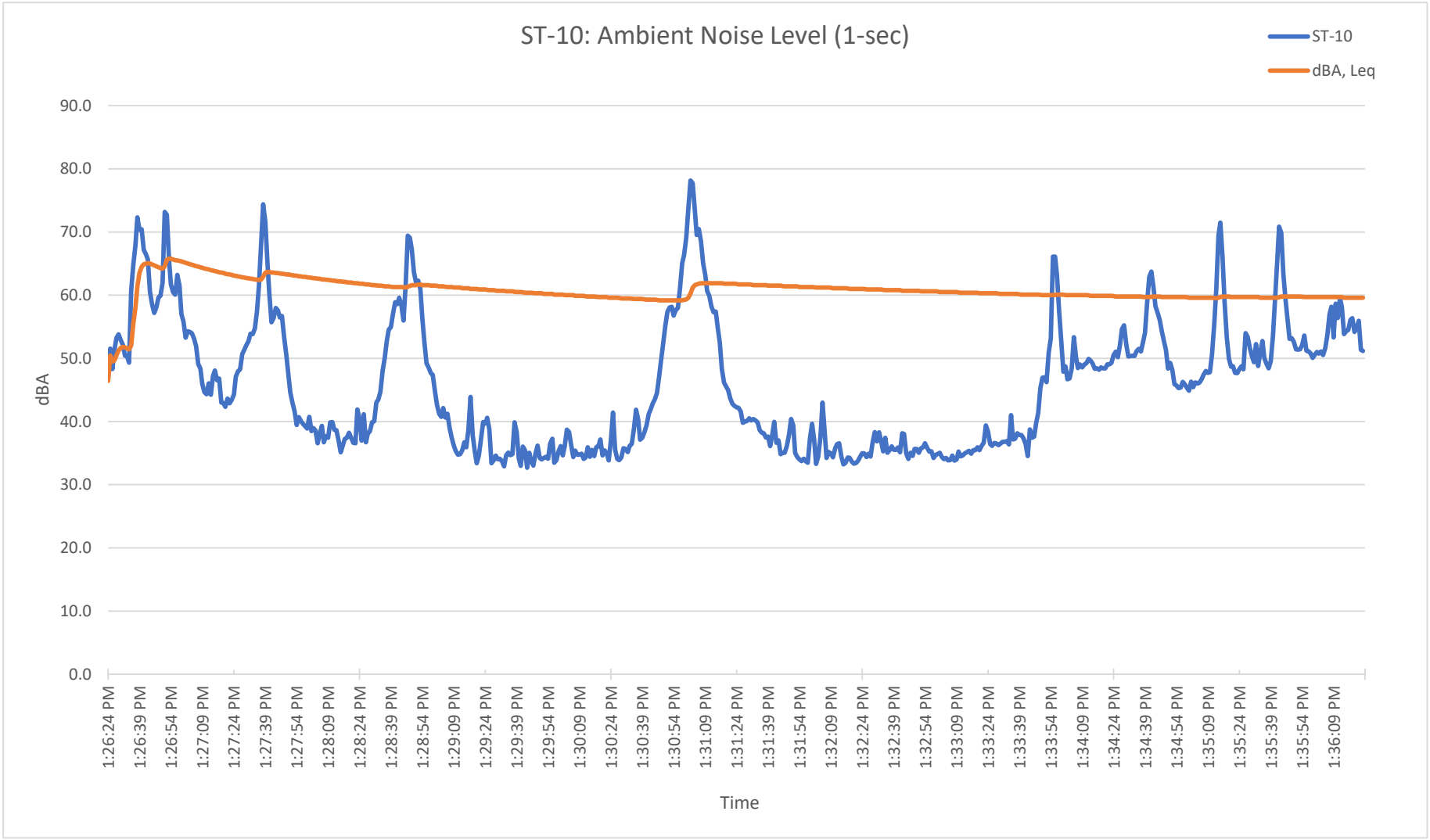

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Figure 11-1: ST-10 Site

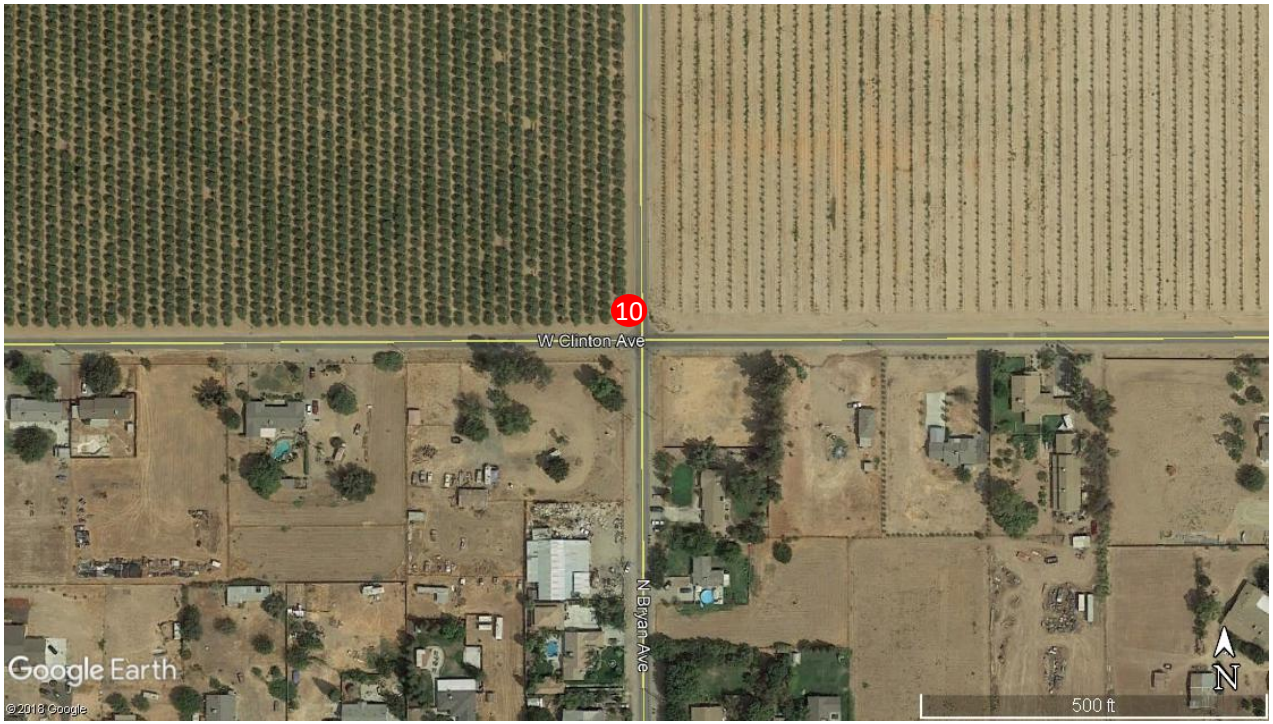

Figure 11-2: ST-10 Site

Figure 11-3: ST-10 Site

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10-Minute Continuous Noise Measurement Datasheet - ST-11

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Cornelia Ave. & Clinton Ave.		Sunny, clear, 1-3 mph wind	C/L of Cornelia Ave. is 35ft from meter	
Site ID:	ST-11	**Ground Type:**	Soft site, w/ street surface hard	C/L of Clinton Ave. is 40ft from meter	

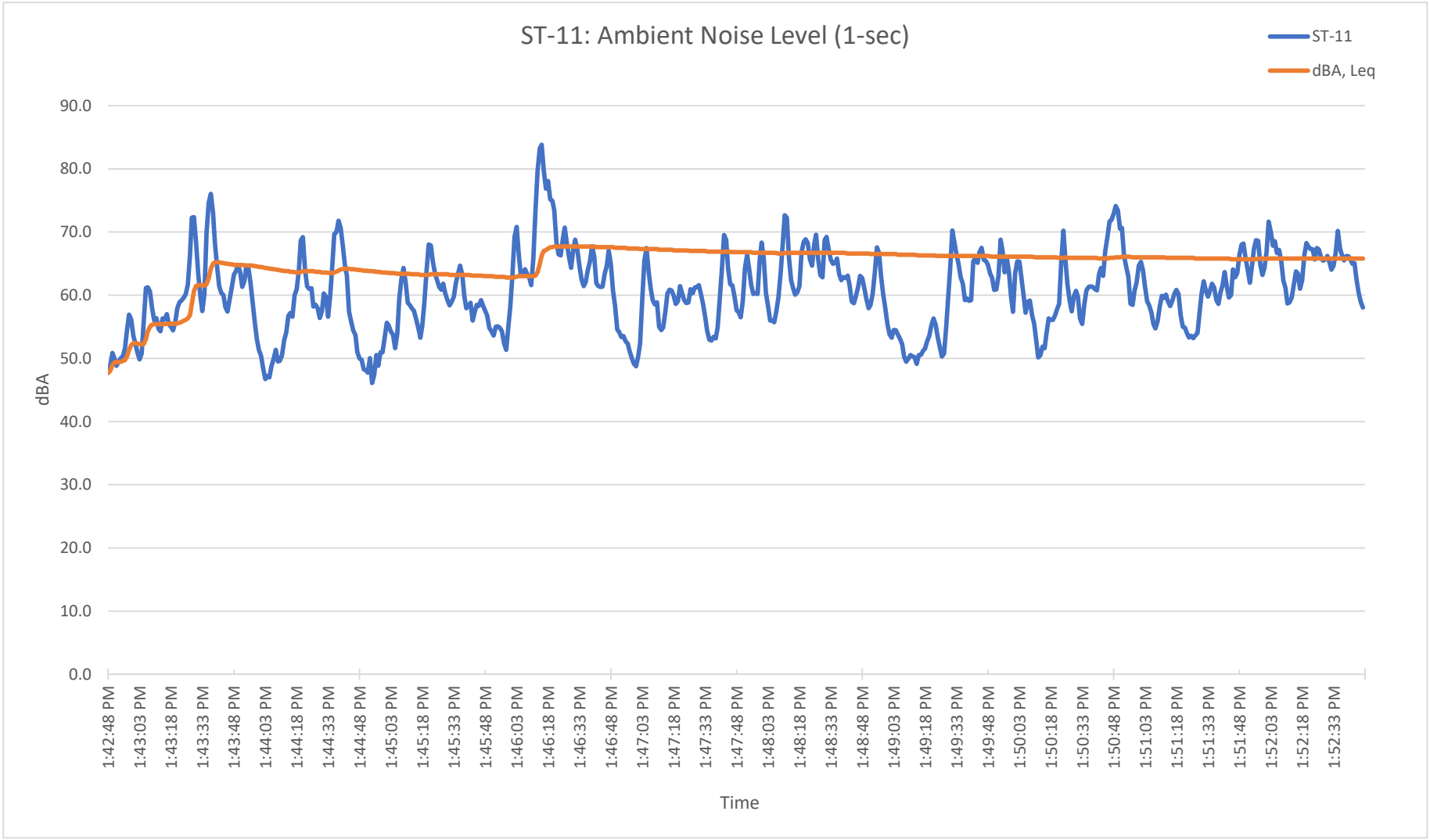

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Figure 12-1: ST-11 Site

Figure 12-2: ST-11 Photo

Figure 12-3: ST-11 Photo

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10-Minute Continuous Noise Measurement Datasheet - ST-12

Project:	04621901 Fresno West EIR	**Site Topo:**	85 Degrees	**Noise Source(s) w/ Distance:**	
Site Address/Location:	Clinton Ave. & Marks Ave.		Sunny, clear, 1-3 mph wind	C/L of Clinton Ave. is 45ft from meter	
Site ID:	ST-12	**Ground Type:**	Soft site, w/ street surface hard	C/L of Marks Ave. 65ft from meter	

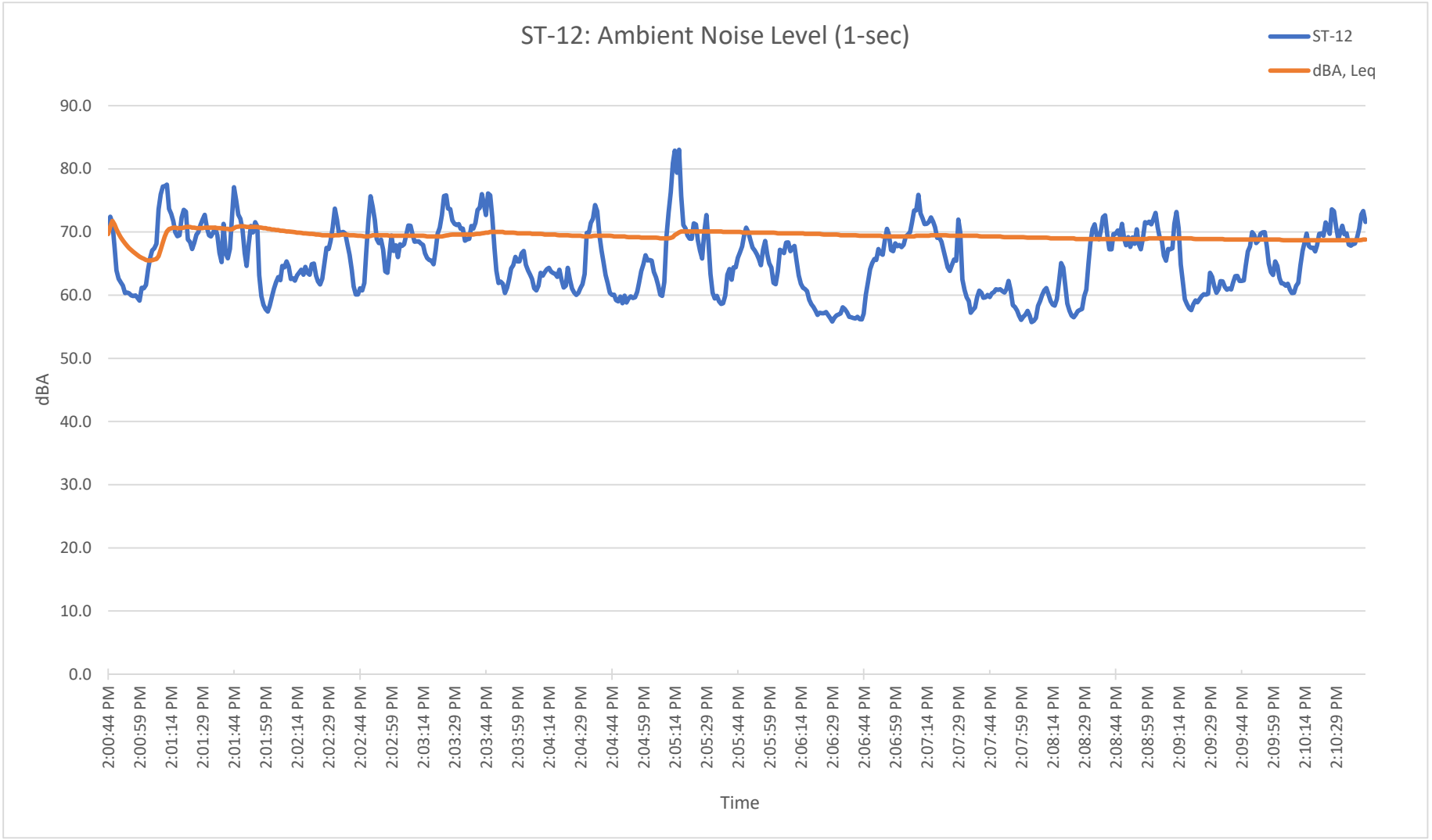

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Figure 13-1: ST-12 Site

Figure 13-2: ST-12 Photo

Figure 13-3: ST-12 Photo

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24-Hour Continuous Noise Measurement Datasheet

Project: 04621901 Fresno West EIR
Site Address/Location: Barstow Ave. & Grantland Ave., Fresno, CA
Date: 6/3/2019 to 6/4/2019
Field Tech/Engineer: Mike Dickerson, INCE

Site Observations: Sunny, Ambient noise consisted of traffic along Barstow Ave. and Grantland Ave.

General Location:
Sound Meter: LD 831 **SN:** 3713
Settings: A-weighted, slow, 1-min, 1-hour interval, 24-hour duration
Meteorological Con.: Sunny
Site ID: LT-1

Site Topo: Flat
Ground Type: Soft site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Barstow Ave. is 35ft from meter
C/L of Grantland Ave. is 230ft from meter

Figure 1: LT-1 Monitoring Location

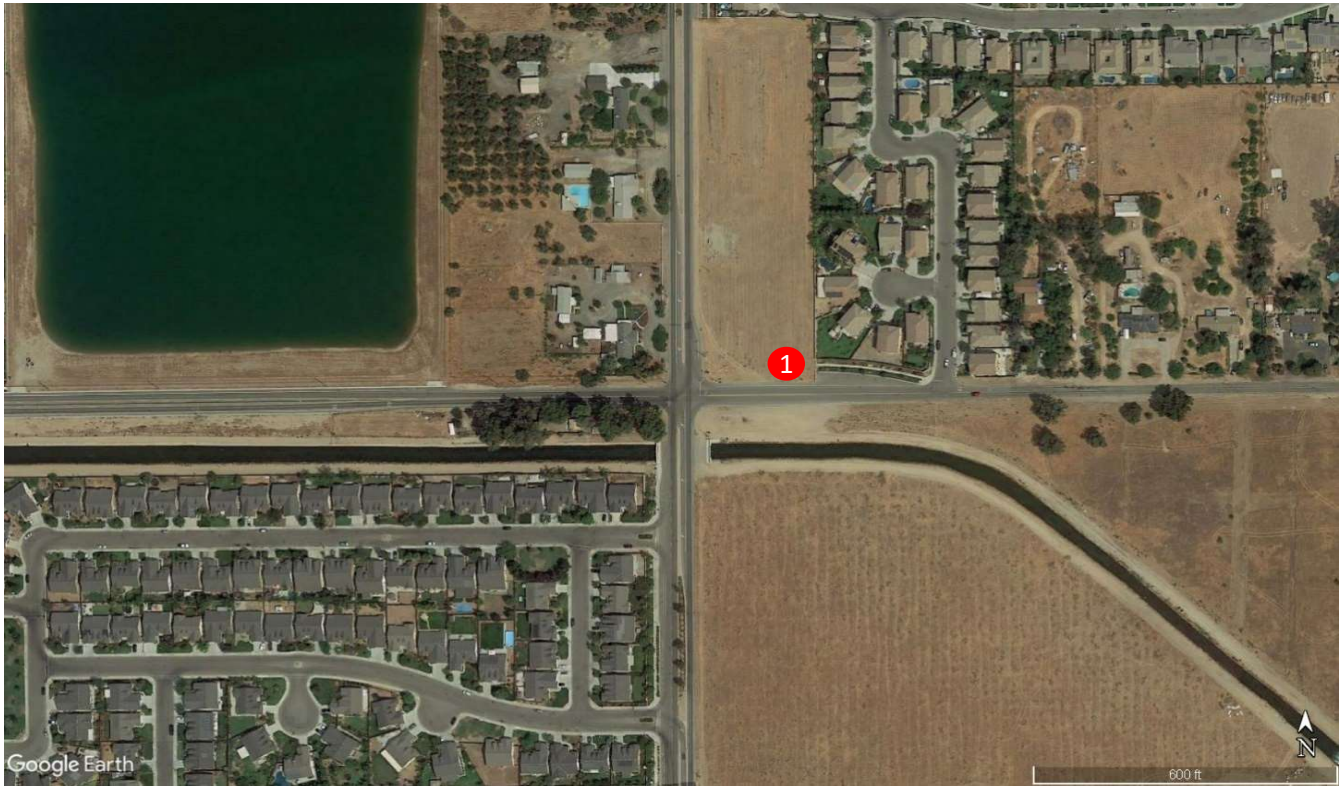

Figure 2: LT-1 Photo

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24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1

Site Address/Location: Barstow Ave. & Grantland Ave., Fresno, CA

Site ID: LT-1

Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
6/3/2019	8:00 AM	9:00 AM	61.9	83.5	42.9	70.4	65.5	58.4	55.3	52.1
6/3/2019	9:00 AM	10:00 AM	56.9	75.6	36.7	63.5	61.2	57.9	55.3	48.1
6/3/2019	10:00 AM	11:00 AM	59.5	85.7	36.3	66.0	60.7	58.4	53.3	47.6
6/3/2019	11:00 AM	12:00 PM	56.9	79.4	35.2	63.0	60.5	57.2	54.0	47.3
6/3/2019	12:00 PM	1:00 PM	58.1	81.9	35.6	66.2	62.6	57.3	55.3	48.7
6/3/2019	1:00 PM	2:00 PM	59.5	86.2	36.1	66.1	62.0	57.7	55.0	47.8
6/3/2019	2:00 PM	3:00 PM	58.0	82.4	34.7	64.3	61.6	58.1	55.7	50.8
6/3/2019	3:00 PM	4:00 PM	56.8	70.5	39.6	60.7	59.7	57.7	56.1	51.9
6/3/2019	4:00 PM	5:00 PM	59.5	88.2	39.5	63.9	60.8	58.2	56.2	51.6
6/3/2019	5:00 PM	6:00 PM	58.4	71.0	41.0	61.7	60.9	59.7	58.3	53.9
6/3/2019	6:00 PM	7:00 PM	58.0	75.9	42.6	62.3	60.2	59.1	57.1	53.8
6/3/2019	7:00 PM	8:00 PM	56.9	76.1	39.0	62.4	59.8	57.1	55.6	51.2
6/3/2019	8:00 PM	9:00 PM	55.3	70.4	39.3	59.7	59.0	57.0	54.0	50.1
6/3/2019	9:00 PM	10:00 PM	56.1	77.5	42.8	63.3	58.2	56.2	53.8	50.6
6/3/2019	10:00 PM	11:00 PM	53.5	69.1	40.0	58.9	57.7	54.6	50.8	47.9
6/3/2019	11:00 PM	12:00 AM	51.3	72.9	40.1	58.7	53.9	51.3	49.5	46.0
6/4/2019	12:00 AM	1:00 AM	48.0	66.7	37.0	55.2	51.8	48.1	45.3	42.0
6/4/2019	1:00 AM	2:00 AM	48.3	68.9	36.5	54.3	51.5	48.2	46.5	43.4
6/4/2019	2:00 AM	3:00 AM	47.7	66.0	37.0	55.1	52.4	47.2	44.3	41.7
6/4/2019	3:00 AM	4:00 AM	49.6	70.0	36.4	56.7	53.9	49.0	45.7	42.4
6/4/2019	4:00 AM	5:00 AM	52.5	72.7	38.5	61.0	57.0	51.7	48.4	43.9
6/4/2019	5:00 AM	6:00 AM	53.8	73.5	45.8	57.5	57.2	54.7	52.3	49.6
6/4/2019	6:00 AM	7:00 AM	58.0	75.6	45.9	64.1	61.7	58.9	55.9	52.8
6/4/2019	7:00 AM	8:00 AM	58.9	76.4	42.7	62.7	61.6	60.1	58.0	52.5

CNEL: 60.5

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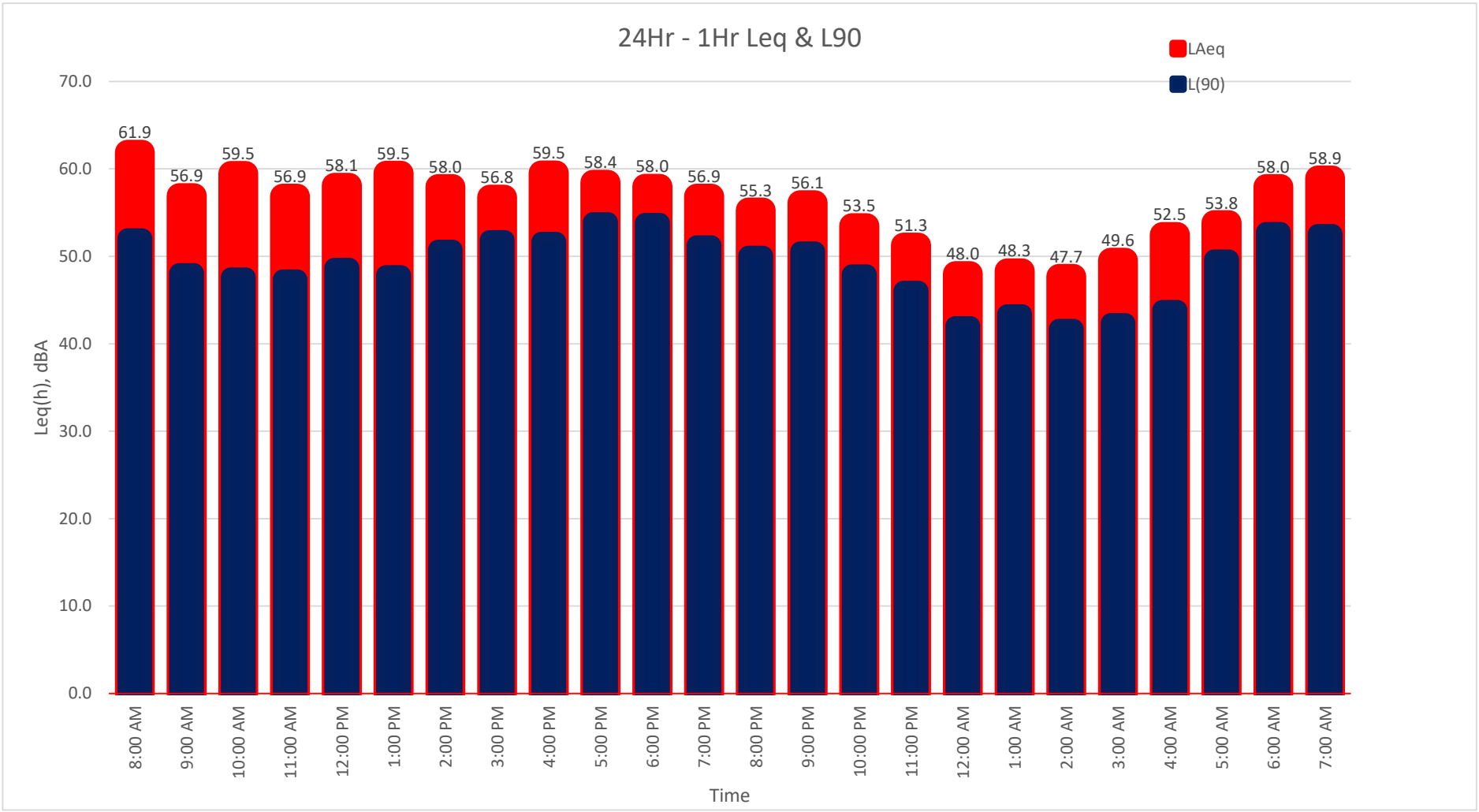
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1
Site Address/Location: Barstow Ave. & Grantland Ave., Fresno, CA
Site ID: LT-1



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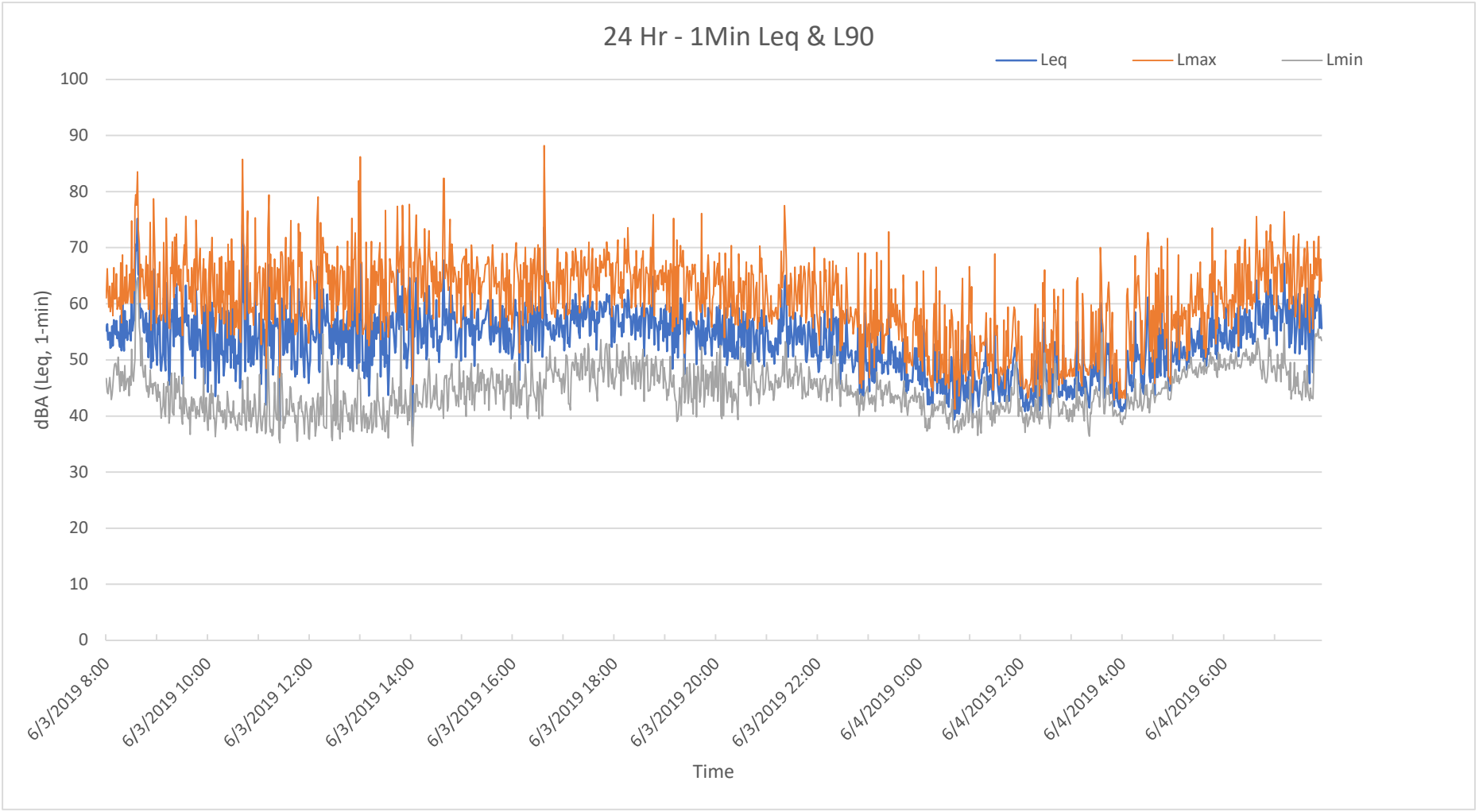
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1

Site Address/Location: Barstow Ave. & Grantland Ave., Fresno, CA

Site ID: LT-1



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24-Hour Continuous Noise Measurement Datasheet

Project: 04621901 Fresno West EIR
Site Address/Location: Shields Ave. & Valentine Ave., Fresno, CA
Date: 6/3/2019 to 6/4/2019
Field Tech/Engineer: Mike Dickerson, INCE

Site Observations: Sunny, Ambient noise consisted of traffic along Valentine Ave and State Route 99.

