Environmental Assessment 23-15

Initial Study and Mitigated Negative Declaration for a Tentative Parcel Map 23-05 to subdivide a 5.82-acre parcel into three commercial lots and Use Permit 23-08 is for a 4,500 square foot convenience store, a 1,000 square foot restaurant (attached to the store) with a drive-through lane, an eight-dispenser (16 fueling stations) gas station with an overhead canopy, and a car wash, to be located on two of the three new parcels.

Prepared for:

City of Yuba City
1201 Civic Center Blvd.
Yuba City, CA 95993

Prepared By:

Denis Cook
Land Use Planning Consultant

and

City of Yuba City
Development Services Dept.
Planning Division

June 2024

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CITY OF YUBA CITY
Development Services Department
Planning Division
1201 Civic Center Blvd. Yuba City, CA 95993 Phone (530) 822-4700

1. Introduction

1.1. Introduction

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to identify any potential environmental impacts in the City of Yuba City, California (City) from Tentative Parcel Map (TPM) 23-05 to subdivide a 5.82-acre parcel into three commercial lots and Use Permit (UP) 23-08 for a 4,500 square foot convenience store, a 1,000 square foot restaurant (attached to the store) with a drive-through lane, an eight-dispenser (16 fueling stations) gas station with an overhead canopy, and a car wash. The commercial buildings proposed by the use permit are subject to design review by the Planning Commission (collectively "Project").

This tentative parcel map and use permit are considered a project under the California Environmental Quality Act (CEQA), as the City has discretionary authority over the Project by the City of Yuba City Planning Commission.

This IS/MND has been prepared in conformance with CEQA Guidelines Section 15070. The purpose of the IS/MND is to determine the potential significant impacts associated with the land division and proposed commercial uses and provide an environmental assessment for consideration by the Planning Commission. In addition, this document is intended to provide the basis for input from public agencies, organizations, and interested members of the public.

1.2. Regulatory Information

An Initial Study (IS) is an environmental assessment document prepared by a lead agency to determine if a project may have a significant effect on the environment. In accordance with the California Code of Regulations Title 14 (Chapter 3, §15000 et seq.), commonly referred to as the CEQA Guidelines - Section 15064(a)(1) states an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant. A negative declaration may be prepared instead; if the lead agency finds that there is no substantial evidence, in light of the whole record that the project may have a significant effect on the environment. A negative declaration is a written statement describing the reasons why a proposed project, not exempt from CEQA pursuant to §15300 et seq. of Article 19 of the Guidelines, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a negative declaration shall be prepared for a project subject to CEQA when either:

a) The IS shows there is no substantial evidence, in light of the whole record before the agency, that a proposed project may have a significant effect on the environment, or

b) The IS identified potentially significant effects, but:

   a. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration and initial study is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and

   b. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as revised may have a significant effect on the environment. If revisions are adopted by the Lead Agency into the proposed project in accordance with the CEQA Guidelines Section 15070(b), a Mitigated Negative Declaration (MND) is prepared.

1.3. Document Format

This IS/MND contains four chapters, and technical appendices. Chapter 1, Introduction, provides an overview of the proposed Project and the CEQA environmental documentation process. Chapter 2, Project Description, provides a detailed description of proposed Project objectives and components. Chapter 3, Impact Analysis, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 4, List of Preparers, provides a list of key personnel involved in the preparation of the IS/MND.

1.4. Purpose of Document

The proposed tentative parcel map and use permit will undergo a public review process by the Planning Commission that, if approved, would result in three commercial parcels on approximately 5.82 acres and a commercial development on approximately three of those acres (two of the new parcels). This public review process is needed to assure that the Project will be compatible with existing or expected neighboring uses and that adequate public facilities are available to serve the Project.

This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Pub. Res. Code, Section 21000 et seq.) and the State CEQA Guidelines (Title 14 CCR §15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

The initial study is a public document used by the decision-making lead agency to determine whether the Project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the Project is adverse or beneficial, the lead agency is required to use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR to analyze at hand. If the agency finds no substantial evidence that the Project or any of its aspects may cause a significant effect on the environment, a negative declaration shall be prepared. If in the course of the analysis, it is recognized that the Project may have a

significant impact on the environment, but that with specific recommended mitigation measures incorporated into the Project, these impacts shall be reduced to less than significant, a mitigated negative declaration shall be prepared.

In reviewing all of the available information for the above referenced Project, the City of Yuba City Planning Division has analyzed the potential environmental impacts created by this Project and a mitigated negative declaration has been prepared.

1.5. Intended Uses of this Document

In accordance with CEQA, a good-faith effort has been made during preparation of this IS/MND to contact affected public agencies, organizations, and persons who may have an interest in the proposed Project. In reviewing the Draft IS/MND, affected and interested parties should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the effects of the proposed Project would be avoided or mitigated.

The Draft IS/ND and associated appendices will be available for review on the City of Yuba City website at http://www.yubacity.net. The Draft IS/MND and associated appendixes also will be available for review during regular business hours at the City of Yuba City Development Services Department (1201 Civic Center Boulevard, Yuba City, California 95993). The 20-day review period will commence on June 6, 2024 and end on June 26, 2024 at the conclusion of the Planning Commission hearing.

Written comments on the Draft IS/MND should be sent to the following address:

City of Yuba City
Development Services Department
1201 Civic Center Boulevard
Yuba City, CA 95993
e-mail: developmentservices@yubacity.net
Phone: 530.822.4700

2. Project Description

2.1. Project Title

Tentative Parcel Map (TPM) 23-05 – Dharni
Use Permit (UP) 23-08 Franklin Commercial Center

2.2. Lead Agency Name and Address

City of Yuba City
Development Services Department, Planning Division
1201 Civic Center Blvd.
Yuba City, CA 95993

2.3. Contact Person and Phone Number

Doug Libby, AICP
Deputy Director of Development Services
(530) 822-3231
developmentservices@yubacity.net

2.4. Project Location

The 5.82-acre vacant property is located on the southwest corner of Franklin Road and Walton Avenue. Assessor's Parcel Number (APN): 57-150-117.

2.5. Project Applicant