General Location:
Sound Meter: LD 831 **SN:** 3168
Settings: A-weighted, slow, 1-min, 1-hour interval, 24-hour duration
Meteorological Con.: Sunny
Site ID: LT-2

Site Topo: Flat
Ground Type: Soft site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Valentine Ave. is 35ft from meter
C/L of State Route 99 is 300ft from meter

Figure 1: LT-1 Monitoring Location

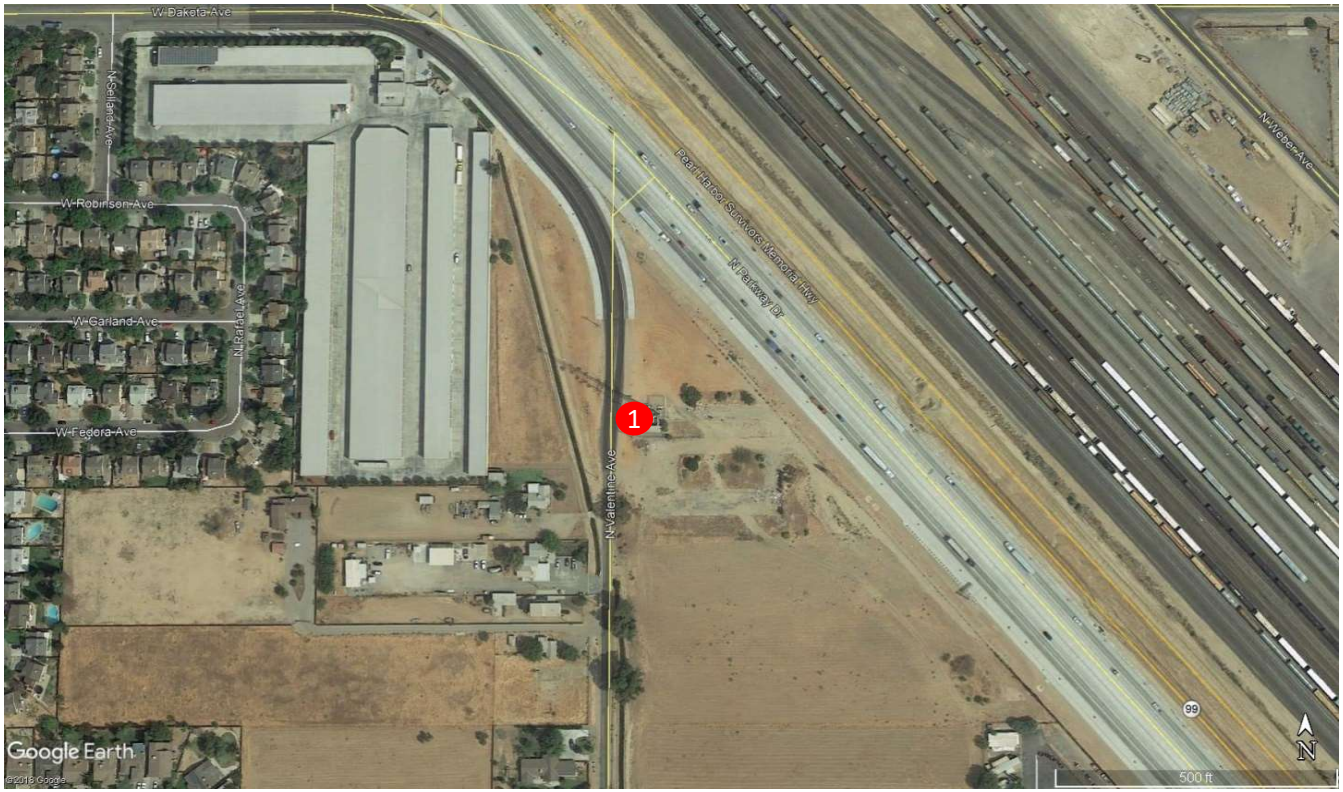

Figure 2: LT-1 Photo

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24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1
Site Address/Location: Shields Ave. & Valentine Ave., Fresno, CA
Site ID: LT-2

Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
6/3/2019	9:00 AM	10:00 AM	64.9	75.4	57.1	68.0	67.3	65.8	64.5	62.3
6/3/2019	10:00 AM	11:00 AM	63.9	79.7	56.5	66.8	65.7	64.6	63.5	61.8
6/3/2019	11:00 AM	12:00 PM	62.3	72.8	54.1	64.9	64.1	62.9	61.7	60.1
6/3/2019	12:00 PM	1:00 PM	62.0	74.2	54.2	64.5	63.5	62.9	61.5	60.2
6/3/2019	1:00 PM	2:00 PM	61.3	71.3	52.9	63.1	62.8	62.1	61.2	59.5
6/3/2019	2:00 PM	3:00 PM	62.1	73.5	53.5	64.1	63.6	62.6	61.7	60.1
6/3/2019	3:00 PM	4:00 PM	65.2	93.9	56.5	70.0	64.8	63.4	62.6	61.3
6/3/2019	4:00 PM	5:00 PM	61.9	73.2	53.5	63.8	63.3	62.6	61.6	60.2
6/3/2019	5:00 PM	6:00 PM	63.8	83.8	56.2	68.5	66.1	64.0	62.6	61.3
6/3/2019	6:00 PM	7:00 PM	62.7	82.8	54.4	65.3	63.6	62.9	62.1	60.8
6/3/2019	7:00 PM	8:00 PM	63.1	84.2	55.0	67.9	64.7	63.2	62.4	60.9
6/3/2019	8:00 PM	9:00 PM	62.1	73.8	51.0	64.3	63.9	62.8	62.0	60.3
6/3/2019	9:00 PM	10:00 PM	60.8	72.8	53.4	62.6	62.3	61.4	60.7	59.2
6/3/2019	10:00 PM	11:00 PM	60.9	71.0	52.2	63.6	63.0	61.6	60.7	58.9
6/3/2019	11:00 PM	12:00 AM	59.8	70.6	49.4	62.4	61.2	60.6	59.6	57.5
6/4/2019	12:00 AM	1:00 AM	58.4	69.7	48.6	60.8	60.4	59.5	58.1	56.3
6/4/2019	1:00 AM	2:00 AM	60.2	88.5	48.0	64.7	61.1	58.8	57.9	55.2
6/4/2019	2:00 AM	3:00 AM	59.6	70.0	49.0	63.6	62.3	60.6	58.8	56.0
6/4/2019	3:00 AM	4:00 AM	62.5	75.5	48.8	66.0	65.4	63.3	61.9	59.2
6/4/2019	4:00 AM	5:00 AM	60.9	69.5	52.3	63.9	63.1	62.0	60.3	58.5
6/4/2019	5:00 AM	6:00 AM	67.6	79.0	59.9	70.8	69.6	68.7	67.6	64.5
6/4/2019	6:00 AM	7:00 AM	70.3	85.6	63.3	72.4	71.9	71.4	70.4	67.8
6/4/2019	7:00 AM	8:00 AM	70.2	75.5	65.9	71.6	71.0	70.6	70.1	69.4
6/4/2019	8:00 AM	9:00 AM	70.0	88.8	61.3	72.3	71.2	70.6	69.6	68.1

CNEL: 68.6

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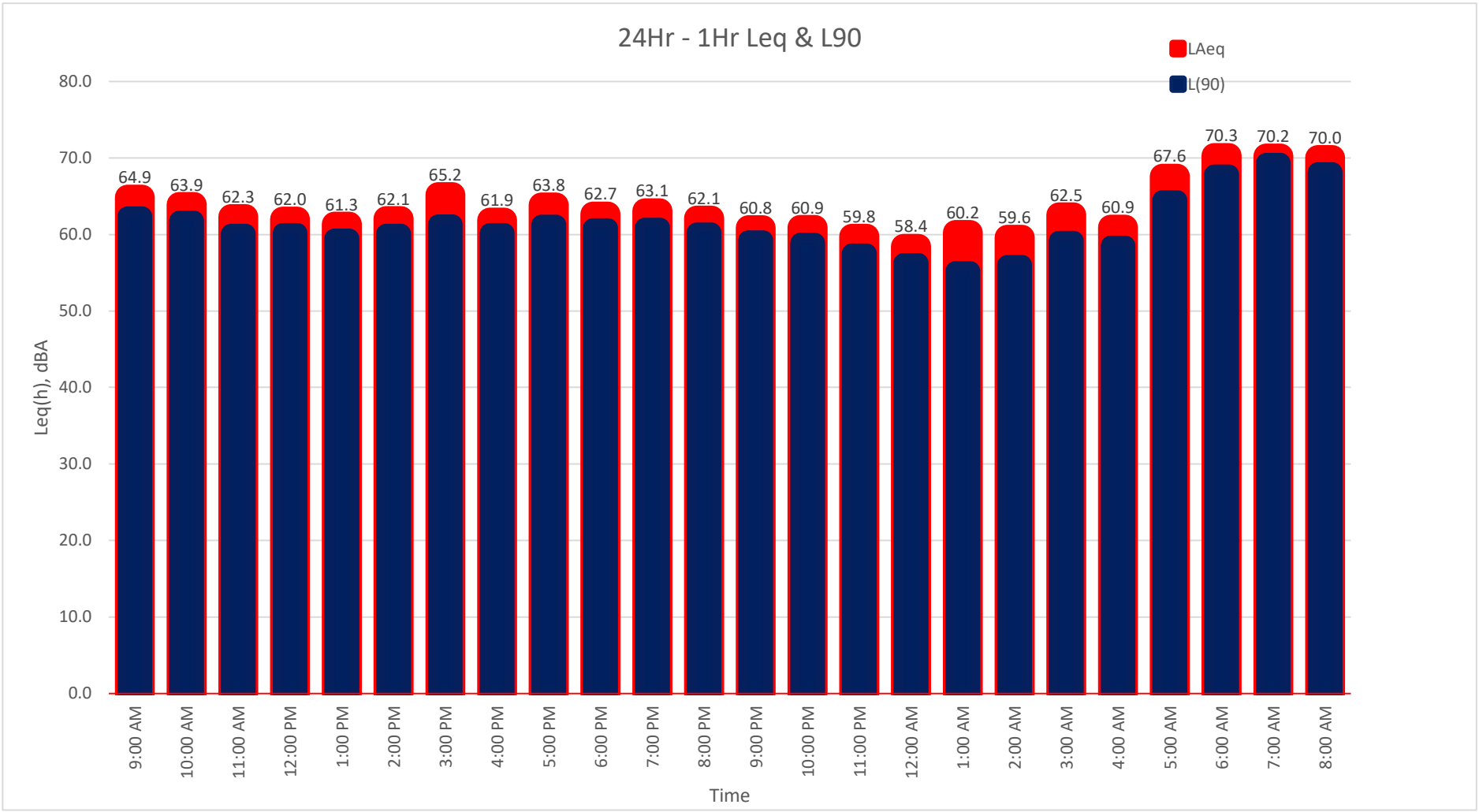
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1
Site Address/Location: Shields Ave. & Valentine Ave., Fresno, CA
Site ID: LT-2



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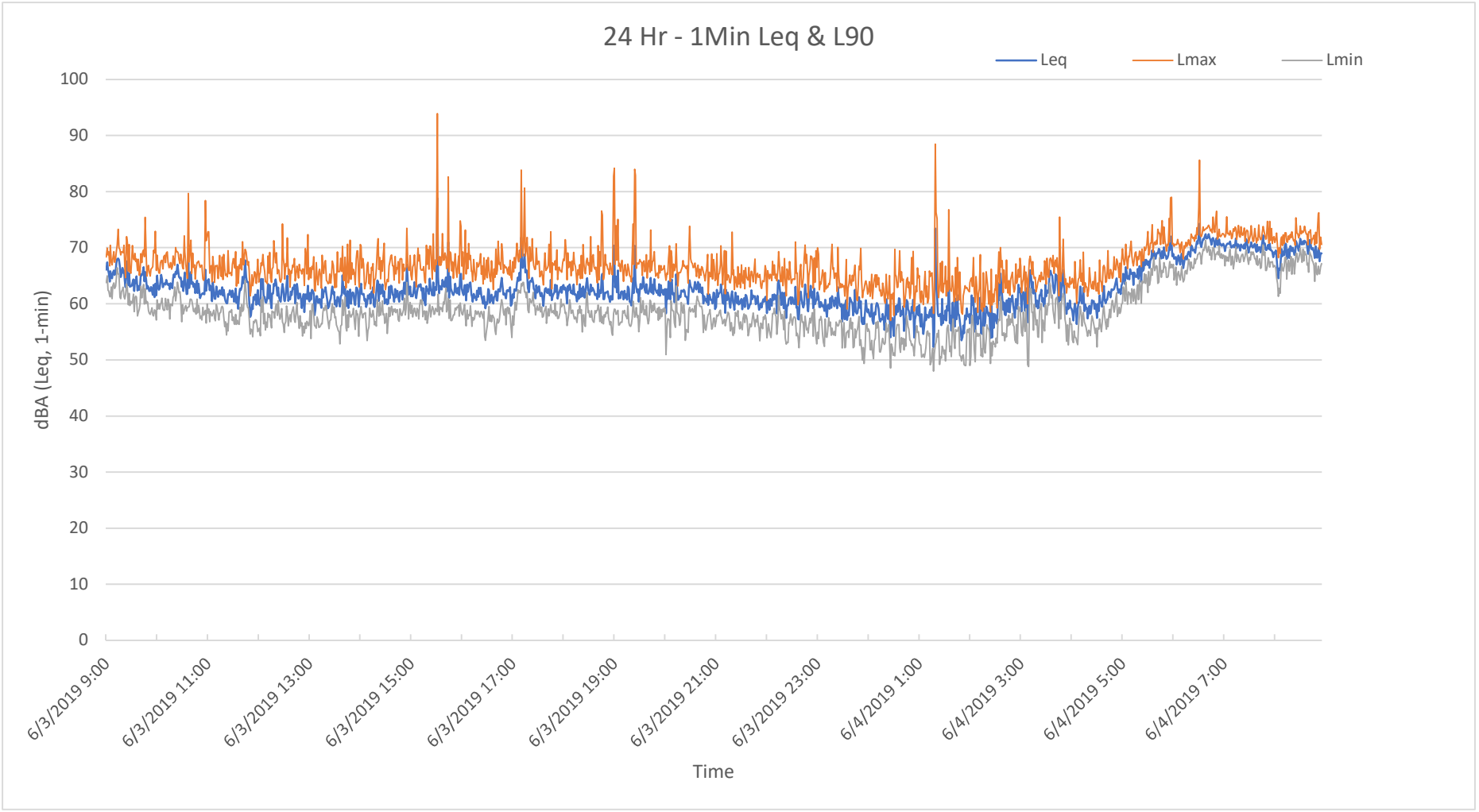
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1

Site Address/Location: Shields Ave. & Valentine Ave., Fresno, CA

Site ID: LT-2



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24-Hour Continuous Noise Measurement Datasheet

Project: 04621901 Fresno West EIR
Site Address/Location: Blythe Ave. & Ashlan Ave., Fresno, CA
Date: 6/4/2019 to 6/5/2019
Field Tech/Engineer: Mike Dickerson, INCE

Site Observations: Sunny, Ambient noise consisted of traffic along Blythe Ave and Ashlan Ave.

General Location:
Sound Meter: LD 831 **SN:** 3715
Settings: A-weighted, slow, 1-min, 1-hour interval, 24-hour duration
Meteorological Con.: Sunny
Site ID: LT-3

Site Topo: Flat
Ground Type: Soft site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Blythe Ave. is 60ft from meter
C/L of Ashlan Ave. is 90ft from meter

Figure 1: LT-3 Monitoring Location

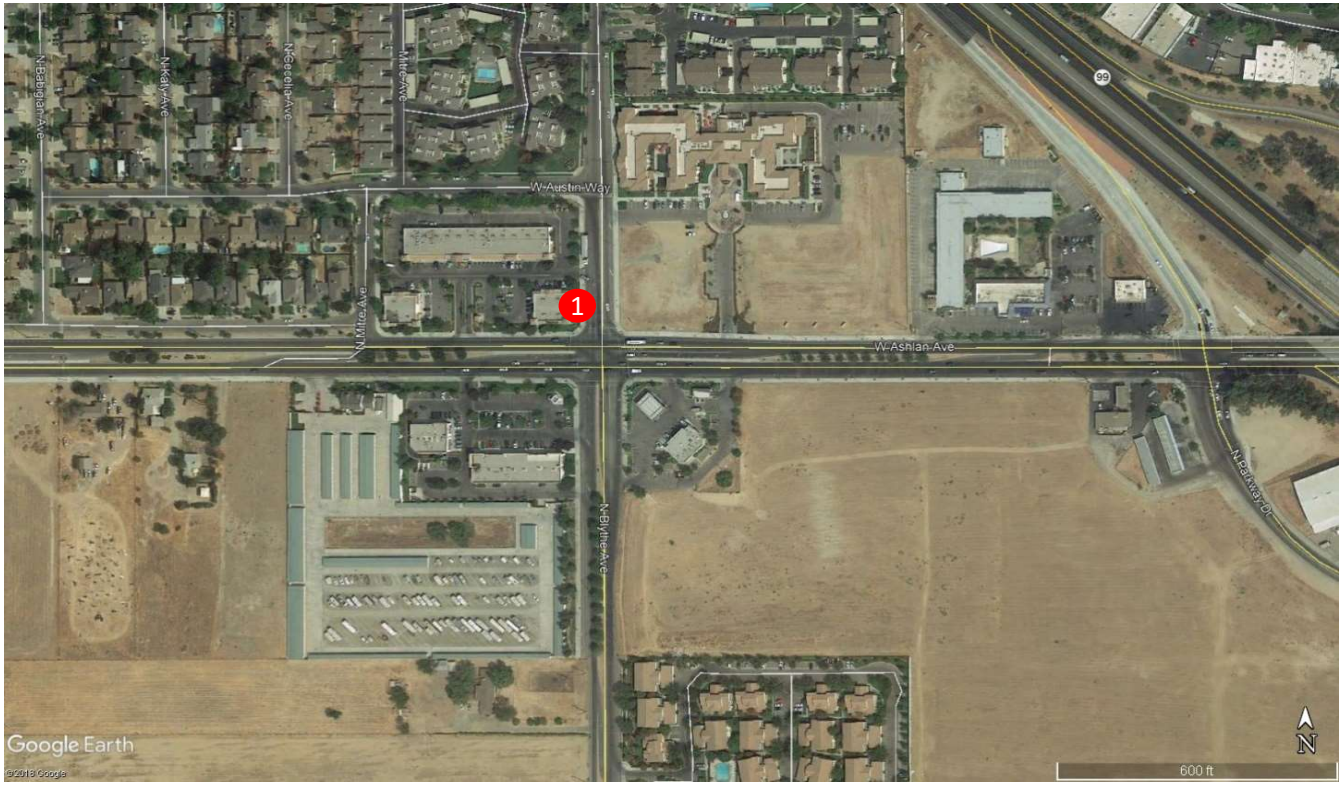

Figure 2: LT-3 Photo

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24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1
Site Address/Location: Blythe Ave. & Ashlan Ave., Fresno, CA
Site ID: LT-3

Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
6/4/2019	9:00 AM	10:00 AM	63.3	81.8	48.7	68.1	66.0	63.3	62.3	60.6
6/4/2019	10:00 AM	11:00 AM	62.6	76.9	48.7	66.1	64.8	63.1	62.1	60.5
6/4/2019	11:00 AM	12:00 PM	66.7	92.0	48.7	74.5	70.1	63.5	61.8	59.6
6/4/2019	12:00 PM	1:00 PM	65.7	86.5	48.0	75.3	67.0	63.8	62.8	59.8
6/4/2019	1:00 PM	2:00 PM	63.9	81.7	48.2	70.0	65.9	63.7	62.8	60.0
6/4/2019	2:00 PM	3:00 PM	66.5	92.0	50.2	74.8	68.1	64.8	63.6	61.4
6/4/2019	3:00 PM	4:00 PM	74.7	106.8	49.4	73.2	69.3	65.5	63.4	61.3
6/4/2019	4:00 PM	5:00 PM	64.4	79.4	50.1	68.6	67.2	65.0	63.7	62.1
6/4/2019	5:00 PM	6:00 PM	64.3	83.6	49.1	68.9	66.6	64.6	63.6	61.2
6/4/2019	6:00 PM	7:00 PM	64.2	83.0	49.4	69.1	67.0	64.8	63.0	61.2
6/4/2019	7:00 PM	8:00 PM	68.1	96.1	51.3	72.2	67.8	65.3	63.0	60.1
6/4/2019	8:00 PM	9:00 PM	63.4	80.6	50.4	68.2	65.9	63.6	62.6	60.2
6/4/2019	9:00 PM	10:00 PM	63.2	84.0	48.1	69.4	65.6	63.5	61.2	58.7
6/4/2019	10:00 PM	11:00 PM	62.7	89.0	47.4	66.9	64.2	62.0	60.7	57.9
6/4/2019	11:00 PM	12:00 AM	64.7	92.3	46.2	71.7	68.4	62.6	59.7	56.3
6/5/2019	12:00 AM	1:00 AM	59.2	85.5	43.2	65.5	62.0	58.4	56.9	53.1
6/5/2019	1:00 AM	2:00 AM	56.8	80.9	40.5	61.8	60.8	57.2	54.7	49.1
6/5/2019	2:00 AM	3:00 AM	56.6	79.5	41.4	63.3	59.8	57.2	54.1	49.0
6/5/2019	3:00 AM	4:00 AM	57.5	78.9	44.3	61.4	60.7	58.1	56.8	51.8
6/5/2019	4:00 AM	5:00 AM	58.4	80.1	45.1	65.2	61.0	58.7	56.8	51.5
6/5/2019	5:00 AM	6:00 AM	62.7	83.4	48.8	66.1	65.6	63.8	61.5	58.5
6/5/2019	6:00 AM	7:00 AM	64.8	81.2	54.9	68.2	66.7	65.5	64.3	61.4
6/5/2019	7:00 AM	8:00 AM	67.3	90.2	54.7	72.6	67.9	65.6	64.8	63.4
6/5/2019	8:00 AM	9:00 AM	64.7	82.3	54.8	68.4	66.9	64.9	64.2	62.7

CNEL: 70.2

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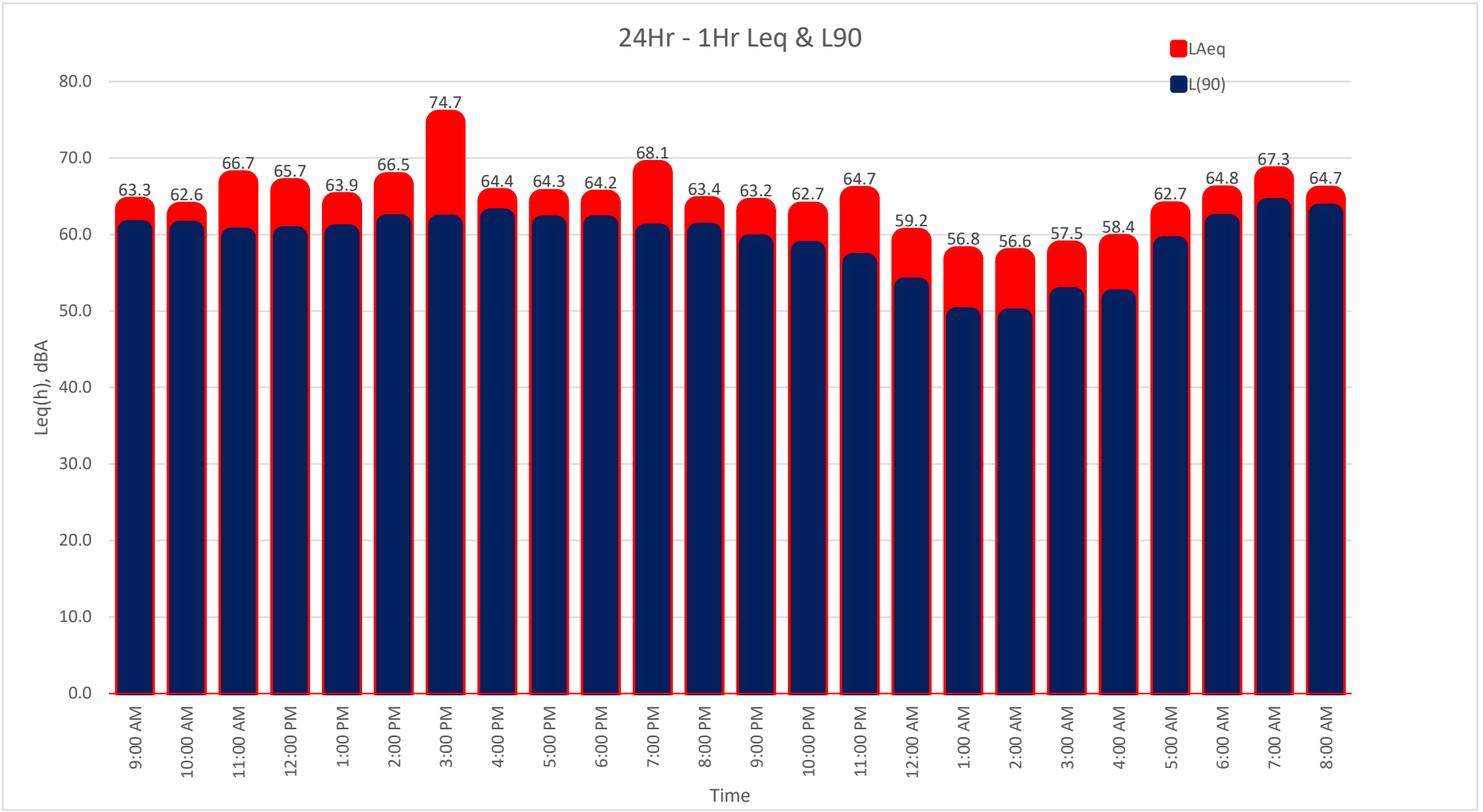
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR
Day: 1 of 1
Site Address/Location: Blythe Ave. & Ashlan Ave., Fresno, CA
Site ID: LT-3



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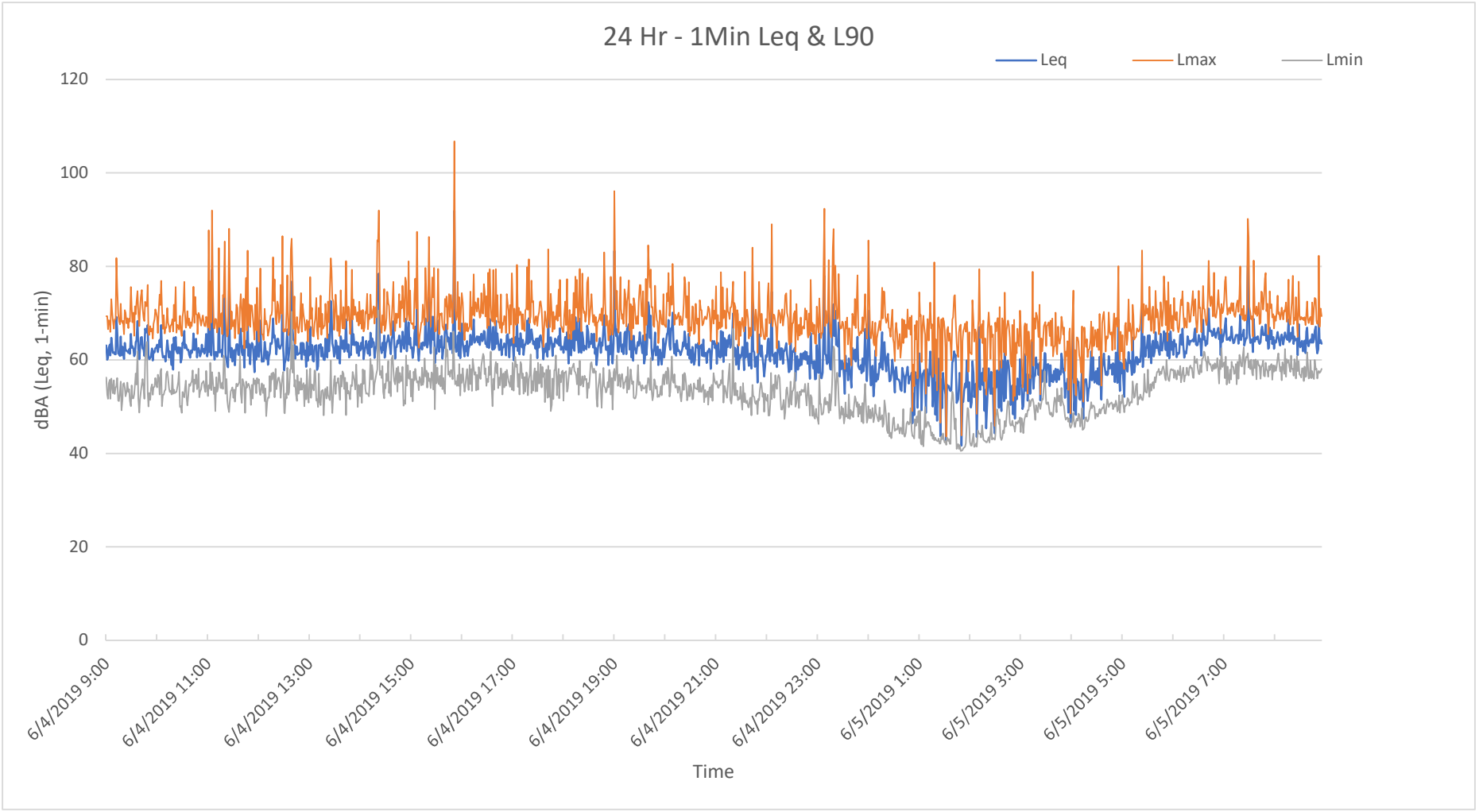
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1

Site Address/Location: Blythe Ave. & Ashlan Ave., Fresno, CA

Site ID: LT-3



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24-Hour Continuous Noise Measurement Datasheet

Project: 04621901 Fresno West EIR
Site Address/Location: Ashlan Ave. & Hayes Ave., Fresno, CA
Date: 6/3/2019 to 6/4/2019
Field Tech/Engineer: Mike Dickerson, INCE

Site Observations: Sunny, Ambient noise consisted of traffic along Ashlan Ave and Hayes Ave.

General Location:
Sound Meter: LD 831 **SN:** 3716
Settings: A-weighted, slow, 1-min, 1-hour interval, 24-hour duration
Meteorological Con.: Sunny
Site ID: LT-4

Site Topo: Flat
Ground Type: Soft site, w/ street surface hard

Noise Source(s) w/ Distance:
C/L of Ashlan Ave. is 20ft from meter
C/L of Hayes Ave. is 130ft from meter

Figure 1: LT-1 Monitoring Location

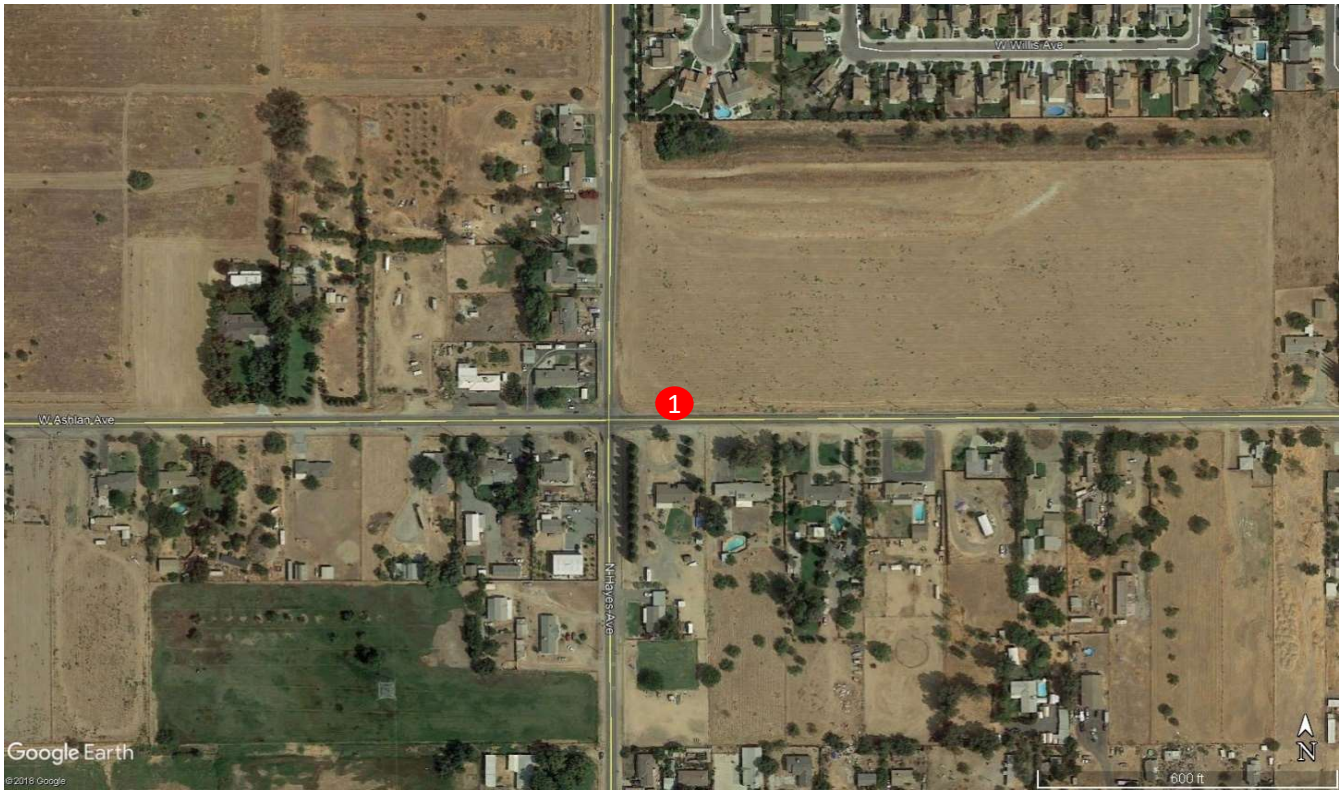

Figure 2: LT-1 Photo

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24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1

Site Address/Location: Ashlan Ave. & Hayes Ave., Fresno, CA

Site ID: LT-4

Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
6/3/2019	9:00 AM	10:00 AM	62.6	84.0	38.0	69.8	66.4	62.6	60.1	56.4
6/3/2019	10:00 AM	11:00 AM	63.2	86.7	35.7	71.7	66.3	62.8	60.5	54.9
6/3/2019	11:00 AM	12:00 PM	62.7	86.6	34.8	69.9	64.5	62.3	60.6	54.6
6/3/2019	12:00 PM	1:00 PM	66.0	94.7	40.4	71.2	69.1	64.3	61.4	57.6
6/3/2019	1:00 PM	2:00 PM	63.6	90.8	37.2	70.0	65.4	62.3	60.5	57.4
6/3/2019	2:00 PM	3:00 PM	65.4	82.0	36.7	71.2	68.9	65.5	63.9	61.5
6/3/2019	3:00 PM	4:00 PM	65.3	85.8	40.5	72.2	68.0	66.1	64.4	59.8
6/3/2019	4:00 PM	5:00 PM	62.9	79.8	39.2	68.8	65.9	63.7	61.8	58.4
6/3/2019	5:00 PM	6:00 PM	65.9	90.7	45.8	74.8	67.2	65.1	62.6	59.7
6/3/2019	6:00 PM	7:00 PM	70.2	99.3	43.2	78.1	68.7	65.0	62.1	58.3
6/3/2019	7:00 PM	8:00 PM	62.9	85.4	39.8	69.4	66.2	62.6	60.3	54.6
6/3/2019	8:00 PM	9:00 PM	61.5	83.9	40.1	67.6	64.4	61.9	59.6	55.3
6/3/2019	9:00 PM	10:00 PM	58.7	78.0	39.6	64.6	63.3	59.4	57.6	46.6
6/3/2019	10:00 PM	11:00 PM	56.1	75.8	39.8	62.1	60.1	57.4	54.5	44.3
6/3/2019	11:00 PM	12:00 AM	63.3	93.6	39.6	63.5	58.7	55.1	48.5	43.2
6/4/2019	12:00 AM	1:00 AM	55.2	82.6	38.0	62.1	59.6	55.1	46.9	41.6
6/4/2019	1:00 AM	2:00 AM	48.3	69.3	36.8	56.6	50.7	46.8	44.4	41.7
6/4/2019	2:00 AM	3:00 AM	50.2	69.4	39.3	57.3	55.6	50.1	44.8	42.8
6/4/2019	3:00 AM	4:00 AM	54.0	75.6	38.7	61.6	59.8	51.1	46.8	44.0
6/4/2019	4:00 AM	5:00 AM	56.4	82.7	41.7	66.4	60.0	55.1	48.5	45.4
6/4/2019	5:00 AM	6:00 AM	58.9	79.4	43.0	66.6	62.6	59.9	56.5	48.3
6/4/2019	6:00 AM	7:00 AM	63.1	81.7	46.3	68.8	67.0	63.6	61.0	55.3
6/4/2019	7:00 AM	8:00 AM	68.3	88.1	46.4	75.0	72.9	68.2	66.3	63.2
6/4/2019	8:00 AM	9:00 AM	65.8	87.6	40.5	70.1	69.5	67.8	64.6	59.5

CNEL: 67.1

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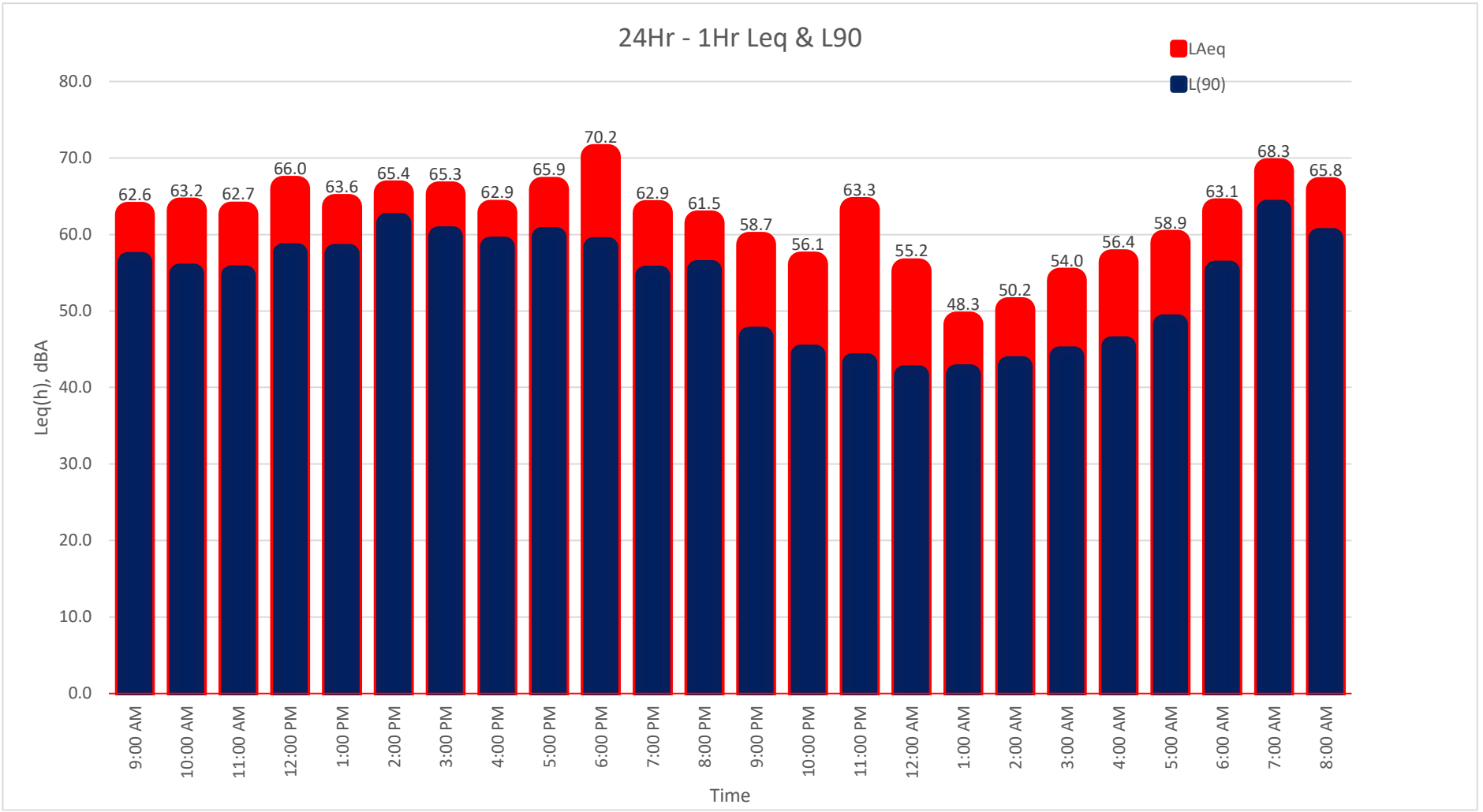
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1
Site Address/Location: Ashlan Ave. & Hayes Ave., Fresno, CA
Site ID: LT-4



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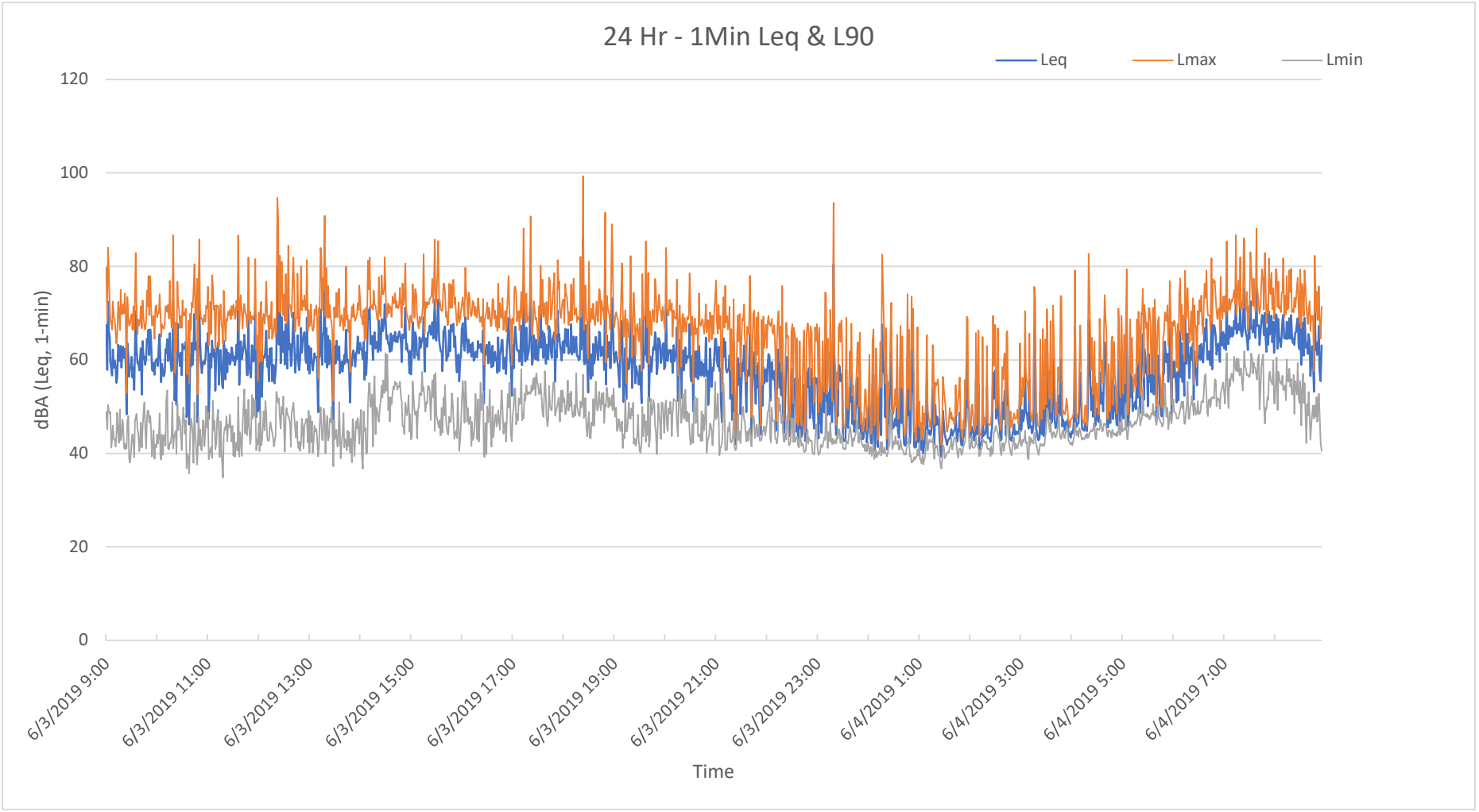
24-Hour Continuous Noise Measurement Datasheet - Cont.

Project: 04621901 Fresno West EIR **Day:** 1 of 1

Site Address/Location: Ashlan Ave. & Hayes Ave., Fresno, CA

Site ID: LT-4



Appendix C:
FHWA Roadway Noise Worksheets

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Herndon Ave to W. Shaw Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	81,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	8,100

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.9	72.5	71.7	67.6	75.1	75.6
MEDIUM TRUCKS	69.1	66.0	64.6	64.2	70.9	71.2
HEAVY TRUCKS	78.3	74.9	70.7	74.8	81.2	81.3
VEHICULAR NOISE	80.3	77.2	74.7	75.9	82.4	**82.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	695	1497	3225	6948
LDN	675	1453	3131	6745

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Shaw Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	77,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	7,700

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.7	72.3	71.5	67.4	74.9	75.4
MEDIUM TRUCKS	68.9	65.8	64.4	64.0	70.7	70.9
HEAVY TRUCKS	78.1	74.7	70.5	74.6	80.9	81.0
VEHICULAR NOISE	80.1	77.0	74.5	75.7	82.2	**82.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	672	1447	3118	6718
LDN	652	1405	3027	6521

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	105,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10,500

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.1	73.7	72.8	68.7	76.2	76.7
MEDIUM TRUCKS	70.2	67.1	65.8	65.4	72.0	72.3
HEAVY TRUCKS	79.5	76.1	71.9	75.9	82.3	82.4
VEHICULAR NOISE	81.4	78.4	75.8	77.0	83.6	**83.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	826	1780	3834	8261
LDN	802	1728	3722	8019

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Dakota Ave to W. Sheilds Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	104,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10,400

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.0	73.6	72.8	68.7	76.2	76.7
MEDIUM TRUCKS	70.2	67.1	65.7	65.3	72.0	72.3
HEAVY TRUCKS	79.4	76.0	71.8	75.9	82.2	82.3
VEHICULAR NOISE	81.4	78.3	75.8	77.0	83.5	**83.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	821	1768	3810	8208
LDN	797	1717	3698	7968

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	107,000
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10,700

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.5	69.2	68.3	64.2	71.7	72.2
MEDIUM TRUCKS	67.8	64.7	63.3	63.0	69.6	69.9
HEAVY TRUCKS	78.1	74.7	70.5	74.5	80.9	81.0
VEHICULAR NOISE	79.3	76.1	73.0	75.2	81.7	**81.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	615	1324	2852	6145
LDN	600	1292	2784	5998

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Herndon Ave
SEGMENT N. Garfield Ave to N. Parkway Drive
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	18.3	16.4	14.6	8.8	17.3	17.9
MEDIUM TRUCKS	15.2	13.7	10.1	3.6	13.3	13.9
HEAVY TRUCKS	11.9	6.3	15.3	-15.6	8.1	12.0
VEHICULAR NOISE	20.6	18.5	18.7	10.0	19.1	**20.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	0
LDN	0	0	0	0

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Bullard Ave
SEGMENT N Garfield Ave to N. Grantland Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	600
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	60

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	46.1	44.2	42.4	36.6	45.1	45.7
MEDIUM TRUCKS	43.0	41.5	37.9	31.4	41.1	41.7
HEAVY TRUCKS	39.7	34.1	43.1	12.2	35.9	39.8
VEHICULAR NOISE	48.4	46.3	46.4	37.8	46.9	**47.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	3	7	16	33
LDN	3	6	13	29

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Bullard Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,900
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	290

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.9	51.0	49.2	43.4	51.9	52.5
MEDIUM TRUCKS	49.8	48.3	44.8	38.3	48.0	48.5
HEAVY TRUCKS	46.5	40.9	50.0	19.0	42.8	46.6
VEHICULAR NOISE	55.3	53.1	53.3	44.6	53.8	**54.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	10	21	44	96
LDN	8	18	38	83

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Bullard Ave
SEGMENT N. Bryan Ave to SR-99
LOCATION: City of Fresno, CA
SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	21.5	19.6	17.8	12.0	20.5	21.1
MEDIUM TRUCKS	16.9	15.4	11.9	5.4	15.1	15.6
HEAVY TRUCKS	12.9	7.3	16.4	-14.6	9.2	13.0
VEHICULAR NOISE	23.2	21.2	20.8	12.9	21.8	**22.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N Garfield to N. Grantland Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,200
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	120

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.3	50.3	48.6	42.8	51.3	51.9
MEDIUM TRUCKS	47.7	46.2	42.7	36.2	45.9	46.4
HEAVY TRUCKS	43.7	38.1	47.2	16.2	40.0	43.8
VEHICULAR NOISE	54.0	51.9	51.5	43.7	52.6	**53.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	17	37	79
LDN	7	15	32	69

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	800
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	80

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	47.3	45.4	43.6	37.9	46.3	46.9
MEDIUM TRUCKS	44.2	42.7	39.2	32.7	42.4	42.9
HEAVY TRUCKS	40.9	35.3	44.4	13.4	37.2	41.0
VEHICULAR NOISE	49.7	47.5	47.7	39.0	48.2	**49.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	4	9	19	41
LDN	4	8	16	35

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N. Bryan Ave to N. Contessa Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	23.1	21.2	19.4	13.6	22.1	22.7
MEDIUM TRUCKS	18.0	16.5	12.9	6.4	16.1	16.7
HEAVY TRUCKS	13.7	8.1	17.1	-13.8	9.9	13.8
VEHICULAR NOISE	24.6	22.6	22.0	14.4	23.3	**24.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N. Contessa Ave to N. Island Waterpark Drive
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	21.6	19.7	17.9	12.1	20.6	21.2
MEDIUM TRUCKS	17.0	15.5	12.0	5.5	15.2	15.7
HEAVY TRUCKS	13.0	7.4	16.5	-14.5	9.3	13.1
VEHICULAR NOISE	23.3	21.3	20.9	13.0	22.0	**22.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N Garfield Ave to N. Grantland Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,000
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	600

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.0	74.2	71.7	66.8	75.2	75.7
MEDIUM TRUCKS	71.1	69.6	66.1	61.3	70.0	70.5
HEAVY TRUCKS	76.6	75.1	69.5	66.5	75.3	75.6
VEHICULAR NOISE	79.9	78.3	74.4	70.2	78.9	**79.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	415	894	1925	4147
LDN	390	840	1810	3900

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,100
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	710

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.8	74.9	72.4	67.5	75.9	76.4
MEDIUM TRUCKS	71.8	70.3	66.8	62.0	70.8	71.2
HEAVY TRUCKS	77.3	75.8	70.2	67.2	76.1	76.4
VEHICULAR NOISE	80.7	79.0	75.1	71.0	79.6	**80.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	464	1000	2154	4640
LDN	436	940	2025	4363

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N. Bryan Ave to 1,300 ft east of N. Hayes Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	8,250
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	825

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	77.4	75.6	73.0	68.2	76.6	77.0
MEDIUM TRUCKS	72.5	70.9	67.4	62.7	71.4	71.9
HEAVY TRUCKS	78.0	76.5	70.9	67.9	76.7	77.0
VEHICULAR NOISE	81.3	79.7	75.8	71.6	80.2	**80.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	513	1105	2380	5128
LDN	482	1039	2238	4822

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT 1,300 ft east of N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,200
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	920

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	81.1	79.2	76.7	71.8	80.2	80.7
MEDIUM TRUCKS	74.7	73.2	69.7	64.9	73.6	74.1
HEAVY TRUCKS	79.5	78.0	72.4	69.4	78.2	78.5
VEHICULAR NOISE	83.9	82.2	78.6	74.3	82.9	**83.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	771	1661	3578	7708
LDN	722	1557	3354	7225

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N. Polk Ave to State Route 99
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	18,200
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,820

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	84.2	82.3	79.8	74.9	83.3	83.8
MEDIUM TRUCKS	77.8	76.2	72.7	68.0	76.7	77.1
HEAVY TRUCKS	82.6	81.1	75.5	72.5	81.3	81.6
VEHICULAR NOISE	87.0	85.3	81.7	77.4	86.0	**86.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1236	2663	5738	12362
LDN	1159	2496	5378	11587

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT 1,300 ft west of N. Bryan Ave to Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,200
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	120

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	49.1	47.2	45.4	39.6	48.1	48.7
MEDIUM TRUCKS	46.0	44.5	40.9	34.4	44.1	44.7
HEAVY TRUCKS	42.7	37.1	46.1	15.2	38.9	42.8
VEHICULAR NOISE	51.4	49.3	49.5	40.8	49.9	**50.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	5	11	25	53
LDN	5	10	21	46

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,700
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	170

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	50.6	48.7	46.9	41.1	49.6	50.2
MEDIUM TRUCKS	47.5	46.0	42.4	35.9	45.7	46.2
HEAVY TRUCKS	44.2	38.6	47.7	16.7	40.4	44.3
VEHICULAR NOISE	53.0	50.8	51.0	42.3	51.4	**52.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	7	14	31	67
LDN	6	12	27	58

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,950
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	195

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	51.2	49.3	47.5	41.7	50.2	50.8
MEDIUM TRUCKS	48.1	46.6	43.0	36.5	46.2	46.8
HEAVY TRUCKS	44.8	39.2	48.2	17.3	41.0	44.9
VEHICULAR NOISE	53.6	51.4	51.6	42.9	52.0	**53.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	7	16	34	73
LDN	6	14	29	64

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT N. Polk Ave to N. Barcus
LOCATION: City of Fresno, CA
SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,200
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	120

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.4	50.5	48.7	42.9	51.4	52.0
MEDIUM TRUCKS	47.8	46.3	42.8	36.3	46.0	46.5
HEAVY TRUCKS	43.8	38.2	47.3	16.3	40.1	43.9
VEHICULAR NOISE	54.1	52.1	51.7	43.8	52.7	**53.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	17	37	80
LDN	7	15	33	71

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Garfield to N. Grantland
LOCATION: City of Fresno, CA
SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	41.6	39.7	37.2	32.3	40.7	41.2
MEDIUM TRUCKS	35.2	33.6	30.1	25.4	34.1	34.5
HEAVY TRUCKS	40.0	38.5	32.9	29.9	38.7	39.0
VEHICULAR NOISE	44.4	42.7	39.1	34.8	43.4	**43.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	2	4	8	18
LDN	2	4	8	17

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,200
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	320

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.5	74.6	72.1	67.2	75.6	76.1
MEDIUM TRUCKS	70.1	68.6	65.1	60.3	69.0	69.5
HEAVY TRUCKS	74.9	73.4	67.8	64.8	73.6	73.9
VEHICULAR NOISE	79.3	77.7	74.1	69.7	78.3	**78.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	381	821	1769	3812
LDN	357	770	1659	3573

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,050
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	205

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.4	69.5	67.0	62.1	70.5	71.0
MEDIUM TRUCKS	66.4	64.9	61.4	56.6	65.4	65.8
HEAVY TRUCKS	71.9	70.4	64.8	61.8	70.7	71.0
VEHICULAR NOISE	75.3	73.6	69.7	65.6	74.2	**74.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	203	437	941	2027
LDN	191	411	885	1906

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,100
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	310

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	73.2	71.3	68.8	63.9	72.3	72.8
MEDIUM TRUCKS	68.2	66.7	63.2	58.4	67.2	67.6
HEAVY TRUCKS	73.7	72.2	66.6	63.6	72.5	72.8
VEHICULAR NOISE	77.1	75.4	71.5	67.4	76.0	**76.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	267	575	1239	2670
LDN	251	541	1165	2511

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Polk Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,500
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	650

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.4	74.5	72.0	67.1	75.5	76.0
MEDIUM TRUCKS	71.5	69.9	66.4	61.6	70.4	70.8
HEAVY TRUCKS	76.9	75.5	69.9	66.8	75.7	76.0
VEHICULAR NOISE	80.3	78.7	74.8	70.6	79.2	**79.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	437	942	2031	4375
LDN	411	886	1909	4113

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Cornelia Ave to N. Blythe Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,350
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,635

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	80.4	78.5	76.0	71.1	79.5	80.0
MEDIUM TRUCKS	75.5	73.9	70.4	65.6	74.4	74.8
HEAVY TRUCKS	80.9	79.5	73.9	70.9	79.7	80.0
VEHICULAR NOISE	84.3	82.7	78.8	74.6	83.2	**83.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	809	1743	3756	8091
LDN	761	1639	3531	7608

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Blythe Ave to State Route 99
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	23,600
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,360

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	82.0	80.1	77.6	72.7	81.1	81.6
MEDIUM TRUCKS	77.1	75.5	72.0	67.2	76.0	76.4
HEAVY TRUCKS	82.5	81.1	75.5	72.4	81.3	81.6
VEHICULAR NOISE	85.9	84.3	80.4	76.2	84.8	**85.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1033	2226	4797	10334
LDN	972	2093	4510	9717

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Hayes Ave to N. Barcus Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,950
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	195

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	51.2	49.3	47.5	41.7	50.2	50.8
MEDIUM TRUCKS	48.1	46.6	43.0	36.5	46.2	46.8
HEAVY TRUCKS	44.8	39.2	48.2	17.3	41.0	44.9
VEHICULAR NOISE	53.6	51.4	51.6	42.9	52.0	**53.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	7	16	34	73
LDN	6	14	29	64

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Barcus Ave to N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,950
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	195

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.4	52.5	50.7	44.9	53.4	54.0
MEDIUM TRUCKS	49.8	48.3	44.8	38.3	48.0	48.5
HEAVY TRUCKS	45.8	40.2	49.3	18.3	42.1	45.9
VEHICULAR NOISE	56.1	54.1	53.7	45.8	54.7	**55.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	11	24	51	109
LDN	10	21	45	96

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Polk Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,100
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	510

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.4	53.5	51.7	45.9	54.4	55.0
MEDIUM TRUCKS	52.3	50.7	47.2	40.7	50.4	51.0
HEAVY TRUCKS	49.0	43.3	52.4	21.5	45.2	49.1
VEHICULAR NOISE	57.7	55.6	55.7	47.1	56.2	**57.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	14	30	65	139
LDN	12	26	56	121

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Cornelia Ave to N. Blythe Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,250
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	425

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.6	52.7	50.9	45.1	53.6	54.2
MEDIUM TRUCKS	51.5	50.0	46.4	39.9	49.6	50.2
HEAVY TRUCKS	48.2	42.6	51.6	20.7	44.4	48.3
VEHICULAR NOISE	56.9	54.8	54.9	46.3	55.4	**56.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	12	27	57	123
LDN	11	23	50	107

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Blythe Ave to N Brawley Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,150
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	315

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	53.3	51.4	49.6	43.8	52.3	52.9
MEDIUM TRUCKS	50.2	48.7	45.1	38.6	48.3	48.9
HEAVY TRUCKS	46.9	41.3	50.3	19.4	43.1	47.0
VEHICULAR NOISE	55.6	53.5	53.6	45.0	54.1	**55.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	10	22	47	101
LDN	9	19	41	87

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N Brawley Ave to N. Parkway Drive
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,400
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	240

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.1	50.2	48.4	42.6	51.1	51.7
MEDIUM TRUCKS	49.0	47.5	43.9	37.4	47.2	47.7
HEAVY TRUCKS	45.7	40.1	49.2	18.2	41.9	45.8
VEHICULAR NOISE	54.5	52.3	52.5	43.8	52.9	**53.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	18	39	84
LDN	7	16	34	73

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Garfield Ave to Grantland Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,700
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	270

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.6	50.7	48.9	43.1	51.6	52.2
MEDIUM TRUCKS	49.5	48.0	44.4	38.0	47.7	48.2
HEAVY TRUCKS	46.2	40.6	49.7	18.7	42.4	46.3
VEHICULAR NOISE	55.0	52.8	53.0	44.3	53.5	**54.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	9	20	42	91
LDN	8	17	37	79

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,750
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	275

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.7	50.8	49.0	43.2	51.7	52.3
MEDIUM TRUCKS	49.6	48.1	44.5	38.0	47.7	48.3
HEAVY TRUCKS	46.3	40.7	49.7	18.8	42.5	46.4
VEHICULAR NOISE	55.0	52.9	53.1	44.4	53.5	**54.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	9	20	43	92
LDN	8	17	37	80

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,550
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	355

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	53.8	51.9	50.1	44.3	52.8	53.4
MEDIUM TRUCKS	50.7	49.2	45.6	39.1	48.9	49.4
HEAVY TRUCKS	47.4	41.8	50.9	19.9	43.6	47.5
VEHICULAR NOISE	56.2	54.0	54.2	45.5	54.6	**55.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	11	24	51	109
LDN	9	20	44	95

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,250
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	325

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	53.4	51.5	49.7	43.9	52.4	53.0
MEDIUM TRUCKS	50.3	48.8	45.2	38.8	48.5	49.0
HEAVY TRUCKS	47.0	41.4	50.5	19.5	43.3	47.1
VEHICULAR NOISE	55.8	53.6	53.8	45.1	54.3	**55.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	10	22	48	103
LDN	9	19	41	89

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Polk Ave to N. Dante Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,750
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	375

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.2	55.3	53.5	47.7	56.2	56.8
MEDIUM TRUCKS	52.7	51.2	47.6	41.1	50.8	51.4
HEAVY TRUCKS	48.7	43.1	52.1	21.2	44.9	48.8
VEHICULAR NOISE	59.0	56.9	56.5	48.6	57.6	**58.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	36	78	169
LDN	15	32	69	149

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Dante Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,750
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	375

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.2	55.3	53.5	47.7	56.2	56.8
MEDIUM TRUCKS	52.7	51.2	47.6	41.1	50.8	51.4
HEAVY TRUCKS	48.7	43.1	52.1	21.2	44.9	48.8
VEHICULAR NOISE	59.0	56.9	56.5	48.6	57.6	**58.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	36	78	169
LDN	15	32	69	149

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Cornelia Ave to N. Blythe Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,600
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	460

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.9	53.0	51.2	45.5	53.9	54.5
MEDIUM TRUCKS	51.8	50.3	46.8	40.3	50.0	50.5
HEAVY TRUCKS	48.5	42.9	52.0	21.0	44.8	48.6
VEHICULAR NOISE	57.3	55.1	55.3	46.6	55.8	**56.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	13	28	60	130
LDN	11	24	52	113

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Blythe Ave to N. Brawley Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,400
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	440

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.7	52.8	51.0	45.3	53.8	54.3
MEDIUM TRUCKS	51.6	50.1	46.6	40.1	49.8	50.3
HEAVY TRUCKS	48.3	42.7	51.8	20.8	44.6	48.4
VEHICULAR NOISE	57.1	54.9	55.1	46.4	55.6	**56.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	13	27	59	126
LDN	11	24	51	109

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N Brawley Ave to N. Valentine Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,800
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	580

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.9	54.0	52.2	46.5	55.0	55.5
MEDIUM TRUCKS	52.8	51.3	47.8	41.3	51.0	51.5
HEAVY TRUCKS	49.5	43.9	53.0	22.0	45.8	49.6
VEHICULAR NOISE	58.3	56.1	56.3	47.6	56.8	**57.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	15	33	70	152
LDN	13	28	61	131

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Valentine Ave to N. Marks Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,900
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	690

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.7	54.8	53.0	47.2	55.7	56.3
MEDIUM TRUCKS	53.6	52.1	48.5	42.0	51.7	52.3
HEAVY TRUCKS	50.3	44.7	53.7	22.8	46.5	50.4
VEHICULAR NOISE	59.0	56.9	57.0	48.4	57.5	**58.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	37	79	170
LDN	15	32	68	147

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	400
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	40

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.3	62.4	59.9	55.0	63.4	63.9
MEDIUM TRUCKS	59.3	57.8	54.3	49.5	58.3	58.7
HEAVY TRUCKS	64.8	63.3	57.7	54.7	63.6	63.9
VEHICULAR NOISE	68.2	66.5	62.6	58.5	67.1	**67.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	68	147	317	682
LDN	64	138	298	641

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	700
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	70

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.7	64.9	62.3	57.5	65.8	66.3
MEDIUM TRUCKS	61.8	60.2	56.7	52.0	60.7	61.1
HEAVY TRUCKS	67.3	65.8	60.2	57.2	66.0	66.3
VEHICULAR NOISE	70.6	69.0	65.1	60.9	69.5	**69.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	99	213	460	990
LDN	93	201	432	931

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,050
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	105

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.5	66.6	64.1	59.2	67.6	68.1
MEDIUM TRUCKS	63.5	62.0	58.5	53.7	62.5	62.9
HEAVY TRUCKS	69.0	67.5	61.9	58.9	67.8	68.1
VEHICULAR NOISE	72.4	70.7	66.8	62.7	71.3	**71.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	130	280	602	1298
LDN	122	263	566	1220

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Polk Ave to 1900 ft east of N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,050
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	105

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.5	66.6	64.1	59.2	67.6	68.1
MEDIUM TRUCKS	63.5	62.0	58.5	53.7	62.5	62.9
HEAVY TRUCKS	69.0	67.5	61.9	58.9	67.8	68.1
VEHICULAR NOISE	72.4	70.7	66.8	62.7	71.3	**71.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	130	280	602	1298
LDN	122	263	566	1220

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT 1900 east of N. Polk Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,400
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	340

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.8	74.9	72.4	67.5	75.9	76.4
MEDIUM TRUCKS	70.4	68.8	65.3	60.6	69.3	69.7
HEAVY TRUCKS	75.2	73.7	68.1	65.1	73.9	74.2
VEHICULAR NOISE	79.6	77.9	74.3	70.0	78.6	**79.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	397	855	1842	3969
LDN	372	802	1727	3721

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Cornelia Ave to N. Milburn Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,400
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	640

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	81.1	79.3	76.8	71.9	80.3	80.8
MEDIUM TRUCKS	74.2	72.6	69.1	64.3	73.1	73.5
HEAVY TRUCKS	78.7	77.2	71.6	68.6	77.4	77.7
VEHICULAR NOISE	83.6	81.9	78.4	74.0	82.6	**83.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	738	1591	3427	7383
LDN	691	1489	3208	6912

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Milburn Ave to N. Blythe Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,400
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	640

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	79.6	77.8	75.2	70.4	78.7	79.2
MEDIUM TRUCKS	73.2	71.7	68.2	63.4	72.2	72.6
HEAVY TRUCKS	78.0	76.5	70.9	67.9	76.8	77.1
VEHICULAR NOISE	82.5	80.8	77.2	72.9	81.4	**81.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	616	1327	2859	6159
LDN	577	1244	2679	5773

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Blythe Ave to N Sonora Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,300
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	930

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	82.8	80.9	78.4	73.5	81.9	82.4
MEDIUM TRUCKS	75.8	74.2	70.7	66.0	74.7	75.2
HEAVY TRUCKS	80.3	78.8	73.2	70.2	79.0	79.3
VEHICULAR NOISE	85.2	83.5	80.1	75.7	84.2	**84.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	947	2041	4397	9472
LDN	887	1911	4116	8868

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Sonora Ave to N Brawley Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,300
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	930

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	81.2	79.4	76.8	72.0	80.4	80.9
MEDIUM TRUCKS	74.9	73.3	69.8	65.0	73.8	74.2
HEAVY TRUCKS	79.6	78.2	72.6	69.6	78.4	78.7
VEHICULAR NOISE	84.1	82.4	78.8	74.5	83.0	**83.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	790	1702	3667	7901
LDN	741	1596	3438	7406

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N Brawley Ave to N. Knoll Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,850
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	985

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	81.5	79.6	77.1	72.2	80.6	81.1
MEDIUM TRUCKS	75.1	73.6	70.1	65.3	74.0	74.5
HEAVY TRUCKS	79.9	78.4	72.8	69.8	78.6	78.9
VEHICULAR NOISE	84.3	82.7	79.1	74.7	83.3	**83.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	821	1769	3811	8210
LDN	770	1658	3572	7695

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Knoll Ave to 850 ft east of N. Knoll Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,850
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	985

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	81.4	79.5	77.0	72.1	80.5	81.0
MEDIUM TRUCKS	75.0	73.4	69.9	65.2	73.9	74.4
HEAVY TRUCKS	79.8	78.3	72.7	69.7	78.5	78.8
VEHICULAR NOISE	84.2	82.5	78.9	74.6	83.2	**83.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	807	1738	3744	8067
LDN	756	1629	3510	7561

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT 850 east of N. Knoll Ave to N. Valentine Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,850
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	985

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.2	76.3	73.8	68.9	77.3	77.8
MEDIUM TRUCKS	73.3	71.7	68.2	63.4	72.2	72.6
HEAVY TRUCKS	78.7	77.3	71.7	68.7	77.5	77.8
VEHICULAR NOISE	82.1	80.5	76.6	72.4	81.0	**81.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	577	1243	2679	5772
LDN	543	1169	2519	5427

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Valentine Ave to N. Marks Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	11,300
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,130

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	82.0	80.1	77.6	72.7	81.1	81.6
MEDIUM TRUCKS	75.6	74.0	70.5	65.8	74.5	75.0
HEAVY TRUCKS	80.4	78.9	73.3	70.3	79.1	79.4
VEHICULAR NOISE	84.8	83.1	79.5	75.2	83.8	**84.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	884	1905	4103	8840
LDN	829	1785	3846	8286

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Marks Ave to W. Vassar Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	20,000
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,000

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	86.1	84.2	81.7	76.8	85.2	85.7
MEDIUM TRUCKS	79.1	77.6	74.1	69.3	78.0	78.5
HEAVY TRUCKS	83.6	82.1	76.5	73.5	82.3	82.6
VEHICULAR NOISE	88.6	86.9	83.4	79.0	87.5	**88.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1578	3400	7325	15782
LDN	1477	3183	6858	14774

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Herndon Ave to W. Bullard Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	38.3	36.4	33.9	29.0	37.4	37.9
MEDIUM TRUCKS	33.3	31.8	28.3	23.5	32.2	32.7
HEAVY TRUCKS	38.8	37.3	31.7	28.7	37.5	37.8
VEHICULAR NOISE	42.2	40.5	36.6	32.5	41.1	**41.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	3	6	13
LDN	1	3	5	12

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Bullard Ave to W. Barstow Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	38.3	36.4	33.9	29.0	37.4	37.9
MEDIUM TRUCKS	33.3	31.8	28.3	23.5	32.2	32.7
HEAVY TRUCKS	38.8	37.3	31.7	28.7	37.5	37.8
VEHICULAR NOISE	42.2	40.5	36.6	32.5	41.1	**41.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	3	6	13
LDN	1	3	5	12

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Barstow Ave to 1,000 ft south of W. Barston Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	41.4	39.6	37.0	32.2	40.6	41.1
MEDIUM TRUCKS	35.1	33.5	30.0	25.2	34.0	34.4
HEAVY TRUCKS	39.8	38.4	32.8	29.8	38.6	38.9
VEHICULAR NOISE	44.3	42.6	39.0	34.7	43.2	**43.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	2	4	8	18
LDN	2	4	8	16

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT 1,000 ft south of W. Barstow Ave to W. Shaw Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	41.4	39.6	37.0	32.2	40.6	41.1
MEDIUM TRUCKS	35.1	33.5	30.0	25.2	34.0	34.4
HEAVY TRUCKS	39.8	38.4	32.8	29.8	38.6	38.9
VEHICULAR NOISE	44.3	42.6	39.0	34.7	43.2	**43.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	2	4	8	18
LDN	2	4	8	16

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Shaw Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	38.3	36.4	33.9	29.0	37.4	37.9
MEDIUM TRUCKS	33.3	31.8	28.3	23.5	32.2	32.7
HEAVY TRUCKS	38.8	37.3	31.7	28.7	37.5	37.8
VEHICULAR NOISE	42.2	40.5	36.6	32.5	41.1	**41.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	3	6	13
LDN	1	3	5	12

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,381
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	538

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.6	73.7	71.2	66.3	74.7	75.2
MEDIUM TRUCKS	70.6	69.1	65.6	60.8	69.6	70.0
HEAVY TRUCKS	76.1	74.6	69.0	66.0	74.8	75.1
VEHICULAR NOISE	79.5	77.8	73.9	69.8	78.4	**78.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	386	831	1790	3857
LDN	363	781	1683	3626

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	38.3	36.4	33.9	29.0	37.4	37.9
MEDIUM TRUCKS	33.3	31.8	28.3	23.5	32.2	32.7
HEAVY TRUCKS	38.8	37.3	31.7	28.7	37.5	37.8
VEHICULAR NOISE	42.2	40.5	36.6	32.5	41.1	**41.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	3	6	13
LDN	1	3	5	12

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Dakota Ave to W. Sheilds Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,998
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	500

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.2	73.4	70.9	66.0	74.4	74.9
MEDIUM TRUCKS	70.3	68.8	65.3	60.5	69.2	69.7
HEAVY TRUCKS	75.8	74.3	68.7	65.7	74.5	74.8
VEHICULAR NOISE	79.1	77.5	73.6	69.5	78.1	**78.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	367	791	1704	3672
LDN	345	744	1602	3452

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Parkway Drive
SEGMENT N Herndon Ave to W. Herndon Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	38.3	36.4	33.9	29.0	37.4	37.9
MEDIUM TRUCKS	33.3	31.8	28.3	23.5	32.2	32.7
HEAVY TRUCKS	38.8	37.3	31.7	28.7	37.5	37.8
VEHICULAR NOISE	42.2	40.5	36.6	32.5	41.1	**41.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	1	3	6	13
LDN	1	3	5	12

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT N. Parkway Drive to W. Bullard Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	18.3	16.4	14.6	8.8	17.3	17.9
MEDIUM TRUCKS	15.2	13.7	10.1	3.6	13.3	13.9
HEAVY TRUCKS	11.9	6.3	15.3	-15.6	8.1	12.0
VEHICULAR NOISE	20.6	18.5	18.7	10.0	19.1	**20.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	0
LDN	0	0	0	0

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Bullard Ave to W. Barstow Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	41.4	39.6	37.0	32.2	40.6	41.1
MEDIUM TRUCKS	35.1	33.5	30.0	25.2	34.0	34.4
HEAVY TRUCKS	39.8	38.4	32.8	29.8	38.6	38.9
VEHICULAR NOISE	44.3	42.6	39.0	34.7	43.2	**43.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	2	4	8	18
LDN	2	4	8	16

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Barstow Ave to W. Shaw Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	670

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	79.7	77.9	75.3	70.5	78.8	79.3
MEDIUM TRUCKS	73.3	71.8	68.3	63.5	72.2	72.7
HEAVY TRUCKS	78.1	76.6	71.0	68.0	76.8	77.1
VEHICULAR NOISE	82.5	80.9	77.3	72.9	81.5	**81.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	624	1344	2896	6239
LDN	585	1260	2715	5848

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Shaw Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,900
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	390

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.2	72.3	69.8	64.9	73.3	73.8
MEDIUM TRUCKS	69.2	67.7	64.2	59.4	68.2	68.6
HEAVY TRUCKS	74.7	73.2	67.6	64.6	73.5	73.7
VEHICULAR NOISE	78.1	76.4	72.5	68.4	77.0	**77.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	311	670	1444	3112
LDN	293	630	1358	2926

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,000
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	400

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	77.5	75.6	73.1	68.2	76.6	77.1
MEDIUM TRUCKS	71.1	69.5	66.0	61.3	70.0	70.5
HEAVY TRUCKS	75.9	74.4	68.8	65.8	74.6	74.9
VEHICULAR NOISE	80.3	78.6	75.0	70.7	79.3	**79.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	442	953	2053	4424
LDN	415	893	1925	4146

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Ashlan Ave to W Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,050
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	305

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.3	74.4	71.9	67.0	75.4	75.9
MEDIUM TRUCKS	69.9	68.4	64.9	60.1	68.8	69.3
HEAVY TRUCKS	74.7	73.2	67.6	64.6	73.4	73.7
VEHICULAR NOISE	79.1	77.4	73.9	69.5	78.1	**78.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	369	795	1714	3692
LDN	346	746	1606	3461

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Dakota Ave to W. Sheilds Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	41.4	39.6	37.0	32.2	40.6	41.1
MEDIUM TRUCKS	35.1	33.5	30.0	25.2	34.0	34.4
HEAVY TRUCKS	39.8	38.4	32.8	29.8	38.6	38.9
VEHICULAR NOISE	44.3	42.6	39.0	34.7	43.2	**43.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	2	4	8	18
LDN	2	4	8	16

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,300
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	230

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.1	73.2	70.7	65.8	74.2	74.7
MEDIUM TRUCKS	68.7	67.1	63.6	58.9	67.6	68.0
HEAVY TRUCKS	73.5	72.0	66.4	63.4	72.2	72.5
VEHICULAR NOISE	77.9	76.2	72.6	68.3	76.9	**77.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	306	659	1420	3059
LDN	287	618	1331	2867

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Shaw Ave to W. Santa Ana Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,400
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	240

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.1	50.2	48.4	42.6	51.1	51.7
MEDIUM TRUCKS	49.0	47.5	43.9	37.4	47.2	47.7
HEAVY TRUCKS	45.7	40.1	49.2	18.2	41.9	45.8
VEHICULAR NOISE	54.5	52.3	52.5	43.8	52.9	**53.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	18	39	84
LDN	7	16	34	73

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Santa Ana Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,400
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	240

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.1	50.2	48.4	42.6	51.1	51.7
MEDIUM TRUCKS	49.0	47.5	43.9	37.4	47.2	47.7
HEAVY TRUCKS	45.7	40.1	49.2	18.2	41.9	45.8
VEHICULAR NOISE	54.5	52.3	52.5	43.8	52.9	**53.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	18	39	84
LDN	7	16	34	73

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,100
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	310

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.4	54.5	52.7	46.9	55.4	56.0
MEDIUM TRUCKS	51.8	50.3	46.8	40.3	50.0	50.5
HEAVY TRUCKS	47.8	42.2	51.3	20.3	44.1	47.9
VEHICULAR NOISE	58.1	56.1	55.7	47.8	56.8	**57.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	15	32	69	149
LDN	13	28	61	131

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,750
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	175

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	53.9	52.0	50.2	44.4	52.9	53.5
MEDIUM TRUCKS	49.4	47.8	44.3	37.8	47.5	48.0
HEAVY TRUCKS	45.3	39.7	48.8	17.8	41.6	45.4
VEHICULAR NOISE	55.6	53.6	53.2	45.3	54.3	**55.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	10	22	47	102
LDN	9	19	41	89

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,750
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	175

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	50.7	48.8	47.0	41.3	49.7	50.3
MEDIUM TRUCKS	47.6	46.1	42.6	36.1	45.8	46.3
HEAVY TRUCKS	44.3	38.7	47.8	16.8	40.6	44.4
VEHICULAR NOISE	53.1	50.9	51.1	42.4	51.6	**52.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	7	15	32	68
LDN	6	13	27	59

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	650
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	65

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	46.4	44.5	42.7	37.0	45.4	46.0
MEDIUM TRUCKS	43.3	41.8	38.3	31.8	41.5	42.0
HEAVY TRUCKS	40.0	34.4	43.5	12.5	36.3	40.1
VEHICULAR NOISE	48.8	46.6	46.8	38.1	47.3	**48.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	4	8	16	35
LDN	3	7	14	31

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Shaw Ave to W. Santa Ana Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	270

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.9	54.0	52.2	46.4	54.9	55.5
MEDIUM TRUCKS	51.4	49.8	46.3	39.8	49.5	50.0
HEAVY TRUCKS	47.3	41.7	50.8	19.8	43.6	47.4
VEHICULAR NOISE	57.6	55.6	55.2	47.3	56.3	**57.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	14	30	64	138
LDN	12	26	56	121

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Santa Ana Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	270

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.8	53.9	52.1	46.3	54.8	55.4
MEDIUM TRUCKS	51.2	49.7	46.2	39.7	49.4	49.9
HEAVY TRUCKS	47.2	41.6	50.7	19.7	43.5	47.3
VEHICULAR NOISE	57.5	55.5	55.1	47.2	56.2	**57.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	14	29	63	136
LDN	12	26	55	119

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Gettysburg Ave to W. Swift Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	170

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	53.8	51.9	50.1	44.3	52.8	53.4
MEDIUM TRUCKS	49.2	47.7	44.2	37.7	47.4	47.9
HEAVY TRUCKS	45.2	39.6	48.7	17.7	41.5	45.3
VEHICULAR NOISE	55.5	53.5	53.1	45.2	54.1	**55.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	10	21	46	100
LDN	9	19	41	88

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Swift Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,700
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	170

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	50.6	48.7	46.9	41.1	49.6	50.2
MEDIUM TRUCKS	47.5	46.0	42.4	35.9	45.7	46.2
HEAVY TRUCKS	44.2	38.6	47.7	16.7	40.4	44.3
VEHICULAR NOISE	53.0	50.8	51.0	42.3	51.4	**52.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	7	14	31	67
LDN	6	12	27	58

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Ashland Ave to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,400
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	240

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.1	50.2	48.4	42.6	51.1	51.7
MEDIUM TRUCKS	49.0	47.5	43.9	37.4	47.2	47.7
HEAVY TRUCKS	45.7	40.1	49.2	18.2	41.9	45.8
VEHICULAR NOISE	54.5	52.3	52.5	43.8	52.9	**53.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	18	39	84
LDN	7	16	34	73

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Dakota Ave to 1,300 ft South of W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,150
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	215

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	51.6	49.7	47.9	42.1	50.6	51.2
MEDIUM TRUCKS	48.5	47.0	43.5	37.0	46.7	47.2
HEAVY TRUCKS	45.2	39.6	48.7	17.7	41.5	45.3
VEHICULAR NOISE	54.0	51.8	52.0	43.3	52.5	**53.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	17	36	78
LDN	7	15	31	68

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT 1,300 ft South of W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,150
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	215

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.8	52.9	51.1	45.3	53.8	54.4
MEDIUM TRUCKS	50.3	48.7	45.2	38.7	48.4	48.9
HEAVY TRUCKS	46.2	40.6	49.7	18.7	42.5	46.3
VEHICULAR NOISE	56.5	54.5	54.1	46.2	55.2	**56.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	12	25	54	116
LDN	10	22	48	103

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,650
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	165

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	50.5	48.6	46.8	41.0	49.5	50.1
MEDIUM TRUCKS	47.4	45.8	42.3	35.8	45.5	46.0
HEAVY TRUCKS	44.1	38.4	47.5	16.6	40.3	44.2
VEHICULAR NOISE	52.8	50.7	50.8	42.2	51.3	**52.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	7	14	30	66
LDN	6	12	26	57

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT North of W. Shaw Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,400
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	440

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	77.9	76.0	73.5	68.6	77.0	77.5
MEDIUM TRUCKS	71.5	69.9	66.4	61.7	70.4	70.9
HEAVY TRUCKS	76.3	74.8	69.2	66.2	75.0	75.3
VEHICULAR NOISE	80.7	79.0	75.4	71.1	79.7	**80.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	471	1016	2188	4714
LDN	442	952	2051	4419

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Shaw Ave to W. Acacia Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,300
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	730

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	80.1	78.2	75.7	70.8	79.2	79.7
MEDIUM TRUCKS	73.7	72.1	68.6	63.9	72.6	73.1
HEAVY TRUCKS	78.5	77.0	71.4	68.4	77.2	77.5
VEHICULAR NOISE	82.9	81.2	77.6	73.3	81.9	**82.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	661	1423	3066	6606
LDN	619	1334	2874	6192

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Acaia Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,300
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	730

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	80.2	78.3	75.8	70.9	79.3	79.8
MEDIUM TRUCKS	73.8	72.3	68.8	64.0	72.7	73.2
HEAVY TRUCKS	78.6	77.1	71.5	68.5	77.3	77.6
VEHICULAR NOISE	83.0	81.3	77.8	73.4	82.0	**82.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	672	1448	3121	6723
LDN	630	1358	2925	6302

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,850
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	485

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.1	73.3	70.7	65.9	74.2	74.7
MEDIUM TRUCKS	70.2	68.6	65.1	60.4	69.1	69.5
HEAVY TRUCKS	75.7	74.2	68.6	65.6	74.4	74.7
VEHICULAR NOISE	79.0	77.4	73.5	69.3	77.9	**78.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	360	775	1670	3599
LDN	338	729	1571	3384

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Ashland Ave to W. Griffith Way
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,600
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	560

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.7	73.9	71.4	66.5	74.9	75.4
MEDIUM TRUCKS	70.8	69.3	65.8	61.0	69.7	70.2
HEAVY TRUCKS	76.3	74.8	69.2	66.2	75.0	75.3
VEHICULAR NOISE	79.6	78.0	74.1	69.9	78.6	**79.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	396	853	1838	3961
LDN	372	802	1729	3724

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Griffith Way to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,600
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	560

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	78.9	77.1	74.5	69.7	78.0	78.5
MEDIUM TRUCKS	72.5	71.0	67.5	62.7	71.5	71.9
HEAVY TRUCKS	77.3	75.8	70.2	67.2	76.1	76.4
VEHICULAR NOISE	81.8	80.1	76.5	72.2	80.7	**81.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	554	1193	2570	5536
LDN	519	1118	2409	5189

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,900
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	490

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	75.2	73.3	70.8	65.9	74.3	74.8
MEDIUM TRUCKS	70.2	68.7	65.2	60.4	69.1	69.6
HEAVY TRUCKS	75.7	74.2	68.6	65.6	74.4	74.7
VEHICULAR NOISE	79.1	77.4	73.5	69.4	78.0	**78.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	362	781	1682	3624
LDN	341	734	1581	3407

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	3,750
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	375

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.0	72.2	69.6	64.8	73.1	73.6
MEDIUM TRUCKS	69.1	67.5	64.0	59.2	68.0	68.4
HEAVY TRUCKS	74.5	73.1	67.5	64.5	73.3	73.6
VEHICULAR NOISE	77.9	76.3	72.4	68.2	76.8	**77.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	303	653	1407	3032
LDN	285	614	1323	2851

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT N. Parkway Drive to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	570

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.0	57.1	55.3	49.6	58.1	58.6
MEDIUM TRUCKS	54.5	53.0	49.4	42.9	52.6	53.2
HEAVY TRUCKS	50.5	44.9	53.9	23.0	46.7	50.6
VEHICULAR NOISE	60.8	58.7	58.3	50.4	59.4	**60.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	22	48	104	223
LDN	20	42	91	196

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Gettysburg to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	570

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.0	57.1	55.3	49.6	58.1	58.6
MEDIUM TRUCKS	54.5	53.0	49.4	42.9	52.6	53.2
HEAVY TRUCKS	50.5	44.9	53.9	23.0	46.7	50.6
VEHICULAR NOISE	60.8	58.7	58.3	50.4	59.4	**60.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	22	48	104	223
LDN	20	42	91	196

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Ashland Ave to W. Bellaire Way
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,800
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	780

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.4	58.5	56.7	50.9	59.4	60.0
MEDIUM TRUCKS	55.9	54.3	50.8	44.3	54.0	54.5
HEAVY TRUCKS	51.8	46.2	55.3	24.3	48.1	51.9
VEHICULAR NOISE	62.1	60.1	59.7	51.8	60.8	**61.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	27	59	128	275
LDN	24	52	112	242

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Bellaire Way to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,800
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	780

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.4	58.5	56.7	50.9	59.4	60.0
MEDIUM TRUCKS	55.9	54.3	50.8	44.3	54.0	54.5
HEAVY TRUCKS	51.8	46.2	55.3	24.3	48.1	51.9
VEHICULAR NOISE	62.1	60.1	59.7	51.8	60.8	**61.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	27	59	128	275
LDN	24	52	112	242

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,800
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	580

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.9	54.0	52.2	46.5	55.0	55.5
MEDIUM TRUCKS	52.8	51.3	47.8	41.3	51.0	51.5
HEAVY TRUCKS	49.5	43.9	53.0	22.0	45.8	49.6
VEHICULAR NOISE	58.3	56.1	56.3	47.6	56.8	**57.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	15	33	70	152
LDN	13	28	61	131

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,600
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	560

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.0	57.0	55.3	49.5	58.0	58.6
MEDIUM TRUCKS	54.4	52.9	49.4	42.9	52.6	53.1
HEAVY TRUCKS	50.4	44.8	53.9	22.9	46.7	50.5
VEHICULAR NOISE	60.7	58.6	58.2	50.3	59.3	**60.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	22	47	102	220
LDN	19	42	90	194

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Blythe Ave
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,700
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	670

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	93.400
MEDIUM TRUCKS	0.840	0.094	0.094	3.200
HEAVY TRUCKS	0.853	0.059	0.088	3.400

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.5	74.7	72.1	67.3	75.6	76.1
MEDIUM TRUCKS	71.6	70.0	66.5	61.8	70.5	71.0
HEAVY TRUCKS	77.1	75.6	70.0	67.0	75.8	76.1
VEHICULAR NOISE	80.4	78.8	74.9	70.7	79.3	**79.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	446	962	2072	4464
LDN	420	904	1948	4197

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Blythe Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,750
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	475

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.1	53.1	51.4	45.6	54.1	54.7
MEDIUM TRUCKS	52.0	50.4	46.9	40.4	50.1	50.6
HEAVY TRUCKS	48.6	43.0	52.1	21.1	44.9	48.7
VEHICULAR NOISE	57.4	55.3	55.4	46.8	55.9	**56.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	13	29	62	133
LDN	11	25	53	115

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Blythe Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,900
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	490

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.2	53.3	51.5	45.7	54.2	54.8
MEDIUM TRUCKS	52.1	50.6	47.0	40.5	50.3	50.8
HEAVY TRUCKS	48.8	43.2	52.3	21.3	45.0	48.9
VEHICULAR NOISE	57.6	55.4	55.6	46.9	56.0	**57.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	14	29	63	136
LDN	12	25	54	117

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT N. Parkway Drive to W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,600
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	660

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.5	54.6	52.8	47.0	55.5	56.1
MEDIUM TRUCKS	53.4	51.9	48.3	41.8	51.5	52.1
HEAVY TRUCKS	50.1	44.5	53.5	22.6	46.3	50.2
VEHICULAR NOISE	58.8	56.7	56.9	48.2	57.3	**58.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	36	77	165
LDN	14	31	66	143

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT W. Dakota Ave to W. Dayton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,350
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	635

RECEIVER INPUT DATA

RECEIVER DISTANCE =		101
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		101
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	100.9	- -
MEDIUM TRUCKS=	4.00	100.8	- -
HEAVY TRUCKS =	8.01	100.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.3	54.3	52.6	46.8	55.3	55.9
MEDIUM TRUCKS	53.2	51.6	48.1	41.6	51.3	51.8
HEAVY TRUCKS	49.8	44.2	53.3	22.3	46.1	49.9
VEHICULAR NOISE	58.6	56.5	56.6	48.0	57.1	**58.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	16	35	75	161
LDN	14	30	65	140

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT W. Dayton Ave to W. Cortland Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,350
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	635

RECEIVER INPUT DATA

RECEIVER DISTANCE =		102
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		102
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	101.3	- -
MEDIUM TRUCKS=	4.00	101.3	- -
HEAVY TRUCKS =	8.01	101.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.4	57.5	55.7	49.9	58.4	59.0
MEDIUM TRUCKS	54.8	53.3	49.8	43.3	53.0	53.5
HEAVY TRUCKS	50.8	45.2	54.3	23.3	47.1	50.9
VEHICULAR NOISE	61.1	59.1	58.6	50.8	59.7	**60.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	24	52	111	240
LDN	21	45	98	211

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT W. Cortland Ave to W. Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,350
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	635

RECEIVER INPUT DATA

RECEIVER DISTANCE =		103
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		103
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	102.9	- -
MEDIUM TRUCKS=	4.00	102.8	- -
HEAVY TRUCKS =	8.01	102.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.1	54.2	52.4	46.7	55.2	55.7
MEDIUM TRUCKS	53.0	51.5	48.0	41.5	51.2	51.7
HEAVY TRUCKS	49.7	44.1	53.2	22.2	46.0	49.8
VEHICULAR NOISE	58.5	56.3	56.5	47.8	57.0	**57.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	16	35	75	161
LDN	14	30	65	139

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,000
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	600

RECEIVER INPUT DATA

RECEIVER DISTANCE =		104
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		104
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	103.9	- -
MEDIUM TRUCKS=	4.00	103.8	- -
HEAVY TRUCKS =	8.01	103.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.8	53.9	52.1	46.4	54.8	55.4
MEDIUM TRUCKS	52.7	51.2	47.7	41.2	50.9	51.4
HEAVY TRUCKS	49.4	43.8	52.9	21.9	45.7	49.5
VEHICULAR NOISE	58.2	56.0	56.2	47.5	56.7	**57.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	16	33	72	155
LDN	13	29	62	134

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Valentine Ave
SEGMENT N. Parkway Drive to W Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,600
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	260

RECEIVER INPUT DATA

RECEIVER DISTANCE =		105
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		105
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	104.9	- -
MEDIUM TRUCKS=	4.00	104.8	- -
HEAVY TRUCKS =	8.01	104.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.1	50.2	48.4	42.7	51.1	51.7
MEDIUM TRUCKS	49.0	47.5	44.0	37.5	47.2	47.7
HEAVY TRUCKS	45.7	40.1	49.2	18.2	42.0	45.8
VEHICULAR NOISE	54.5	52.3	52.5	43.8	53.0	**53.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	9	19	41	89
LDN	8	17	36	77

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Valentine Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,100
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	210

RECEIVER INPUT DATA

RECEIVER DISTANCE =		106
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		106
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	105.9	- -
MEDIUM TRUCKS=	4.00	105.8	- -
HEAVY TRUCKS =	8.01	105.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	51.1	49.2	47.4	41.7	50.2	50.7
MEDIUM TRUCKS	48.0	46.5	43.0	36.5	46.2	46.7
HEAVY TRUCKS	44.7	39.1	48.2	17.2	41.0	44.8
VEHICULAR NOISE	53.5	51.4	51.5	42.8	52.0	**52.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	17	36	77
LDN	7	14	31	67

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Marks Ave
SEGMENT W Princeton Ave to W. Clinton Ave
LOCATION: City of Fresno, CA SCENARIO: Existing

JOB #: 0462-19-01
DATE: 9-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,100
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	910

RECEIVER INPUT DATA

RECEIVER DISTANCE =		107
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		107
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	106.9	- -
MEDIUM TRUCKS=	4.00	106.8	- -
HEAVY TRUCKS =	8.01	106.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.5	55.5	53.8	48.0	56.5	57.1
MEDIUM TRUCKS	54.3	52.8	49.3	42.8	52.5	53.0
HEAVY TRUCKS	51.0	45.4	54.5	23.5	47.3	51.1
VEHICULAR NOISE	59.8	57.7	57.8	49.1	58.3	**59.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	20	44	95	205
LDN	18	38	82	177

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Herndon Ave to W. Shaw Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	81,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	8,100

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.9	72.5	71.7	67.6	75.1	75.6
MEDIUM TRUCKS	69.1	66.0	64.6	64.2	70.9	71.2
HEAVY TRUCKS	78.3	74.9	70.7	74.8	81.2	81.3
VEHICULAR NOISE	80.3	77.2	74.7	75.9	82.4	**82.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	695	1497	3225	6948
LDN	675	1453	3131	6745

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Shaw Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	77,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	7,700

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	74.7	72.3	71.5	67.4	74.9	75.4
MEDIUM TRUCKS	68.9	65.8	64.4	64.0	70.7	70.9
HEAVY TRUCKS	78.1	74.7	70.5	74.6	80.9	81.0
VEHICULAR NOISE	80.1	77.0	74.5	75.7	82.2	**82.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	672	1447	3118	6718
LDN	652	1405	3027	6521

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	105,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10,500

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.1	73.7	72.8	68.7	76.2	76.7
MEDIUM TRUCKS	70.2	67.1	65.8	65.4	72.0	72.3
HEAVY TRUCKS	79.5	76.1	71.9	75.9	82.3	82.4
VEHICULAR NOISE	81.4	78.4	75.8	77.0	83.6	**83.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	826	1780	3834	8261
LDN	802	1728	3722	8019

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Dakota Ave to W. Sheilds Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	104,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10,400

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.0	73.6	72.8	68.7	76.2	76.7
MEDIUM TRUCKS	70.2	67.1	65.7	65.3	72.0	72.3
HEAVY TRUCKS	79.4	76.0	71.8	75.9	82.2	82.3
VEHICULAR NOISE	81.4	78.3	75.8	77.0	83.5	**83.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	821	1768	3810	8208
LDN	797	1717	3698	7968

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY State Route 99
SEGMENT W. Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	107,000
SPEED =	65
PK HR % =	10
NEAR LANE/FAR LANE DIST =	88
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	10,700

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.692	0.142	0.166	0.770
MEDIUM TRUCKS	0.592	0.108	0.295	0.048
HEAVY TRUCKS	0.548	0.052	0.400	0.182

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	89.8	- -
MEDIUM TRUCKS=	4.00	89.8	- -
HEAVY TRUCKS =	8.01	89.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	76.1	73.8	72.9	68.8	76.3	76.8
MEDIUM TRUCKS	70.3	67.2	65.8	65.4	72.1	72.4
HEAVY TRUCKS	79.5	76.1	72.0	76.0	82.4	82.5
VEHICULAR NOISE	81.5	78.5	75.9	77.1	83.6	**83.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	837	1802	3883	8365
LDN	812	1750	3769	8121

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Herndon Ave
SEGMENT N. Garfield Ave to N. Parkway Drive
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	18.3	16.4	14.6	8.8	17.3	17.9
MEDIUM TRUCKS	15.2	13.7	10.1	3.6	13.3	13.9
HEAVY TRUCKS	11.9	6.3	15.3	-15.6	8.1	12.0
VEHICULAR NOISE	20.6	18.5	18.7	10.0	19.1	**20.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	0
LDN	0	0	0	0

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Bullard Ave
SEGMENT N Garfield Ave to N. Grantland Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,683
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	668

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.6	54.6	52.9	47.1	55.6	56.2
MEDIUM TRUCKS	53.4	51.9	48.4	41.9	51.6	52.1
HEAVY TRUCKS	50.1	44.5	53.6	22.6	46.4	50.2
VEHICULAR NOISE	58.9	56.8	56.9	48.2	57.4	**58.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	36	77	167
LDN	14	31	67	144

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Bullard Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,706
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	971

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	58.2	56.2	54.5	48.7	57.2	57.8
MEDIUM TRUCKS	55.1	53.5	50.0	43.5	53.2	53.7
HEAVY TRUCKS	51.7	46.1	55.2	24.2	48.0	51.8
VEHICULAR NOISE	60.5	58.4	58.5	49.9	59.0	**60.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	21	46	99	214
LDN	19	40	86	185

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Bullard Ave
SEGMENT N. Bryan Ave to SR-99
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	21.5	19.6	17.8	12.0	20.5	21.1
MEDIUM TRUCKS	16.9	15.4	11.9	5.4	15.1	15.6
HEAVY TRUCKS	12.9	7.3	16.4	-14.6	9.2	13.0
VEHICULAR NOISE	23.2	21.2	20.8	12.9	21.8	**22.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N Garfield to N. Grantland Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1,310
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	131

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.7	50.7	49.0	43.2	51.7	52.3
MEDIUM TRUCKS	48.1	46.6	43.0	36.6	46.3	46.8
HEAVY TRUCKS	44.1	38.5	47.6	16.6	40.3	44.2
VEHICULAR NOISE	54.4	52.3	51.9	44.0	53.0	**53.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	8	18	39	84
LDN	7	16	34	74

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,804
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,480

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.0	58.1	56.3	50.5	59.0	59.6
MEDIUM TRUCKS	56.9	55.4	51.8	45.3	55.1	55.6
HEAVY TRUCKS	53.6	48.0	57.1	26.1	49.8	53.7
VEHICULAR NOISE	62.4	60.2	60.4	51.7	60.8	**61.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	28	61	132	283
LDN	25	53	114	245

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N. Bryan Ave to N. Contessa Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	23.1	21.2	19.4	13.6	22.1	22.7
MEDIUM TRUCKS	18.0	16.5	12.9	6.4	16.1	16.7
HEAVY TRUCKS	13.7	8.1	17.1	-13.8	9.9	13.8
VEHICULAR NOISE	24.6	22.6	22.0	14.4	23.3	**24.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Barstow Ave
SEGMENT N. Contessa Ave to N. Island Waterpark Drive
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	21.6	19.7	17.9	12.1	20.6	21.2
MEDIUM TRUCKS	17.0	15.5	12.0	5.5	15.2	15.7
HEAVY TRUCKS	13.0	7.4	16.5	-14.5	9.3	13.1
VEHICULAR NOISE	23.3	21.3	20.9	13.0	22.0	**22.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N Garfield Ave to N. Grantland Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,820
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,682

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.5	58.7	56.1	51.3	59.6	60.1
MEDIUM TRUCKS	55.6	54.0	50.5	45.8	54.5	55.0
HEAVY TRUCKS	61.1	59.6	54.0	51.0	59.8	60.1
VEHICULAR NOISE	64.4	62.8	58.9	54.7	63.3	**63.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	38	82	178	383
LDN	36	78	167	360

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	47,627
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,763

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.0	63.2	60.6	55.8	64.2	64.7
MEDIUM TRUCKS	60.1	58.6	55.1	50.3	59.0	59.5
HEAVY TRUCKS	65.6	64.1	58.5	55.5	64.3	64.6
VEHICULAR NOISE	68.9	67.3	63.4	59.2	67.9	**68.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	77	165	356	766
LDN	72	155	334	720

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N. Bryan Ave to 1,300 ft east of N. Hayes Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	45,973
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,597

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.9	63.0	60.5	55.6	64.0	64.5
MEDIUM TRUCKS	60.0	58.4	54.9	50.1	58.9	59.3
HEAVY TRUCKS	65.4	63.9	58.4	55.3	64.2	64.5
VEHICULAR NOISE	68.8	67.1	63.3	59.1	67.7	**68.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	75	161	347	748
LDN	70	152	327	703

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT 1,300 ft east of N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	54,592
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,459

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.8	67.0	64.4	59.6	67.9	68.4
MEDIUM TRUCKS	62.4	60.9	57.4	52.6	61.4	61.8
HEAVY TRUCKS	67.2	65.7	60.1	57.1	66.0	66.2
VEHICULAR NOISE	71.6	70.0	66.4	62.0	70.6	**71.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	117	253	544	1173
LDN	110	237	510	1099

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Shaw Ave
SEGMENT N. Polk Ave to State Route 99
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	88,601
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	8,860

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	71.0	69.2	66.6	61.8	70.2	70.6
MEDIUM TRUCKS	64.7	63.1	59.6	54.8	63.6	64.0
HEAVY TRUCKS	69.4	68.0	62.4	59.3	68.2	68.5
VEHICULAR NOISE	73.9	72.2	68.6	64.3	72.8	**73.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	165	355	765	1648
LDN	154	333	717	1545

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT 1,300 ft west of N. Bryan Ave to Bryan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,954
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	695

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	56.7	54.8	53.0	47.2	55.7	56.3
MEDIUM TRUCKS	53.6	52.1	48.6	42.1	51.8	52.3
HEAVY TRUCKS	50.3	44.7	53.8	22.8	46.6	50.4
VEHICULAR NOISE	59.1	56.9	57.1	48.4	57.6	**58.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	37	79	171
LDN	15	32	69	148

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	11,025
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,103

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	58.7	56.8	55.0	49.2	57.7	58.3
MEDIUM TRUCKS	55.6	54.1	50.6	44.1	53.8	54.3
HEAVY TRUCKS	52.3	46.7	55.8	24.8	48.6	52.4
VEHICULAR NOISE	61.1	58.9	59.1	50.4	59.6	**60.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	23	50	108	233
LDN	20	43	94	202

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	18,739
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,874

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.0	59.1	57.3	51.6	60.0	60.6
MEDIUM TRUCKS	57.9	56.4	52.9	46.4	56.1	56.6
HEAVY TRUCKS	54.6	49.0	58.1	27.1	50.9	54.7
VEHICULAR NOISE	63.4	61.2	61.4	52.7	61.9	**62.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	33	71	154	332
LDN	29	62	133	287

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Gettysburg Ave
SEGMENT N. Polk Ave to N. Barcus
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,002
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	900

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.1	59.2	57.4	51.7	60.2	60.7
MEDIUM TRUCKS	56.6	55.1	51.5	45.0	54.7	55.3
HEAVY TRUCKS	52.6	47.0	56.0	25.1	48.8	52.7
VEHICULAR NOISE	62.9	60.8	60.4	52.5	61.5	**62.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	31	66	143	308
LDN	27	58	126	271

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Garfield to N. Grantland
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,056
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,406

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.1	61.2	59.4	53.6	62.1	62.7
MEDIUM TRUCKS	58.5	57.0	53.5	47.0	56.7	57.2
HEAVY TRUCKS	54.5	48.9	58.0	27.0	50.8	54.6
VEHICULAR NOISE	64.8	62.7	62.3	54.5	63.4	**64.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	41	89	192	414
LDN	36	79	169	365

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	46,920
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,692

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.1	66.3	63.8	58.9	67.3	67.8
MEDIUM TRUCKS	61.8	60.2	56.7	52.0	60.7	61.1
HEAVY TRUCKS	66.6	65.1	59.5	56.5	65.3	65.6
VEHICULAR NOISE	71.0	69.3	65.7	61.4	70.0	**70.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	106	228	492	1060
LDN	99	214	461	994

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	40,410
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,041

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.3	62.5	59.9	55.1	63.5	63.9
MEDIUM TRUCKS	59.4	57.8	54.3	49.6	58.3	58.8
HEAVY TRUCKS	64.9	63.4	57.8	54.8	63.6	63.9
VEHICULAR NOISE	68.2	66.6	62.7	58.5	67.1	**67.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	69	148	319	687
LDN	65	139	300	646

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	44,366
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,437

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.7	62.9	60.3	55.5	63.9	64.4
MEDIUM TRUCKS	59.8	58.2	54.7	50.0	58.7	59.2
HEAVY TRUCKS	65.3	63.8	58.2	55.2	64.0	64.3
VEHICULAR NOISE	68.6	67.0	63.1	58.9	67.6	**68.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	73	157	339	731
LDN	69	148	319	687

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Polk Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	43,099
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,310

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.6	62.8	60.2	55.4	63.7	64.2
MEDIUM TRUCKS	59.7	58.1	54.6	49.8	58.6	59.0
HEAVY TRUCKS	65.1	63.7	58.1	55.1	63.9	64.2
VEHICULAR NOISE	68.5	66.9	63.0	58.8	67.4	**67.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	72	154	333	717
LDN	67	145	313	674

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Cornelia Ave to N. Blythe Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	58,827
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,883

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.0	64.1	61.6	56.7	65.1	65.6
MEDIUM TRUCKS	61.0	59.5	56.0	51.2	59.9	60.4
HEAVY TRUCKS	66.5	65.0	59.4	56.4	65.2	65.5
VEHICULAR NOISE	69.9	68.2	64.3	60.2	68.8	**69.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	88	190	409	882
LDN	83	179	385	829

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Ashlan Ave
SEGMENT N. Blythe Ave to State Route 99
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	66,788
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	6,679

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.5	64.7	62.1	57.3	65.6	66.1
MEDIUM TRUCKS	61.6	60.0	56.5	51.8	60.5	60.9
HEAVY TRUCKS	67.1	65.6	60.0	57.0	65.8	66.1
VEHICULAR NOISE	70.4	68.8	64.9	60.7	69.3	**69.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	96	207	445	960
LDN	90	194	419	902

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Hayes Ave to N. Barcus Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,139
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,614

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.4	58.5	56.7	50.9	59.4	60.0
MEDIUM TRUCKS	57.3	55.8	52.2	45.7	55.4	56.0
HEAVY TRUCKS	54.0	48.4	57.4	26.5	50.2	54.1
VEHICULAR NOISE	62.7	60.6	60.7	52.1	61.2	**62.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	30	65	139	300
LDN	26	56	121	260

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Barcus Ave to N. Polk Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,139
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,614

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.6	61.6	59.9	54.1	62.6	63.2
MEDIUM TRUCKS	59.0	57.5	53.9	47.5	57.2	57.7
HEAVY TRUCKS	55.0	49.4	58.5	27.5	51.3	55.1
VEHICULAR NOISE	65.3	63.2	62.8	54.9	63.9	**64.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	45	96	207	446
LDN	39	85	182	393

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Polk Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,878
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,488

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.0	58.1	56.3	50.6	59.0	59.6
MEDIUM TRUCKS	56.9	55.4	51.9	45.4	55.1	55.6
HEAVY TRUCKS	53.6	48.0	57.1	26.1	49.9	53.7
VEHICULAR NOISE	62.4	60.2	60.4	51.7	60.9	**61.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	28	61	132	284
LDN	25	53	114	246

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Cornelia Ave to N. Blythe Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	14,338
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,434

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.9	57.9	56.2	50.4	58.9	59.5
MEDIUM TRUCKS	56.8	55.2	51.7	45.2	54.9	55.4
HEAVY TRUCKS	53.4	47.8	56.9	25.9	49.7	53.5
VEHICULAR NOISE	62.2	60.1	60.2	51.6	60.7	**61.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	28	60	129	277
LDN	24	52	111	240

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N. Blythe Ave to N Brawley Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,124
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,312

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.5	57.6	55.8	50.0	58.5	59.1
MEDIUM TRUCKS	56.4	54.9	51.3	44.8	54.5	55.1
HEAVY TRUCKS	53.1	47.5	56.5	25.6	49.3	53.2
VEHICULAR NOISE	61.8	59.7	59.8	51.2	60.3	**61.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	26	56	121	262
LDN	23	49	105	226

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Dakota Ave
SEGMENT N Brawley Ave to N. Parkway Drive
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	7,448
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	745

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	57.0	55.1	53.3	47.5	56.0	56.6
MEDIUM TRUCKS	53.9	52.4	48.9	42.4	52.1	52.6
HEAVY TRUCKS	50.6	45.0	54.1	23.1	46.9	50.7
VEHICULAR NOISE	59.4	57.2	57.4	48.7	57.9	**58.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	18	39	83	179
LDN	16	33	72	155

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Garfield Ave to Grantland Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	18.3	16.4	14.6	8.8	17.3	17.9
MEDIUM TRUCKS	15.2	13.7	10.1	3.6	13.3	13.9
HEAVY TRUCKS	11.9	6.3	15.3	-15.6	8.1	12.0
VEHICULAR NOISE	20.6	18.5	18.7	10.0	19.1	**20.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	0
LDN	0	0	0	0

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,365
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,337

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.6	57.6	55.9	50.1	58.6	59.2
MEDIUM TRUCKS	56.5	54.9	51.4	44.9	54.6	55.1
HEAVY TRUCKS	53.1	47.5	56.6	25.6	49.4	53.2
VEHICULAR NOISE	61.9	59.8	59.9	51.2	60.4	**61.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	26	57	123	265
LDN	23	49	106	229

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	15,656
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,566

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.2	58.3	56.6	50.8	59.3	59.9
MEDIUM TRUCKS	57.1	55.6	52.1	45.6	55.3	55.8
HEAVY TRUCKS	53.8	48.2	57.3	26.3	50.1	53.9
VEHICULAR NOISE	62.6	60.5	60.6	51.9	61.1	**62.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	29	63	137	294
LDN	25	55	118	255

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	12,337
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,234

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.2	57.3	55.5	49.7	58.2	58.8
MEDIUM TRUCKS	56.1	54.6	51.0	44.6	54.3	54.8
HEAVY TRUCKS	52.8	47.2	56.3	25.3	49.0	52.9
VEHICULAR NOISE	61.6	59.4	59.6	50.9	60.1	**61.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	25	54	116	251
LDN	22	47	101	217

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Polk Ave to N. Dante Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,436
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,144

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.8	62.9	61.1	55.3	63.8	64.4
MEDIUM TRUCKS	60.2	58.7	55.2	48.7	58.4	58.9
HEAVY TRUCKS	56.2	50.6	59.7	28.7	52.5	56.3
VEHICULAR NOISE	66.5	64.5	64.1	56.2	65.1	**66.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	54	116	250	539
LDN	47	102	220	475

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Dante Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,436
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,144

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.8	62.9	61.1	55.3	63.8	64.4
MEDIUM TRUCKS	60.2	58.7	55.2	48.7	58.4	58.9
HEAVY TRUCKS	56.2	50.6	59.7	28.7	52.5	56.3
VEHICULAR NOISE	66.5	64.5	64.1	56.2	65.1	**66.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	54	116	250	539
LDN	47	102	220	475

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Cornelia Ave to N. Blythe Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	19,552
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,955

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.2	59.3	57.5	51.7	60.2	60.8
MEDIUM TRUCKS	58.1	56.6	53.0	46.6	56.3	56.8
HEAVY TRUCKS	54.8	49.2	58.3	27.3	51.0	54.9
VEHICULAR NOISE	63.6	61.4	61.6	52.9	62.1	**63.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	34	73	158	341
LDN	30	64	137	295

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Blythe Ave to N. Brawley Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,141
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,114

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.6	59.6	57.9	52.1	60.6	61.2
MEDIUM TRUCKS	58.4	56.9	53.4	46.9	56.6	57.1
HEAVY TRUCKS	55.1	49.5	58.6	27.6	51.4	55.2
VEHICULAR NOISE	63.9	61.8	61.9	53.2	62.4	**63.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	36	77	167	359
LDN	31	67	144	311

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N Brawley Ave to N. Valentine Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	19,787
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,979

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.3	59.3	57.6	51.8	60.3	60.9
MEDIUM TRUCKS	58.2	56.6	53.1	46.6	56.3	56.8
HEAVY TRUCKS	54.8	49.2	58.3	27.3	51.1	54.9
VEHICULAR NOISE	63.6	61.5	61.6	53.0	62.1	**63.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	34	74	160	344
LDN	30	64	138	298

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Sheilds Ave
SEGMENT N. Valentine Ave to N. Marks Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	19,278
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,928

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.2	59.2	57.5	51.7	60.2	60.8
MEDIUM TRUCKS	58.0	56.5	53.0	46.5	56.2	56.7
HEAVY TRUCKS	54.7	49.1	58.2	27.2	51.0	54.8
VEHICULAR NOISE	63.5	61.4	61.5	52.8	62.0	**62.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	34	73	157	338
LDN	29	63	136	293

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Grantland Ave to N. Bryan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	2,448
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	245

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	52.1	50.3	47.8	42.9	51.3	51.8
MEDIUM TRUCKS	47.2	45.7	42.2	37.4	46.1	46.6
HEAVY TRUCKS	52.7	51.2	45.6	42.6	51.4	51.7
VEHICULAR NOISE	56.0	54.4	50.5	46.4	55.0	**55.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	11	23	49	106
LDN	10	21	46	100

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Bryan Ave to N. Hayes Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	10,251
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,025

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	58.4	56.5	54.0	49.1	57.5	58.0
MEDIUM TRUCKS	53.4	51.9	48.4	43.6	52.4	52.8
HEAVY TRUCKS	58.9	57.4	51.8	48.8	57.6	57.9
VEHICULAR NOISE	62.3	60.6	56.7	52.6	61.2	**61.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	28	59	128	275
LDN	26	56	120	259

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Hayes Ave to N. Polk Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	11,239
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,124

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	58.8	56.9	54.4	49.5	57.9	58.4
MEDIUM TRUCKS	53.8	52.3	48.8	44.0	52.8	53.2
HEAVY TRUCKS	59.3	57.8	52.2	49.2	58.0	58.3
VEHICULAR NOISE	62.7	61.0	57.1	53.0	61.6	**62.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	29	63	136	293
LDN	28	59	128	275

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Polk Ave to 1900 ft east of N. Polk Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,878
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,388

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.7	57.8	55.3	50.4	58.8	59.3
MEDIUM TRUCKS	54.7	53.2	49.7	44.9	53.7	54.1
HEAVY TRUCKS	60.2	58.7	53.2	50.1	59.0	59.3
VEHICULAR NOISE	63.6	61.9	58.0	53.9	62.5	**62.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	34	73	156	337
LDN	32	68	147	317

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT 1900 east of N. Polk Ave to N. Cornelia Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,298
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,130

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.7	62.9	60.3	55.5	63.9	64.3
MEDIUM TRUCKS	58.3	56.8	53.3	48.5	57.3	57.7
HEAVY TRUCKS	63.1	61.6	56.1	53.0	61.9	62.2
VEHICULAR NOISE	67.6	65.9	62.3	58.0	66.5	**66.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	63	135	291	626
LDN	59	126	272	587

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Cornelia Ave to N. Milburn Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	24,727
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,473

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.0	65.2	62.6	57.8	66.1	66.6
MEDIUM TRUCKS	60.0	58.5	55.0	50.2	59.0	59.4
HEAVY TRUCKS	64.5	63.0	57.4	54.4	63.3	63.6
VEHICULAR NOISE	69.5	67.8	64.3	59.9	68.5	**68.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	84	182	392	844
LDN	79	170	367	790

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Milburn Ave to N. Blythe Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	29,368
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,937

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.2	64.4	61.8	57.0	65.4	65.9
MEDIUM TRUCKS	59.9	58.3	54.8	50.0	58.8	59.2
HEAVY TRUCKS	64.6	63.2	57.6	54.6	63.4	63.7
VEHICULAR NOISE	69.1	67.4	63.8	59.5	68.0	**68.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	79	170	366	789
LDN	74	159	343	740

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Blythe Ave to N Sonora Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	24,727
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,473

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.0	65.2	62.6	57.8	66.1	66.6
MEDIUM TRUCKS	60.0	58.5	55.0	50.2	59.0	59.4
HEAVY TRUCKS	64.5	63.0	57.4	54.4	63.3	63.6
VEHICULAR NOISE	69.5	67.8	64.3	59.9	68.5	**68.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	84	182	392	844
LDN	79	170	367	790

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Sonora Ave to N Brawley Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	24,727
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,473

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.5	63.6	61.1	56.2	64.6	65.1
MEDIUM TRUCKS	59.1	57.6	54.1	49.3	58.0	58.5
HEAVY TRUCKS	63.9	62.4	56.8	53.8	62.6	62.9
VEHICULAR NOISE	68.3	66.6	63.1	58.7	67.3	**67.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	70	152	327	704
LDN	66	142	306	660

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N Brawley Ave to N. Knoll Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	29,368
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,937

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.2	64.4	61.8	57.0	65.4	65.9
MEDIUM TRUCKS	59.9	58.3	54.8	50.0	58.8	59.2
HEAVY TRUCKS	64.6	63.2	57.6	54.6	63.4	63.7
VEHICULAR NOISE	69.1	67.4	63.8	59.5	68.0	**68.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	79	170	366	789
LDN	74	159	343	740

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Knoll Ave to 850 ft east of N. Knoll Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	29,368
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,937

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.1	64.3	61.7	56.9	65.2	65.7
MEDIUM TRUCKS	59.7	58.2	54.7	49.9	58.7	59.1
HEAVY TRUCKS	64.5	63.0	57.4	54.4	63.3	63.6
VEHICULAR NOISE	69.0	67.3	63.7	59.4	67.9	**68.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	78	167	360	776
LDN	73	157	337	727

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT 850 east of N. Knoll Ave to N. Valentine Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	29,368
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,937

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.9	61.1	58.5	53.7	62.1	62.6
MEDIUM TRUCKS	58.0	56.5	53.0	48.2	56.9	57.4
HEAVY TRUCKS	63.5	62.0	56.4	53.4	62.2	62.5
VEHICULAR NOISE	66.8	65.2	61.3	57.1	65.8	**66.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	55	120	258	555
LDN	52	112	242	522

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Valentine Ave to N. Marks Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	39,715
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,972

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.4	65.6	63.0	58.2	66.6	67.0
MEDIUM TRUCKS	61.1	59.5	56.0	51.2	60.0	60.4
HEAVY TRUCKS	65.8	64.4	58.8	55.7	64.6	64.9
VEHICULAR NOISE	70.3	68.6	65.0	60.7	69.2	**69.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	95	204	440	949
LDN	89	192	413	889

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY W. Clinton Ave
SEGMENT N. Marks Ave to W. Vassar Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	58,312
SPEED =	50
PK HR % =	10
NEAR LANE/FAR LANE DIST =	66
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,831

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	94.4	- -
MEDIUM TRUCKS=	4.00	94.4	- -
HEAVY TRUCKS =	8.01	94.4	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	70.7	68.9	66.4	61.5	69.9	70.4
MEDIUM TRUCKS	63.8	62.2	58.7	53.9	62.7	63.1
HEAVY TRUCKS	68.3	66.8	61.2	58.2	67.0	67.3
VEHICULAR NOISE	73.2	71.5	68.0	63.6	72.2	**72.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	149	322	694	1495
LDN	140	302	650	1400

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Herndon Ave to W. Bullard Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,249
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	425

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.5	52.7	50.2	45.3	53.7	54.2
MEDIUM TRUCKS	49.6	48.1	44.6	39.8	48.5	49.0
HEAVY TRUCKS	55.1	53.6	48.0	45.0	53.8	54.1
VEHICULAR NOISE	58.4	56.8	52.9	48.8	57.4	**57.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	15	33	71	153
LDN	14	31	67	144

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Bullard Ave to W. Barstow Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,862
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	486

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.1	53.3	50.7	45.9	54.3	54.7
MEDIUM TRUCKS	50.2	48.6	45.1	40.4	49.1	49.6
HEAVY TRUCKS	55.7	54.2	48.6	45.6	54.4	54.7
VEHICULAR NOISE	59.0	57.4	53.5	49.3	58.0	**58.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	36	78	167
LDN	16	34	73	157

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Barstow Ave to 1,000 ft south of W. Barston Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,253
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	525

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	58.6	56.8	54.3	49.4	57.8	58.3
MEDIUM TRUCKS	52.3	50.7	47.2	42.4	51.2	51.6
HEAVY TRUCKS	57.0	55.6	50.0	47.0	55.8	56.1
VEHICULAR NOISE	61.5	59.8	56.2	51.9	60.4	**60.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	25	53	114	246
LDN	23	50	107	231

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT 1,000 ft south of W. Barstow Ave to W. Shaw Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,253
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	525

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	58.6	56.8	54.3	49.4	57.8	58.3
MEDIUM TRUCKS	52.3	50.7	47.2	42.4	51.2	51.6
HEAVY TRUCKS	57.0	55.6	50.0	47.0	55.8	56.1
VEHICULAR NOISE	61.5	59.8	56.2	51.9	60.4	**60.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	25	53	114	246
LDN	23	50	107	231

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Shaw Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,702
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	570

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.8	54.0	51.4	46.6	54.9	55.4
MEDIUM TRUCKS	50.9	49.3	45.8	41.1	49.8	50.3
HEAVY TRUCKS	56.4	54.9	49.3	46.3	55.1	55.4
VEHICULAR NOISE	59.7	58.1	54.2	50.0	58.6	**59.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	19	40	86	186
LDN	17	38	81	175

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	5,381
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	538

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.6	53.7	51.2	46.3	54.7	55.2
MEDIUM TRUCKS	50.6	49.1	45.6	40.8	49.6	50.0
HEAVY TRUCKS	56.1	54.6	49.0	46.0	54.8	55.1
VEHICULAR NOISE	59.5	57.8	53.9	49.8	58.4	**58.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	18	39	83	179
LDN	17	36	78	168

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	18.3	16.4	13.9	9.0	17.4	17.9
MEDIUM TRUCKS	13.3	11.8	8.3	3.5	12.2	12.7
HEAVY TRUCKS	18.8	17.3	11.7	8.7	17.5	17.8
VEHICULAR NOISE	22.2	20.5	16.6	12.5	21.1	**21.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Garfield Ave
SEGMENT W. Dakota Ave to W. Sheilds Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,998
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	500

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	55.2	53.4	50.9	46.0	54.4	54.9
MEDIUM TRUCKS	50.3	48.8	45.3	40.5	49.2	49.7
HEAVY TRUCKS	55.8	54.3	48.7	45.7	54.5	54.8
VEHICULAR NOISE	59.1	57.5	53.6	49.5	58.1	**58.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	17	37	79	170
LDN	16	35	74	160

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Parkway Drive
SEGMENT N Herndon Ave to W. Herndon Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	4,166
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	417

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	54.5	52.6	50.1	45.2	53.6	54.1
MEDIUM TRUCKS	49.5	48.0	44.5	39.7	48.4	48.9
HEAVY TRUCKS	55.0	53.5	47.9	44.9	53.7	54.0
VEHICULAR NOISE	58.4	56.7	52.8	48.7	57.3	**57.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	15	33	70	151
LDN	14	31	66	142

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT N. Parkway Drive to W. Bullard Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	18.3	16.4	14.6	8.8	17.3	17.9
MEDIUM TRUCKS	15.2	13.7	10.1	3.6	13.3	13.9
HEAVY TRUCKS	11.9	6.3	15.3	-15.6	8.1	12.0
VEHICULAR NOISE	20.6	18.5	18.7	10.0	19.1	**20.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	0
LDN	0	0	0	0

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Bullard Ave to W. Barstow Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	11,947
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,195

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.2	60.4	57.8	53.0	61.3	61.8
MEDIUM TRUCKS	55.8	54.3	50.8	46.0	54.8	55.2
HEAVY TRUCKS	60.6	59.1	53.5	50.5	59.4	59.7
VEHICULAR NOISE	65.1	63.4	59.8	55.5	64.0	**64.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	43	92	198	426
LDN	40	86	185	399

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Barstow Ave to W. Shaw Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	15,386
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,539

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.3	61.5	58.9	54.1	62.4	62.9
MEDIUM TRUCKS	56.9	55.4	51.9	47.1	55.9	56.3
HEAVY TRUCKS	61.7	60.2	54.6	51.6	60.5	60.7
VEHICULAR NOISE	66.1	64.5	60.9	56.5	65.1	**65.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	50	109	234	504
LDN	47	102	219	472

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Shaw Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	45,056
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,506

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.8	63.0	60.4	55.5	63.9	64.4
MEDIUM TRUCKS	59.9	58.3	54.8	50.0	58.8	59.2
HEAVY TRUCKS	65.3	63.9	58.3	55.3	64.1	64.4
VEHICULAR NOISE	68.7	67.1	63.2	59.0	67.6	**68.0**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	74	159	343	738
LDN	69	150	322	694

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	55,863
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	5,586

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	68.9	67.1	64.5	59.7	68.0	68.5
MEDIUM TRUCKS	62.5	61.0	57.5	52.7	61.5	61.9
HEAVY TRUCKS	67.3	65.8	60.2	57.2	66.1	66.3
VEHICULAR NOISE	71.7	70.1	66.5	62.1	70.7	**71.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	119	257	553	1191
LDN	112	240	518	1116

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Ashlan Ave to W Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	21.4	19.6	17.0	12.2	20.6	21.1
MEDIUM TRUCKS	15.1	13.5	10.0	5.2	14.0	14.4
HEAVY TRUCKS	19.8	18.4	12.8	9.8	18.6	18.9
VEHICULAR NOISE	24.3	22.6	19.0	14.7	23.2	**23.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W. Dakota Ave to W. Sheilds Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	40,268
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	4,027

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	67.5	65.6	63.1	58.2	66.6	67.1
MEDIUM TRUCKS	61.1	59.6	56.1	51.3	60.0	60.5
HEAVY TRUCKS	65.9	64.4	58.8	55.8	64.6	64.9
VEHICULAR NOISE	70.3	68.7	65.1	60.7	69.3	**69.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	96	206	444	957
LDN	90	193	416	897

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Grantland Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	25,521
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,552

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.5	63.7	61.1	56.3	64.6	65.1
MEDIUM TRUCKS	59.1	57.6	54.1	49.3	58.1	58.5
HEAVY TRUCKS	63.9	62.4	56.8	53.8	62.6	62.9
VEHICULAR NOISE	68.3	66.7	63.1	58.7	67.3	**67.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	71	152	328	706
LDN	66	143	307	662

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Shaw Ave to W. Santa Ana Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,311
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,131

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.6	59.7	57.9	52.1	60.6	61.2
MEDIUM TRUCKS	58.5	57.0	53.4	46.9	56.6	57.2
HEAVY TRUCKS	55.2	49.6	58.6	27.7	51.4	55.3
VEHICULAR NOISE	63.9	61.8	61.9	53.3	62.4	**63.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	36	78	168	361
LDN	31	67	145	313

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Santa Ana Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,311
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,131

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.6	59.7	57.9	52.1	60.6	61.2
MEDIUM TRUCKS	58.5	57.0	53.4	46.9	56.6	57.2
HEAVY TRUCKS	55.2	49.6	58.6	27.7	51.4	55.3
VEHICULAR NOISE	63.9	61.8	61.9	53.3	62.4	**63.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	36	78	168	361
LDN	31	67	145	313

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	18,216
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,822

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.1	62.2	60.4	54.6	63.1	63.7
MEDIUM TRUCKS	59.5	58.0	54.5	48.0	57.7	58.2
HEAVY TRUCKS	55.5	49.9	59.0	28.0	51.8	55.6
VEHICULAR NOISE	65.8	63.8	63.4	55.5	64.4	**65.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	48	104	225	484
LDN	43	92	198	426

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	1
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	0

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	21.5	19.6	17.8	12.0	20.5	21.1
MEDIUM TRUCKS	16.9	15.4	11.9	5.4	15.1	15.6
HEAVY TRUCKS	12.9	7.3	16.4	-14.6	9.2	13.0
VEHICULAR NOISE	23.2	21.2	20.8	12.9	21.8	**22.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	0	0	0	1
LDN	0	0	0	1

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	18,966
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,897

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.1	59.2	57.4	51.6	60.1	60.7
MEDIUM TRUCKS	58.0	56.5	52.9	46.4	56.1	56.7
HEAVY TRUCKS	54.7	49.1	58.1	27.2	50.9	54.8
VEHICULAR NOISE	63.4	61.3	61.4	52.8	61.9	**62.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	33	72	155	334
LDN	29	62	134	289

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Bryan Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	13,631
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,363

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.6	57.7	55.9	50.2	58.7	59.3
MEDIUM TRUCKS	56.5	55.0	51.5	45.0	54.7	55.2
HEAVY TRUCKS	53.2	47.6	56.7	25.7	49.5	53.3
VEHICULAR NOISE	62.0	59.9	60.0	51.3	60.5	**61.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	27	58	124	268
LDN	23	50	108	232

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Shaw Ave to W. Santa Ana Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	22,778
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,278

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.2	63.2	61.5	55.7	64.2	64.8
MEDIUM TRUCKS	60.6	59.1	55.6	49.1	58.8	59.3
HEAVY TRUCKS	56.6	51.0	60.1	29.1	52.9	56.7
VEHICULAR NOISE	66.9	64.8	64.4	56.6	65.5	**66.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	57	123	265	572
LDN	50	108	234	503

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Santa Ana Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	22,778
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,278

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.1	63.1	61.4	55.6	64.1	64.7
MEDIUM TRUCKS	60.5	59.0	55.4	49.0	58.7	59.2
HEAVY TRUCKS	56.5	50.9	60.0	29.0	52.7	56.6
VEHICULAR NOISE	66.8	64.7	64.3	56.4	65.4	**66.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	56	121	261	562
LDN	49	107	230	495

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Gettysburg Ave to W. Swift Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	25,950
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,595

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.6	63.7	61.9	56.1	64.6	65.2
MEDIUM TRUCKS	61.1	59.6	56.0	49.5	59.2	59.8
HEAVY TRUCKS	57.1	51.5	60.5	29.6	53.3	57.2
VEHICULAR NOISE	67.4	65.3	64.9	57.0	66.0	**66.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	61	132	284	613
LDN	54	116	250	539

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Swift Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	25,950
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,595

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.4	60.5	58.7	53.0	61.5	62.0
MEDIUM TRUCKS	59.3	57.8	54.3	47.8	57.5	58.0
HEAVY TRUCKS	56.0	50.4	59.5	28.5	52.3	56.1
VEHICULAR NOISE	64.8	62.7	62.8	54.1	63.3	**64.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	41	89	191	412
LDN	36	77	166	357

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Ashland Ave to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	29,995
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,000

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.1	61.1	59.4	53.6	62.1	62.7
MEDIUM TRUCKS	60.0	58.4	54.9	48.4	58.1	58.6
HEAVY TRUCKS	56.6	51.0	60.1	29.1	52.9	56.7
VEHICULAR NOISE	65.4	63.3	63.4	54.8	63.9	**64.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	45	98	211	454
LDN	39	85	182	393

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W. Dakota Ave to 1,300 ft South of W. Dakota Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,197
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,120

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.6	59.6	57.9	52.1	60.6	61.2
MEDIUM TRUCKS	58.5	56.9	53.4	46.9	56.6	57.1
HEAVY TRUCKS	55.1	49.5	58.6	27.6	51.4	55.2
VEHICULAR NOISE	63.9	61.8	61.9	53.3	62.4	**63.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	36	78	167	360
LDN	31	67	145	312

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT 1,300 ft South of W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,197
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,120

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.7	62.8	61.0	55.3	63.8	64.3
MEDIUM TRUCKS	60.2	58.7	55.1	48.6	58.3	58.9
HEAVY TRUCKS	56.2	50.6	59.7	28.7	52.4	56.3
VEHICULAR NOISE	66.5	64.4	64.0	56.1	65.1	**65.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	54	115	249	535
LDN	47	102	219	471

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Hayes Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	17,552
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,755

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.7	58.8	57.0	51.3	59.8	60.3
MEDIUM TRUCKS	57.6	56.1	52.6	46.1	55.8	56.3
HEAVY TRUCKS	54.3	48.7	57.8	26.8	50.6	54.4
VEHICULAR NOISE	63.1	61.0	61.1	52.4	61.6	**62.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	32	68	147	317
LDN	27	59	128	275

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT North of W. Shaw Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	6,568
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	657

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	59.6	57.8	55.2	50.4	58.7	59.2
MEDIUM TRUCKS	53.2	51.7	48.2	43.4	52.2	52.6
HEAVY TRUCKS	58.0	56.5	50.9	47.9	56.8	57.1
VEHICULAR NOISE	62.5	60.8	57.2	52.9	61.4	**61.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	29	62	133	286
LDN	27	58	124	268

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Shaw Ave to W. Acacia Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	25,762
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,576

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.5	63.7	61.2	56.3	64.7	65.2
MEDIUM TRUCKS	59.2	57.6	54.1	49.4	58.1	58.5
HEAVY TRUCKS	64.0	62.5	56.9	53.9	62.7	63.0
VEHICULAR NOISE	68.4	66.7	63.1	58.8	67.4	**67.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	71	153	330	711
LDN	67	144	309	666

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Acaia Ave to W. Gettysburg Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	25,762
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	44
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,576

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	97.6	- -
MEDIUM TRUCKS=	4.00	97.6	- -
HEAVY TRUCKS =	8.01	97.6	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	65.7	63.8	61.3	56.4	64.8	65.3
MEDIUM TRUCKS	59.3	57.7	54.2	49.5	58.2	58.7
HEAVY TRUCKS	64.1	62.6	57.0	54.0	62.8	63.1
VEHICULAR NOISE	68.5	66.8	63.2	58.9	67.5	**67.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	72	156	336	723
LDN	68	146	315	678

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Gettysburg Ave to W. Ashlan Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	31,612
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,161

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.3	61.4	58.9	54.0	62.4	62.9
MEDIUM TRUCKS	58.3	56.8	53.3	48.5	57.2	57.7
HEAVY TRUCKS	63.8	62.3	56.7	53.7	62.5	62.8
VEHICULAR NOISE	67.2	65.5	61.6	57.5	66.1	**66.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	58	126	271	583
LDN	55	118	254	548

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Ashland Ave to W. Griffith Way
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	31,840
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,184

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.3	61.4	58.9	54.0	62.4	62.9
MEDIUM TRUCKS	58.4	56.8	53.3	48.5	57.3	57.7
HEAVY TRUCKS	63.8	62.4	56.8	53.7	62.6	62.9
VEHICULAR NOISE	67.2	65.6	61.7	57.5	66.1	**66.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	59	126	272	586
LDN	55	119	256	551

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Griffith Way to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	31,840
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	3,184

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	66.5	64.6	62.1	57.2	65.6	66.1
MEDIUM TRUCKS	60.1	58.5	55.0	50.3	59.0	59.5
HEAVY TRUCKS	64.9	63.4	57.8	54.8	63.6	63.9
VEHICULAR NOISE	69.3	67.6	64.0	59.7	68.3	**68.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	82	176	380	819
LDN	77	165	356	767

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	23,801
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,380

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	62.0	60.2	57.6	52.8	61.2	61.6
MEDIUM TRUCKS	57.1	55.5	52.0	47.3	56.0	56.5
HEAVY TRUCKS	62.6	61.1	55.5	52.5	61.3	61.6
VEHICULAR NOISE	65.9	64.3	60.4	56.2	64.8	**65.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	48	104	224	482
LDN	45	98	211	454

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Polk Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	21,944
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,194

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.7	59.8	57.3	52.4	60.8	61.3
MEDIUM TRUCKS	56.7	55.2	51.7	46.9	55.7	56.1
HEAVY TRUCKS	62.2	60.7	55.1	52.1	61.0	61.3
VEHICULAR NOISE	65.6	63.9	60.0	55.9	64.5	**64.9**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	46	98	212	457
LDN	43	93	199	430

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT N. Parkway Drive to W. Gettysburg Ave
LOCATION: City of Fresno, CA SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	9,222
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	922

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.1	59.2	57.4	51.7	60.1	60.7
MEDIUM TRUCKS	56.6	55.1	51.5	45.0	54.7	55.3
HEAVY TRUCKS	52.6	47.0	56.0	25.1	48.8	52.7
VEHICULAR NOISE	62.9	60.8	60.4	52.5	61.5	**62.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	31	66	143	307
LDN	27	58	126	271

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Gettysburg to W. Ashlan Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	22,141
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,214

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	64.9	63.0	61.2	55.5	63.9	64.5
MEDIUM TRUCKS	60.4	58.9	55.3	48.8	58.5	59.1
HEAVY TRUCKS	56.4	50.8	59.8	28.9	52.6	56.5
VEHICULAR NOISE	66.7	64.6	64.2	56.3	65.3	**66.1**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	55	119	256	551
LDN	49	105	225	485

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Ashland Ave to W. Bellaire Way
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	15,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,570

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.4	61.5	59.7	54.0	62.5	63.0
MEDIUM TRUCKS	58.9	57.4	53.8	47.3	57.0	57.6
HEAVY TRUCKS	54.9	49.3	58.3	27.4	51.1	55.0
VEHICULAR NOISE	65.2	63.1	62.7	54.8	63.8	**64.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	44	94	203	438
LDN	39	83	179	386

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Bellaire Way to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	15,700
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,570

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.4	61.5	59.7	54.0	62.5	63.0
MEDIUM TRUCKS	58.9	57.4	53.8	47.3	57.0	57.6
HEAVY TRUCKS	54.9	49.3	58.3	27.4	51.1	55.0
VEHICULAR NOISE	65.2	63.1	62.7	54.8	63.8	**64.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	44	94	203	438
LDN	39	83	179	386

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	17,844
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,784

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.8	58.9	57.1	51.3	59.8	60.4
MEDIUM TRUCKS	57.7	56.2	52.6	46.2	55.9	56.4
HEAVY TRUCKS	54.4	48.8	57.9	26.9	50.6	54.5
VEHICULAR NOISE	63.2	61.0	61.2	52.5	61.7	**62.6**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	32	69	149	321
LDN	28	60	129	278

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Cornelia Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	15,071
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,507

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.3	- -
MEDIUM TRUCKS=	4.00	99.3	- -
HEAVY TRUCKS =	8.01	99.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.3	61.3	59.6	53.8	62.3	62.9
MEDIUM TRUCKS	58.7	57.2	53.7	47.2	56.9	57.4
HEAVY TRUCKS	54.7	49.1	58.2	27.2	51.0	54.8
VEHICULAR NOISE	65.0	62.9	62.5	54.6	63.6	**64.4**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	43	92	198	426
LDN	38	81	174	375

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Blythe Ave
SEGMENT W. Ashlan Ave to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	17,215
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,722

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.785	0.109	0.107	0.934
MEDIUM TRUCKS	0.840	0.094	0.094	0.032
HEAVY TRUCKS	0.853	0.059	0.088	0.034

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.6	58.8	56.2	51.4	59.7	60.2
MEDIUM TRUCKS	55.7	54.1	50.6	45.9	54.6	55.1
HEAVY TRUCKS	61.2	59.7	54.1	51.1	59.9	60.2
VEHICULAR NOISE	64.5	62.9	59.0	54.8	63.4	**63.8**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	39	84	180	389
LDN	37	79	170	365

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Blythe Ave
SEGMENT W. Dakota Ave to W Shields Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	17,269
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,727

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.7	58.8	57.0	51.2	59.7	60.3
MEDIUM TRUCKS	57.6	56.0	52.5	46.0	55.7	56.2
HEAVY TRUCKS	54.3	48.6	57.7	26.7	50.5	54.3
VEHICULAR NOISE	63.0	60.9	61.0	52.4	61.5	**62.5**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	31	68	146	314
LDN	27	59	126	272

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N. Blythe Ave
SEGMENT W Shields Ave to W. Clinton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,106
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,611

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.4	58.4	56.7	50.9	59.4	60.0
MEDIUM TRUCKS	57.3	55.7	52.2	45.7	55.4	55.9
HEAVY TRUCKS	53.9	48.3	57.4	26.4	50.2	54.0
VEHICULAR NOISE	62.7	60.6	60.7	52.1	61.2	**62.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	30	65	139	300
LDN	26	56	120	259

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT N. Parkway Drive to W. Dakota Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	20,943
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	2,094

RECEIVER INPUT DATA

RECEIVER DISTANCE =		100
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		100
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	99.9	- -
MEDIUM TRUCKS=	4.00	99.8	- -
HEAVY TRUCKS =	8.01	99.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	61.5	59.6	57.8	52.0	60.5	61.1
MEDIUM TRUCKS	58.4	56.9	53.3	46.9	56.6	57.1
HEAVY TRUCKS	55.1	49.5	58.6	27.6	51.3	55.2
VEHICULAR NOISE	63.9	61.7	61.9	53.2	62.4	**63.3**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	36	77	166	357
LDN	31	67	143	309

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT W. Dakota Ave to W. Dayton Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,396
SPEED =	35
PK HR % =	10
NEAR LANE/FAR LANE DIST =	12
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,640

RECEIVER INPUT DATA

RECEIVER DISTANCE =		101
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		101
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	100.9	- -
MEDIUM TRUCKS=	4.00	100.8	- -
HEAVY TRUCKS =	8.01	100.9	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	60.4	58.5	56.7	50.9	59.4	60.0
MEDIUM TRUCKS	57.3	55.8	52.2	45.7	55.4	56.0
HEAVY TRUCKS	54.0	48.4	57.4	26.5	50.2	54.1
VEHICULAR NOISE	62.7	60.6	60.7	52.1	61.2	**62.2**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	30	65	141	303
LDN	26	57	122	263

FHWA-RD-77-108 ROADWAY TRAFFIC NOISE PREDICTION MODEL (CNEL) - CALVENO

PROJECT: West Area Specific Plan
ROADWAY N Brawley Ave
SEGMENT W. Dayton Ave to W. Cortland Ave
LOCATION: City of Fresno, CA
SCENARIO: Existing + Project + Cumulative

JOB #: 0462-19-01
DATE: 18-Sep-20
ENGINEER: M. Dickerson

NOISE INPUT DATA

ROADWAY CONDITIONS

ADT =	16,396
SPEED =	45
PK HR % =	10
NEAR LANE/FAR LANE DIST =	24
ROAD ELEVATION =	0
GRADE =	0
PK HR VOL =	1,640

RECEIVER INPUT DATA

RECEIVER DISTANCE =		102
DIST C/L TO WALL =		0
RECEIVER HEIGHT =		5
WALL DISTANCE FROM RECEIVER =		102
PAD ELEVATION =		0
ROADWAY VIEW:	LF ANGLE	-90
	RT ANGLE	90
	DF ANGLE	180

SITE CONDITIONS

AUTOMOBILES	15	
MED TRUCKS	15	(HARD SITE=10, SOFT SITE=15)
HVY TRUCKS	15	

WALL INFORMATION

HTH WALL =	0	FT
AMBIENT =	0	
BARRIER =	0	(0=WALL,1=BERM)

VEHICLE MIX DATA

VEHICLE TYPE	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.128	0.101	0.944
MEDIUM TRUCKS	0.846	0.093	0.063	0.049
HEAVY TRUCKS	0.330	0.667	0.002	0.007

MISC. VEHICLE INFO

VEHICLE TYPE	HEIGHT	SLE DISTANCE	GRADE ADJUSTMENT
AUTOMOBILES =	2.00	101.3	- -
MEDIUM TRUCKS=	4.00	101.3	- -
HEAVY TRUCKS =	8.01	101.3	0.0

NOISE OUTPUT DATA

NOISE IMPACTS (WITHOUT TOPO OR BARRIER SHIELDING)

VEHICLE TYPE	PK HR LEQ	DAY LEQ	EVEN LEQ	NIGHT LEQ	LDN	CNEL
AUTOMOBILES	63.5	61.6	59.8	54.0	62.5	63.1
MEDIUM TRUCKS	58.9	57.4	53.9	47.4	57.1	57.6
HEAVY TRUCKS	54.9	49.3	58.4	27.4	51.2	55.0
VEHICULAR NOISE	65.2	63.2	62.8	54.9	63.9	**64.7**

NOISE CONTOUR (FT)				
NOISE LEVELS	70 dBA	65 dBA	60 dBA	55 dBA
CNEL	45	97	209	451
LDN	40	86	184	397

APPENDIX G

Technical Memorandum – CEQA Impacts and Mitigations (VMT)

KITTELSON & ASSOCIATES

155 GRAND AVENUE, SUITE 900
OAKLAND, CA 94612
P 510.839.1742 F 510.839.0871

TECHNICAL MEMORANDUM

Fresno Specific Plan of the West Area

CEQA Impacts and Mitigations

Date: March 9, 2021 Project #: 23674

To: Steve McMurtry, De Novo Planning Group

From: Aaron Elias, Kittelson & Associates, Inc.

cc:

This memorandum presents the findings of the transportation impact analysis conducted for the Fresno Specific Plan of the West Area (herein referred to as the "Specific Plan"). The proposed Specific Plan will establish the land use planning and regulatory guidance, including the land use and zoning designations and policies, for the approximately 7,077-acre Specific Plan Area. The Specific Plan Area is triangular in shape and located west of State Route 99. It is bounded on the south by West Clinton Avenue, and to the west by Grantland and Garfield Avenues (Figure 1). The Specific Plan Area includes the southwest portion of Highway City adjacent to State Route 99. The Specific Plan will serve as a bridge between the Fresno General Plan and individual development applications in the Specific Plan Area.

The Specific Plan seeks to provide for the orderly and consistent development that promotes and establishes the West Area as a complete neighborhood with enhanced transportation infrastructure, development of core commercial centers, creation of additional parkland, and encouraging the development of a diverse housing stock. The Specific Plan Area does not currently have needed commercial amenities, forcing residents to travel east of State Route 99 for retail services. The Specific Plan Area also lacks a complete roadway network and parkland.

Ultimately, the Specific Plan will provide the blueprint to develop up to 54,521 dwelling units (DU) (including 46,620 DU in the residential category and 7,901 DU in the mixed-use category) and 48,890,001.60 square feet (SF) of non-residential uses. The proposed land use plan also designates public facility uses that are currently existing within the Specific Plan Area, including schools and churches.

Project Boundary

Figure 1
Specific Plan Area

KITTELSON & ASSOCIATES

EXISTING CONDITIONS

A description of the existing roadway, transit, bicycle, and pedestrian components of the transportation system within the Specific Plan Area follow.

Roadway Network

The existing roadway network in the Specific Plan Area is composed of a street system made up of freeways, super arterials, arterial and collector roads. Roadway classifications listed are from the City of Fresno General Plan.

Freeways

State Route 99 (SR-99) is a six-lane freeway with a posted speed limit of 65 miles per hour. The northwest-southeast freeway connects most major cities in Central California including Chico, Bakersfield, Selma, Sacramento, Modesto, and Fresno. It also provides access to the greater freeway network with direct connections to State Route 180 and State Route 41.

The Project is bordered by SR-99 on the northeast side. The average daily traffic on SR-99 near the Project site ranges between approximately 82,000 and 112,000 vehicles per day. Bicyclists and pedestrians are not allowed on this facility.

Super Arterials

Grantland Avenue is a two-lane to four-lane north-south roadway with a posted speed limit of 40 miles per hour near the Project site. The facility extents from I-99 on the north to Kearny Blvd on the south. The facility is a four-lane roadway with a median north of Shaw Avenue, and a two-lane roadway south of Shaw Avenue. Sidewalks are limited, and additional sidewalks, Class I and Class II bikeways are planned along the roadway.

Veterans Boulevard is currently a single lane in each direction between Riverside Drive and N. Hayes Avenue east of SR 99 and a six-lane stub roadway west of SR 99. However, the Veterans Boulevard Interchange and Corridor Improvement Project is currently underway which will connect these two facilities and create a six-lane super arterial in northwest Fresno connecting Herndon Avenue in the north to Shaw Avenue in the south including the construction of an interchange with SR 99.

Arterials

North-South

Polk Avenue is a two-lane north-south roadway with a posted speed limit of 35 or 40 MPH near the Plan Area. The facility extends from SR-99 on the north to Olive Avenue on the south. Sidewalks and Class II bike lanes exist intermittently and are proposed along the roadway.

Shaw Avenue is a two-lane east-west roadway with a posted speed limit of 35 to 45 MPH near the Plan Area. The facility extents from the San Joaquin River on the west to the Friant-Kern Canal on the east. Sidewalks and Class II bike lanes are proposed along the roadway.

Ashlan Avenue is a two-lane to four-lane east-west roadway with a posted speed limit of 40 to 50 MPH near the Plan Area. The facility extends from Grantland Ave on the west and becomes Watts Valley Road on the east. Sidewalks and Class II bike lanes exist intermittently and are proposed along the roadway.

Grantland Avenue north of Shaw Avenue is a two lane north-south roadway with a posted speed limit of 40 MPH in the Plan Area. North of Shaw Avenue, Grantland Avenue extends north to SR 99 near the Herndon Avenue interchange. There are no sidewalks of bicycle facilities on this facility.

Blythe Avenue from Ashlan Avenue to Dakota Avenue is a two lane north-south roadway with a center median located along most of its length. The speed limit is posted as 40 MPH. Sidewalks are generally available along frontages that have been developed but no sidewalks are present along undeveloped parcels. Class II bicycle lane exist intermittently in both the northbound and southbound directions.

Collectors

Collectors in the Specific Plan Area include the following:

- North-South
    - Garfield Avenue
    - Bryan Avenue
    - Hayes Avenue
    - Cornelia Avenue
    - Blythe Avenue
    - Brawley Avenue
    - Valentine Avenue
    - Marks Avenue
- East-west
    - Bullard Avenue
    - Barstow Avenue
    - Gettysburg Avenue

- Dakota Avenue
- Shields Avenue
- Clinton Avenue

Collectors are generally two-lane roadways with posted speeds of 30 to 45 miles per hour. Sidewalks and bike lanes are generally not present but are proposed along most collectors.

Transit Facilities

Fresno is primarily served by the Fresno Area Express (FAX) transit system which operates bus service and paratransit operations servicing the city. Regional connections are provided by the Fresno County Rural Transit Agency (FCRTA) and Amtrak for travel outside of the Fresno-Clovis Metropolitan Area.

Fresno Area Express (FAX)

FAX provides the principal bus service in the City of Fresno. It operates seventeen routes and Handy Ride, a paratransit operation, with a fleet of over 100 buses, and Handy Ride, its paratransit operation, with a fleet of over 50 vehicles. FAX operates three routes that directly serve the Specific Plan Area through nearby street-side bus stops, with additional service coming into the Plan Area in 2021. Bus service on these routes is detailed in Table 1 with the routes near the Specific Plan Area shown in Figure 2.

Route 12 provides local commuter and weekend service with the route originating or terminating at Shields Avenue/Brawley Avenue and San Jose Avenue/Marty Avenue intersections where it concerts into Route 35. Between these two origin/destinations, the route has fixed stops as it runs mostly along Brawley Avenue and Cornelia in the Plan Area, from Clinton Avenue to Shaw Avenue. Key destinations served include Central High School, Inspiration Park, and Forestriere Underground Gardens.

Route 35 provides local commuter and weekend service with the route originating or terminating in the Plan Area at Shields Avenue/Brawley Avenue where it converts into Route 12 and on the east side of Fresno at the intersection of Belmont Avenue/Clovis Avenue. In the Plan Area, the route provides fixed stops along Brawley and Clinton Avenues. Key destinations served by the route include the DMV, Talking Book Library, Post Office, and the Social Security Office.

Route 39 provides local commuter and weekend service with the route originating or terminating at Brawley Avenue/Shields Avenue intersection and Fresno Yosemite International Air Terminal. Between these two origin/destinations, Route 39 runs in a loop from Clinton Avenue/Marks Avenue to Brawley Avenue/Shields Avenue in the Plan Area where it has fixed stops. Key destinations served include by Fresno High School, Fresno City College, Veteran's Medical Center, and Alliant University.

Table 1: Bus Routes Serving the Project

Route	Serving	Day	Times		Frequency
12 & 35	Starting at Shaw and Brawley and serving Forestiere Underground Gardens, Teague Elementary School, Inspiration Park, Central High School East, Tower District, DMV, Roeding Park, Yosemite Middle School, and Social Security Office	Weekday	6:00 AM	10:00 PM	Every 30 Minutes
		Weekend	7:00 AM	7:30 PM	Every 30 Minutes
39	Starting at Brawley Avenue/ Shields Avenue and serving Hamilton K-8, Fresno High School, Fresno City College, VA Medical Center, McLane High School, Alliant University, and Fresno Yosemite International Air Terminal primarily along Clinton Avenue	Weekday	5:30 AM	10:00 PM	Every 30 Minutes
		Weekend	7:30 AM	7:00 PM	Every 30 Minutes
45	Along Ashlan Avenue serving Central High School East, Copper Middle School, Blackbeard's Family Entertainment, Army Navy Reserve, and ARC Fresno Production Center	Weekday	6:00 AM	9:00 PM	Every 45 Minutes
		Weekend	6:45 AM	7:00 PM	Every 45 Minutes

Source: FAX website, www.fresno.gov/fax, accessed March 9, 2021
Kittelson & Associates, Inc., 2021

Route 45 is a proposed route that will begin operation in 2021. It is shown has a dashed line in Figure 2

Truck Facilities

There are designated truck routes in the Specific Plan Area according to the City of Fresno Public Works. There are also County Permit routes in the Specific Plan Area which are the overweight vehicle corridors requiring special permit. Existing and future truck routes are shown in Figure 3.

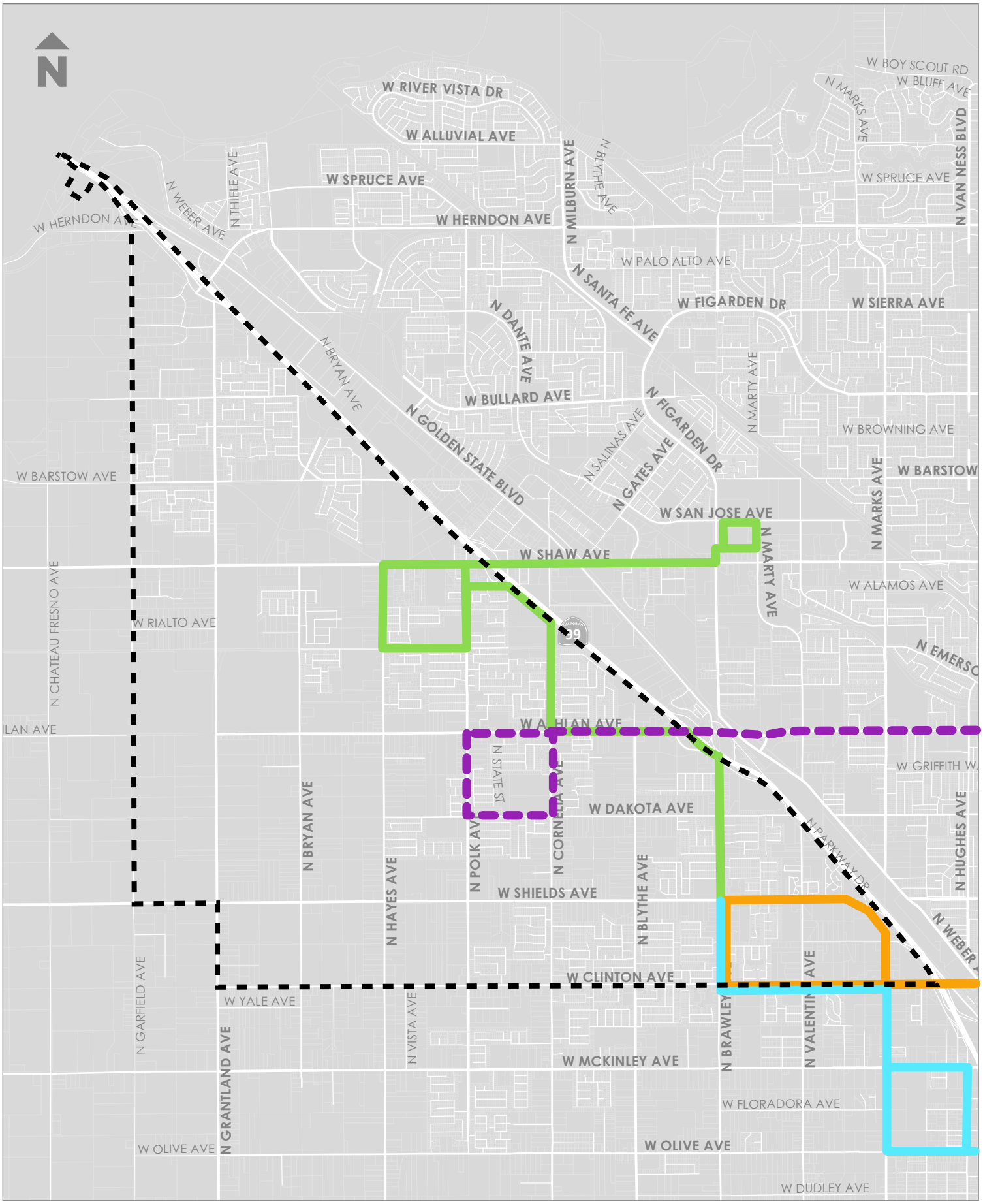


Figure 2
Existing and Proposed Transit Service in the Specific Plan Area

KITTELSON & ASSOCIATES

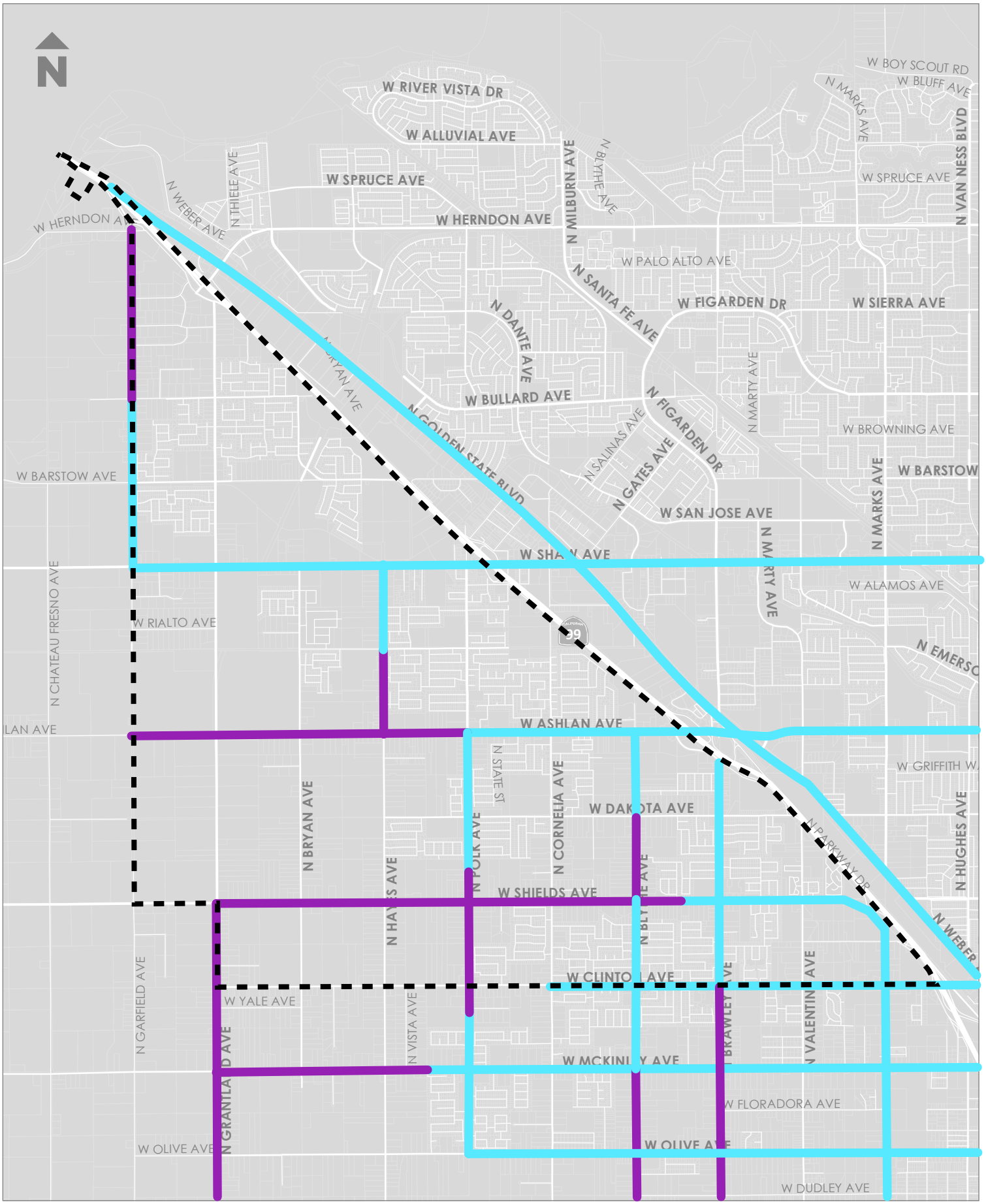


Figure 3
Existing and Planned Truck Routes in the Specific Plan Area

KITTELSON & ASSOCIATES

Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities are important components of the transportation network in the Specific Plan Area. They not only offer non-vehicular opportunities for both commute and recreational trips but also provide connections to the region's transit network.

Existing Bicycle Facilities

Bicycle facilities are defined by the following four classes[1]:

- **Class I** – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- **Class II** – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- **Class III** – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.
- **Class IV** – Provides a restricted right-of-way designated lane for the exclusive use of bicyclists that is separated by a vertical element to provide further separation from motor vehicle traffic.

The City of Fresno adopted the Active Transportation Plan (ATP) in March 2017. This plan identifies existing and future planned bicycle facilities within the City's jurisdiction.

The following bikeways are currently present within the study area at intermittent locations on major roads. They are shown graphically in Figure 4:

- **Class II Bike Lanes**
    - East/West Streets
        - Bullard Avenue, east of Grantland Avenue
        - Barstow Avenue, west of Grantland Avenue
        - Gettysburg Avenue, east of Hayes Avenue
        - Ashlan Avenue, east of Cornelia Avenue
        - Dakota Avenue, east of Polk Avenue
        - Clinton Avenue, east of Cornelia Avenue
    - North/ South Streets
        - Grantland Avenue, south of SR-99
        - Bryan Avenue, south of Gettysburg Avenue
        - Hayes Avenue, south of Shaw Avenue
        - Polk Avenue, south of Shaw Avenue
        - Cornelia Avenue, south of Gettysburg Avenue

[1] As detailed in Chapter 1000 of the Highway Design Manual (Caltrans, 2015).

- Brawley Avenue, south of Dakota Avenue

Planned and Proposed Bicycle Facilities

The ATP includes planned and proposed bikeway facilities in the Plan Area. They are discussed below and shown in Figure 4:

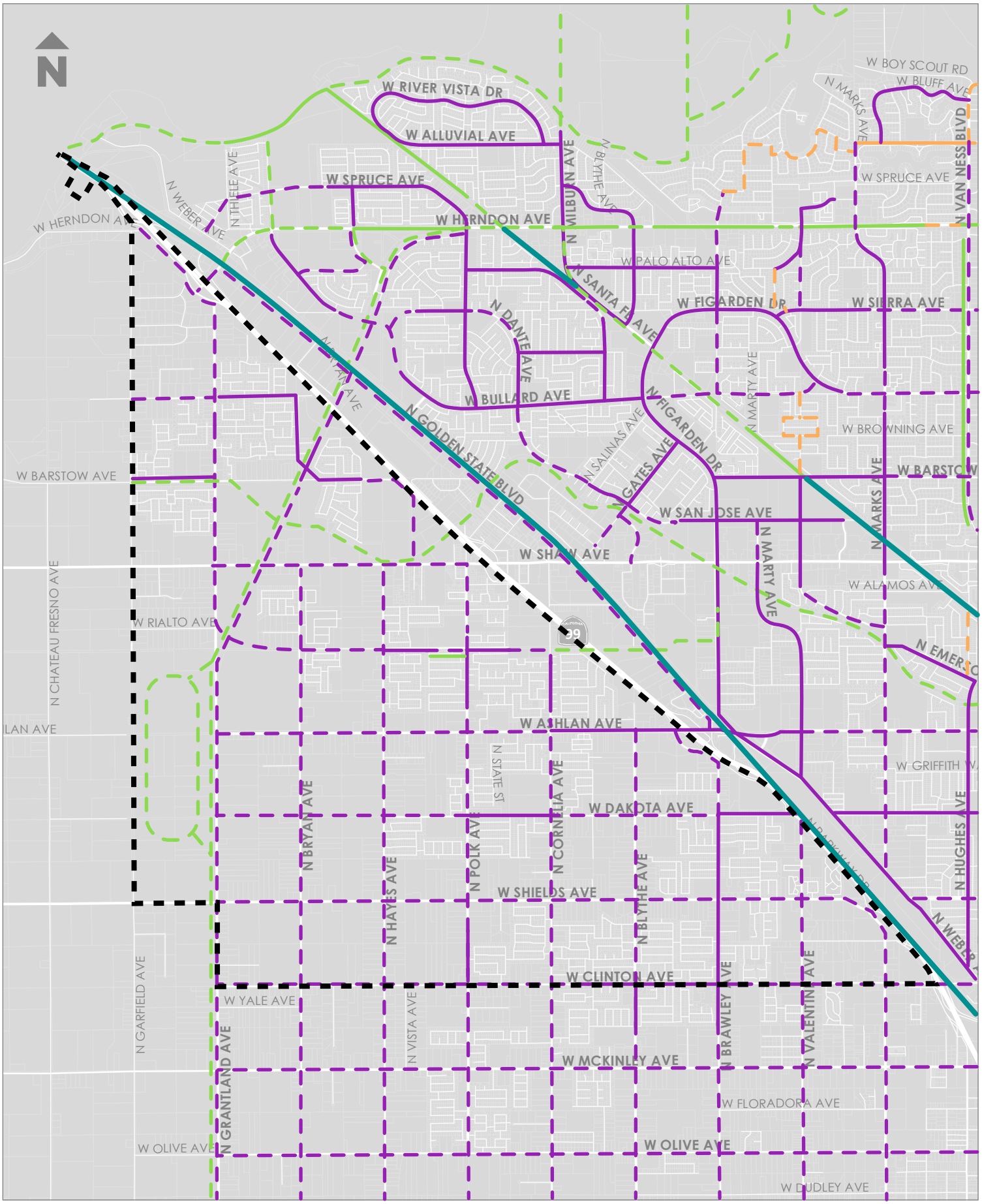
- **Class I Bike Paths**
  - Grantland Avenue, south of Gettysburg Avenue
  - Veteran's Boulevard (proposed), north of Gettysburg Avenue
  - Gettysburg Avenue, east of Cornelia Avenue
- **Class II Bike Lanes**
  - All arterials and collectors

Bike lanes on Veterans Blvd (proposed), Gettysburg Avenue, and Cornelia Avenue are identified as priority bikeways in the ATP.

Pedestrian Facilities

Pedestrian facilities are present in the Specific Plan Area. Sidewalks are present intermittently along some major roadways. Sidewalks are proposed on most arterials and collectors. Crosswalks are present intermittently at signalized and unsignalized intersections in the Specific Plan Area. Figure 5 shows existing and planned sidewalks in the Specific Plan Area.

The City of Fresno adopted the 2016 Update to the ADA Transition Plan for the Right of Way (ROW) in February 2016. The ROW Transition Plan incorporates retrofitting Curb Ramps, Sidewalks, and Accessible Pedestrian Signals and replaced the 2003 Amended Curb Ramp Transition Plan.



Project Boundary

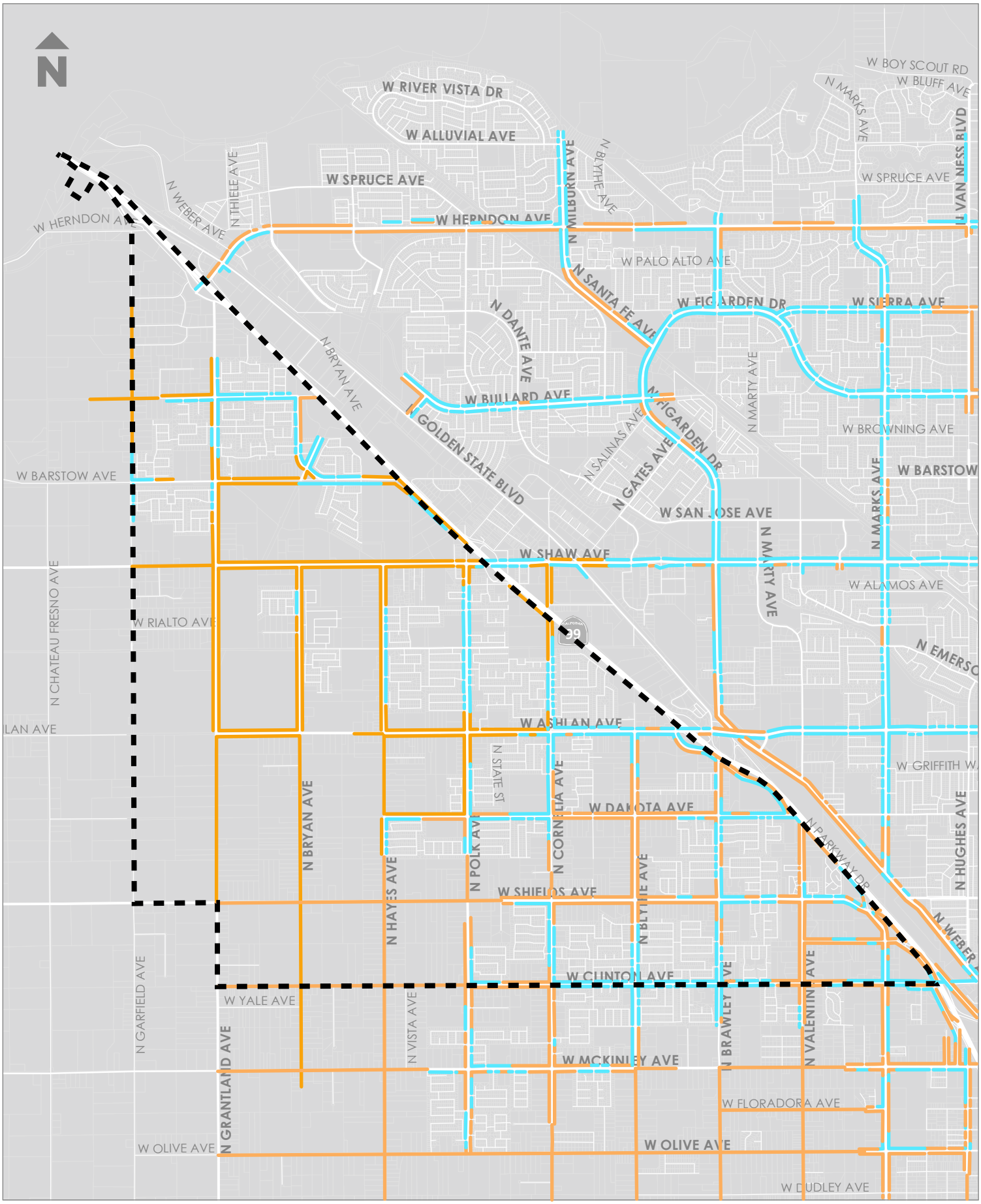
Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Lane

Planned Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Lane

Rails-to-Trails

Figure 4
Existing and Proposed Bicycle Routes in the Specific Plan Area

KITTELSON & ASSOCIATES



Project Boundary

Existing Sidewalk

Planned Sidewalk

Figure 5

Existing and Proposed Sidewalks in the Specific Plan Area

REGULATORY SETTING

This section summarizes applicable federal, state, regional, and local plans, laws, and regulations that are relevant to this analysis. This information provides a context for the discussion related to the Project's consistency with applicable policies, plans, laws, and regulations.

Federal

No federal plans, policies, regulations, or laws pertaining to transportation have been determined to be applicable to this Project.

State

Senate Bill 743 (SB 743) was signed into law in September 2013. Senate Bill 743 (Steinberg, 2013) required changes to the CEQA Guidelines regarding the analysis of transportation impacts. Historically, CEQA transportation analyses of individual projects determined impacts in the circulation system in terms of roadway delay and/or capacity at specific locations. SB 743 changes include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. Those proposed changes identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Since the bill has gone into effect, automobile delay, as measured by "level of service" and other similar metrics, no longer constitutes a significant environmental effect under CEQA. Auto-mobility (often expressed as "level of service") may continue to be a measure for planning purposes.[2]

In December 2018, the California Governor's Office of Planning and Research (OPR) and the State Natural Resources Agency submitted updated CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law approved the updated CEQA Guidelines, thus implementing SB 743 and making VMT the primary metric used to analyze transportation impacts. The final text, final statement of reasons, and related materials are posted at http://resources.ca.gov/ceqa. The changes have been approved by the Office of the Administrative Law and are now in effect. For land use and transportation projects, SB 743-compliant CEQA analysis became mandatory on July 1, 2020.

[2] Governor's Office of Planning and Research, 2016. Technical Advisory on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013)

Regional

Fresno Council of Governments

The Fresno COG is a voluntary association of local governments and a regional planning agency comprised of 16 member jurisdictions, including the City of Fresno. The members are represented by a Policy Board consisting of mayors of each incorporated city, and the Chairman of the County Board of Supervisors, or their designated elected official. The Fresno COG's purpose is to establish a consensus on the needs of the Fresno County area and further action plans for issues related to the Fresno County region. The current regional transportation plan, known as the Fresno County Regional Transportation Plan (RTP) (2042), was adopted in 2018. The RTP addresses GHG emissions reductions and other air emissions related to transportation, with the goal of preparing for future growth in a sustainable way. The plan specifies how funding will be sourced and financed for the region's planned transportation investments, ongoing operations, and maintenance. The goals, objectives, and policies of the RTP are established to direct the courses of action that will provide efficient, integrated multimodal transportation systems to serve the mobility needs of people, including accessible pedestrian and bicycle facilities, and freight, while fostering economic prosperity and development, and minimizing mobile sources of air pollution. These goals, objectives, and policies are organized into six categories:

- General Transportation;
- Highway, Streets, and Roads;
- Mass Transportation;
- Aviation;
- Active Transportation; and
- Rail

Fresno County Congestion Management Process

In June 1990, California voters approved legislation that required Congestion Management Plans (CMP) be developed in urbanized counties to address congestion on California's highways and roads. The Fresno County Congestion Management Process (CMP) implements this requirement and its responsibilities include providing information on transportation system performance and assess alternative strategies for alleviating congestion and improving mobility for people and goods to levels that meet State and local needs. The Fresno County CMP identifies four general objectives:

1. Optimize the transportation facilities through efficient system management;
2. Invest in strategies that reduce travel demand, improve system performance, increase safety, and provide effective incident management;
3. Reduce VMT by encouraging alternative modes of transportation and promotion of sustainable land use development; and

4. improve public transit, extend bicycle and pedestrian systems, and promote car-sharing and bike-sharing programs to facilitate the development of an integrated multimodal transportation system in the Fresno region

Local

City of Fresno 2035 General Plan

The City of Fresno adopted the Fresno 2035 General Plan[3] in December 2014 as an update to the previous Fresno General Plan approved in 2002. It serves as the City's guide for the continued development, enhancement, and revitalization of the Fresno metropolitan area. The following policies related to transportation and circulation are applicable to the Project:

- **Policy MT-1-d** - Integrate Land Use and Transportation Planning. Plan for and maintain a coordinated and well-integrated land use pattern, local circulation network and transportation system that accommodates planned growth, reduces impacts on adjacent land uses, and preserves the integrity of established neighborhoods.
- **Policy MT-1-f** - Match Travel Demand with Transportation Facilities. Designate the types and intensities of land uses at locations such that related travel demands can be accommodated by a variety of viable transportation modes and support Complete Neighborhoods while avoiding the rerouting of excessive or incompatible traffic through local residential streets.
- **Policy MT-1-g** - Complete Streets Concept Implementation. Provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals.
- **Policy MT-1-m** - Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-I and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:
    - LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that mitigation to maintain this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.
    - Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of

[3] City of Fresno General Plan 2035, December 18, 2014.

operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.
    - Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.
    - Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation
- **Policy MT-2-b** - Reduce Vehicle Miles Traveled and Trips. Partner with major employers and other responsible agencies, such the San Joaquin Valley Air Pollution Control District and the Fresno Council of Governments, to implement trip reduction strategies, such as eTRIP, to reduce total vehicle miles traveled and the total number of daily and peak hour vehicle trips, thereby making better use of the existing transportation system.
- **Policy MT-2-c** - Reduce VMT through Infill Development. Provide incentives for infill development that would provide jobs and services closer to housing and multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).
- **Policy MT-2-d** - Street Redesign where Excess Capacity Exists. Evaluate opportunities to reduce right of way and/or redesign streets to support non-automobile travel modes along streets with excess roadway capacity where adjacent land use is not expected to change over the planning period
- **Policy MT-2-e** - Driveway and Access Consolidation. Take advantage of opportunities to consolidate driveways, access points, and curb cuts along designated major roadways when a change in development or a change in intensity occurs or when traffic operation or safety warrants
- **Policy MT-2-f** - Optimization of Roadway Operations. Optimize roadway operations by continuing to expand the use of techniques such as the City's intelligent transportation system (ITS) to manage traffic signal timing coordination in order to improve traffic operations and increase traffic-carrying capacity, while reducing unnecessary congestion and decreasing air pollution emissions. In order to facilitate roadway optimization and as a potential revenue source for the optimization, the following strategies need to be implemented:
    - Dig Once Policy. Install conduit for telecommunications use when trenching or construction occurs.
    - Telecommunications Strategy. Develop a costing mechanism for allowing the use of excess conduit within the City for use by communication carriers. The Policy shall follow regulations of the California Public Utilities Commission.
    - Grant Funding. Pursue grant funding to assist in construction and/or implementation of fiber-optic or other telecommunication infrastructure for additional public services such as education, economic development, reaching underserved populations, and public safety communications.
- **Policy MT-2-g** - Transportation Demand Management and Transportation System Management. Pursue implementation of Transportation Demand Management and

Transportation System Management strategies to reduce peak hour vehicle traffic and supplement the capacity of the transportation system.

- **Policy MT-2-i** - Transportation Impact Studies. Require a Transportation Impact Study (currently named Traffic Impact Study) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.
    - When a project includes a General Plan amendment that changes the General Plan Land Use Designation.
    - When the project will substantially change the off-site transportation system (auto, transit, bike or pedestrian) or connection to the system, as determined by the City Traffic Engineer.
    - Transportation impact criteria are tiered based on a project's location within the City's Sphere of Influence. This is to assist with areas being incentivized for development. The four zones, as defined on Figure MT-4, are listed below. The following criteria apply:
        - Traffic Impact Zone I (TIZ-I): TIZ-I represents the Downtown Planning Area. Maintain a peak hour LOS standard of F or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
        - Traffic Impact Zone II (TIZ-II): TIZ-II generally represents areas of the City currently built up and wanting to encourage infill development. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
        - Traffic Impact Zone III (TIZ-III): TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.
        - Traffic Impact Zone IV (TIZ-IV): TIZ-IV represents the southern employment areas within and planned by the City. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIZ will be required for all development projected to generate 200 or more peak hour new vehicle trips.
- **Policy MT-2-l** - Region-Wide Transportation Impact Fees. Continue to support the implementation of metropolitan-wide and region-wide transportation impact fees sufficient to cover the proportional share of a development's impacts and need for a comprehensive multi-modal transportation system that is not funded by other sources. Work with the Council of Fresno County Governments, transportation agencies (e.g., Caltrans, Federal Transportation Agency) and other jurisdictions in the region to develop a method for determining:
    - Regional transportation impacts of new development;

  - Regional highways, streets, rail, trails, public transportation, and goods movement system components, consistent with the General Plan, necessary to mitigate those impacts and serve projected demands;
  - Projected full lifetime costs of the regional transportation system components, including construction, operation, and maintenance; and
  - Costs covered by established funding sources.
- **Policy MT-4-b** - Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.
- **Policy MT-4-d** - Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers
- **Policy MT-5-a** - Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in established neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes
- **Policy MT-5-b** - Sidewalk Requirements. Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.
- **Policy MT-5-d** - Pedestrian Safety. Minimize vehicular and pedestrian conflicts on both major and non-roadways through implementation of traffic access design and control standards addressing street intersections, median island openings and access driveways to facilitate accessibility while reducing congestion and increasing safety. Increase safety and accessibility for pedestrians with vision disabilities through the installation of Accessible Pedestrian Signals at signalized intersections
- **Policy MT-5-e** - Traffic Management in Established Neighborhoods. Establish acceptable design and improvement standards and provide traffic planning assistance to established neighborhoods to identify practical traffic management and calming methods to enhance the pedestrian environment with costs equitably assigned to properties receiving the benefits or generating excessive vehicle traffic
- **Policy MT-6-g** - Path and Trail Development. Require all projects to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of project approval

- **Policy MT-8-a** - Street Design Coordinated with Transit. Coordinate the planning, design, and construction of the major roadway network with transit operators to facilitate efficient direct transit routing throughout the Planning Area.
- **Policy MT-8-c** - New Development Facilitating Transit. Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX's comments in decision-making
- **Policy MT-11-c** - Truck Route Designations. Continue to plan and designate truck routes within the Metropolitan Area to facilitate access to and from goods production and processing areas while minimizing conflicts with other transportation priorities

The General Plan also has policies related to maintaining acceptable Levels of Service (LOS). However, LOS can no longer be used for CEQA evaluations and is therefore not relevant to this memorandum focusing on CEQA impacts. Additional analyses of the Specific Plan will be documented in another report that will detail LOS.

City of Fresno Active Transportation Plan

The City of Fresno Active Transportation Plan (ATP)[4] is a comprehensive guide that creates a vision for active transportation in the City of Fresno. It is an update to the City of Fresno Bicycle, Pedestrian, & Trails, Master Plan that was adopted in 2010. This plan lays out specific goals to improve bicycle access and connectivity in Fresno. These goals include the following:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno;
- Increase walking and bicycling trips in Fresno by creating user friendly facilities;
- Improve the geographical equity of access to walking and bicycling facilities in Fresno; and
- Fill key gaps in Fresno's walking and bicycling networks.

City of Fresno ADA Transition Plan for the Right of Way (ROW)

On February 25, 2016 the City Council adopted the 2016 Update to the ADA Transition Plan for the Right of Way (ROW). The ROW Transition Plan incorporates retrofitting Curb Ramps, Sidewalks, and Accessible Pedestrian Signals and replaces the 2003 Amended Curb Ramp Transition Plan. The goal of the ADA Transition Plan for the ROW is to ensure that the City maintains accessible paths of travel in the ROW for people with disabilities.

[4] City of Fresno Active Transportation Plan, December 2016.

City of Fresno VMT Guidelines

The City of Fresno adopted their VMT guidelines on June 25, 2020[5]. This document serves as a detailed guideline for preparing VMT analysis consistent with SB 743 requirements for development projects, transportation projects, and plans. Key elements of these guidelines include:

- The County of Fresno was selected as the region for assessing VMT impacts. Therefore, all projects will compare their VMT metrics against the county averages.
- The guidelines state the following significant thresholds for land development projects in the City of Fresno:
    - 13 percent below existing regional average VMT per capita for residential projects
    - 13 percent below existing regional average VMT per employee for office projects
    - No net increase in VMT for retail projects.
- For land use plans such as specific plans and general plans, the guidelines compare the existing VMT per capita and/or VMT per employee for the region with the expected horizon year VMT per capita and/or VMT per employee for the land use plan. If there is a net increase in the applicable VMT metrics (VMT/capita and VMT/employee) under horizon year conditions, then the project will have a significant impact.

[5] https://www.fresno.gov/darm/wp-content/uploads/sites/10/2020/06/CEQA-Guidelines-for-Vehicle-Miles-Traveled-Thresholds-June-18-2020-DRAFT.pdf

TRANSPORTATION ANALYSIS

The transportation analysis assesses how the study area's transportation system would operate with the implementation of the proposed Specific Plan. This analysis includes effects that would result in significant impacts under the California Environmental Quality Act (CEQA) guidelines.

CEQA Significance Criteria

The Project's impact is not considered to be significant unless it would:

a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b. Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d. Result in inadequate emergency access.

Significance criteria "b" is related to the implementation of vehicle miles traveled (VMT) as the primary performance metric. The following criteria are used to assess a significant impact related to VMT consistent with the City of Fresno "CEQA Guidelines for Vehicle Miles Traveled Thresholds" dated June 25, 2020:

- A proposed (residential) project exceeding a level of 13 percent below existing regional average[6] VMT per capita may indicate a significant transportation impact.
- A similar threshold would apply to office projects (13 percent below existing regional average VMT per employee).
- VMT generated by retail projects would indicate a significant impact for any net increase in total VMT.
- Section 6 of the VMT guidelines includes Significance Criteria for Specific Plans: For land use plans such as the Specific Plan for the West Area, the recommended methodology for conducting VMT assessments is to compare the existing VMT per capita and/or VMT per employee for the region with the expected horizon year VMT per capita and/or VMT per employee for the land use plan. If there is a net increase in the VMT metric under horizon year conditions, then the project will have a significant impact.

[6] The City of Fresno defines the region for applying these threshold as Fresno County

VMT Analysis

The Fresno Council of Governments' (COG) Activity Based travel demand model was used to estimate existing and horizon year average VMT per capita and VMT per employee for the traffic analysis zones (TAZs) that comprise the Specific Plan Area and Fresno County. The number of dwelling units and employment for the Specific Plan Area were calculated at buildout and provided to Fresno COG. Fresno COG used the buildout numbers to run a population synthesizer to generate land use input files for running the activity-based model. These land use input files were then run through the activity-based model to develop horizon year (2035) forecasts with the buildout of the Specific Plan Area.

Table 2 presents VMT per capita and VMT per employee findings for existing conditions in Fresno County and for the Specific Plan Area at buildout in the horizon year. Based on the City of Fresno VMT Guidelines, a specific plan would have a significant impact if the VMT per capita and VMT per employee of the Specific Plan Area exceeded the same metrics for existing conditions in all of Fresno County.

As Table 2 shows, the VMT per capita and VMT per employee in the Specific Plan Area are lower than existing conditions. VMT per capita is 7.4 lower or 46% while VMT per employee is 12.4 lower or 48%. The decrease in VMT is the result of the land use mix within the Specific Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today.

Table 2: VMT per Capita and VMT per Employee - Existing and Horizon Year Conditions

Trip Type	Fresno County (2019)	Specific Plan Area (2035)	Difference (%)
VMT Per Capita	16.1	8.7	-7.4 (46%)
VMT Per Employee	25.6	13.2	-12.4 (48%)

Note: These numbers are based on Fresno COG's Activity-Based Travel Demand Model, and the Land Use inputs obtained for horizon year 2035 from Fresno COG (assuming full buildout of the Fresno West area outlined in the specific plan)

Source: Fresno COG Travel Demand Model, Kittelson & Associates, 2020.

CEQA PROJECT IMPACTS AND PROPOSED MITIGATIONS

TRAF-1	**The proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. This would be considered a less than significant impact.**

Development associated with the proposed Plan would increase the amount of multimodal transportation activity which would require the improvement and expansion of the local transportation network in the Specific Plan Area to serve the associated travel demand. The Specific Plan of the West Area Initiation Report includes the following guiding principles related to transit, bicycle and pedestrian travel:

- Accommodate and improve roadway access, connectivity and mobility among all modes of transportation, and prioritize roadway widening where bottlenecks exists.
- Accommodate planned transit services in the West Area by locating routes near or adjacent to the community centers, schools, parks, and retail centers.

These guiding principles are consistent with General Plan policies which detail how the circulation system will be improved to meet the needs of all users. Implementation of the proposed Specific Plan would promote the use of alternative transportation modes by accelerating development in the West Area which would in turn require development of a circulation system that address all user. General Plan policies that would have to followed to build out the Specific Plan and address transit, roadway, bicycle, and pedestrian travel are:

- **Policy MT-1-g** - Complete Streets Concept Implementation.
    - Requires transportation facilities be based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals
- **Policy MT-1-m** - Standards for Planned Bus Rapid Transit Corridors and Activity Centers.
    - Requires intersections and roadways along transit corridor and in activity centers maintain acceptable operations to facilitate transit movement.
- **Policy MT-2-d** - Street Redesign where Excess Capacity Exists.
    - Requires roadways with extra capacity to be modified to “right size” the roadway.
- **Policy MT-4-b** - Bikeway Improvements.
    - Requires new development to set aside an adequate amount of right of way to construct bicycle facilities.
- **Policy MT-4-d** - Prioritization of Bikeway Improvements.

  - Prioritizes connections between existing facilities to complete a comprehensive bicycle network.

- **Policy MT-5-a** - Sidewalk Development.
  - Establishs a goal of developing sidewalks to improve connectivity to transit
- **Policy MT-5-b** - Sidewalk Requirements.
  - Requires sidewalks to be constricted to the latest standards
- **Policy MT-6-g** - Path and Trail Development.
  - Requires planned multi use paths be constructed along with new development
- **Policy MT-8-a** - Street Design Coordinated with Transit
  - Requires coordination with roadway design and transit to ensure an efficient public transportation system
- **Policy MT-8-c** - New Development Facilitating Transit.
  - Requires new development to facilitate transit.

Additionally, the Specific Plan has a strong emphasis on Complete Neighborhoods, which is a tool to achieve environmental justice. The concept of Complete Neighborhoods is to enable residents of Fresno to live in communities with convenient access to services, employment, and recreation within walking distance. It provides residents with amenities that make their neighborhood mostly self-sufficient and interconnected. According to the Specific Plan, planning for Complete Neighborhoods will help support the provision of resources to neighborhoods where they are currently lacking or are under-resourced. Section 5.4 of the Specific Plan includes a series of maps which show a reasonable walkshed from existing and planned schools; bus stops and trails; commercial uses; and parks and open space.

Since the guiding principles of the Specific Plan support the policies of the General Plan, no conflict with policies, plans, and programs for alternative transportation would occur from future development and redevelopment under the proposed Specific Plan of the West Area. Therefore, the impact would be less than significant and no mitigation measures would be required.

TRAF-2	**The proposed project would conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b). This would be considered a potentially significant impact.**

The Fresno COG Activity Based travel demand model was used to estimate existing and horizon year average VMT per capita and VMT per employee for the traffic analysis zones (TAZs) that comprise the Specific Plan Area and Fresno County. The number of dwelling units and employment for the Specific Plan Area were calculated at buildout and provided to Fresno COG. Fresno COG used the buildout numbers to run a population synthesizer to generate land use input files for running the activity-based

model. These land use input files were then run through the activity-based model to develop horizon year (2035) forecasts with the buildout of the Specific Plan Area.

Table 3 presents VMT per capita and VMT per employee findings for existing conditions in Fresno County and for the Plan Area at buildout in the horizon year. Based on the City of Fresno VMT Guidelines, a specific plan would have a significant impact if the VMT per capita and VMT per employee of the Specific Plan Area exceeded the same metrics for existing conditions in all of Fresno County.

Table 3: VMT PER CAPITA AND VMT PER EMPLOYEE - EXISTING AND HORIZON YEAR CONDITIONS

TRIP TYPES	FRESNO COUNTY (2019)	SPECIFIC PLAN AREA (2035)	DIFFERENCE (%)
VMT Per Capita	16.1	8.7	-7.4 (46%)
VMT Per Employee	25.6	13.2	-12.4 (48%)

NOTE: THESE NUMBERS ARE BASED ON FRESNO COG'S ACTIVITY-BASED TRAVEL DEMAND MODEL, AND THE LAND USE INPUTS OBTAINED FOR HORIZON YEAR 2035 FROM FRESNO COG (ASSUMING FULL BUILDOUT OF THE FRESNO WEST AREA OUTLINED IN THE SPECIFIC PLAN).
SOURCE: FRESNO COG TRAVEL DEMAND MODEL, AND KITTELSON & ASSOCIATES, INC., 2020.

As Table 3 shows, the projected VMT per capita and VMT per employee in the Plan Area are lower than existing conditions. Under the Specific Plan, VMT per capita is 7.4 lower, or 46% lower, while VMT per employee is 12.4 lower, or 48% lower. The decrease in VMT is the result of the proposed land use mix within the Plan Area. The retail and employment opportunities keep the VMT per capita lower than the County average, while the large number of dwelling units near the jobs allows employees to live close to work resulting in a VMT per employee that is lower than the County average today.

CONCLUSION

The City of Fresno VMT Guidelines state specific plans would have an impact if the VMT per capita or VMT per employee in the specific plan area for the horizon year increases compared to the existing VMT per capita or VMT per employee in the region (Fresno County). The VMT per capita in the Specific Plan Area during the horizon year is 8.7, while VMT per employee is 13.2. Under existing conditions in Fresno County, the VMT per capita is 16.1, while the VMT per employee is 25.6. Because the VMT per capita and VMT per employee in the Specific Plan Area during the horizon year is less than the VMT per capita and VMT per employee for existing conditions in Fresno County, the proposed Specific Plan would not result in a significant impact for residential and office projects. Therefore, impacts related to CEQA Guideline section 15064.3, subdivision (b), would be ***less than significant***.

TRAF-3	**The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). This would be considered a less than significant impact.**

The Specific Plan is proposing to increase the density in the plan area compared to the City's General Plan but is not proposing to change the types (i.e., residential, commercial, office, etc.) of land uses in the area. The Specific Plan of the West Area Initiation Report includes the following guiding principals related to transportation and hazards:

- Provide a complete, safe, and well-maintained sidewalk network from residential neighborhoods to commercial centers, schools, parks, and community centers.
- Provide a complete, safe, and well-maintained roadway network that allows for efficient and smooth access from the West Area to other sections of the city and region.

Buildout of the proposed Specific Plan would result in some changes to the City's circulation network, but would not increase hazards or incompatible uses due to design features. All future roadway system improvements associated with development and redevelopment activates under the Specific Plan would be designed in accordance with the established roadway design standards, some of which have also been incorporated into the Circulation Element of the General Plan.

General Plan policies that would address design and safety issues are:

- **Policy MT-2-e** - Driveway and Access Consolidation.
- **Policy MT-2-i** - Transportation Impact Studies.
- **Policy MT-5-d** - Pedestrian Safety.
- **Policy MT-5-e** - Traffic Management in Established Neighborhoods

These improvements will be subject to review and future consideration by the City of Fresno. An evaluation of the roadway alignments, intersection geometrics, and traffic control features will be needed. Roadway improvements would have to be made in accordance with the City's Circulation Plan, roadway functional design guidelines, and would have to meet design guidelines such as th accessibility requirements of Title 24 (California Building Code), ADA standards, California Manual of Uniform Traffic Control Devices (MUTCD), and the Caltrans Roadway Design Manual.

Implementation of the Specific Plan would not result in hazardous conditions, or create conflicting uses. With implementation of policies MT-2-e, MT-2-I, and application of the conditions of approval at the time of review of land development projects, the Specific Plan would be designed to ensure that no hazardous circulation conditions are created as a result of implementation of the proposed project. The Specific Plan would implement components of the roadway system consistent with the City's General Plan. Therefore, potential impacts related to hazards due to a geometric design feature or incompatible uses would be less than significant, and no mitigation measures would be required.

TRAF-4 The proposed project would result in inadequate emergency access. This would be considered a less than significant impact.

Emergency response requires a balance of emergency response time and evacuation needs with other community concerns, such as urban design and traffic calming. Future roadway improvements associated with buildout of the Plan Area would be made in accordance with the City's Circulation Plan and roadway functional design guidelines.

With the application of the conditions of approval at the time of review of land development projects, the Specific Plan would be designed to ensure that adequate emergency access is provided. The Specific Plan would implement components of the roadway system consistent with the City's General Plan. Therefore, impacts related to inadequate emergency access would be less than significant, and no mitigation measures would be required.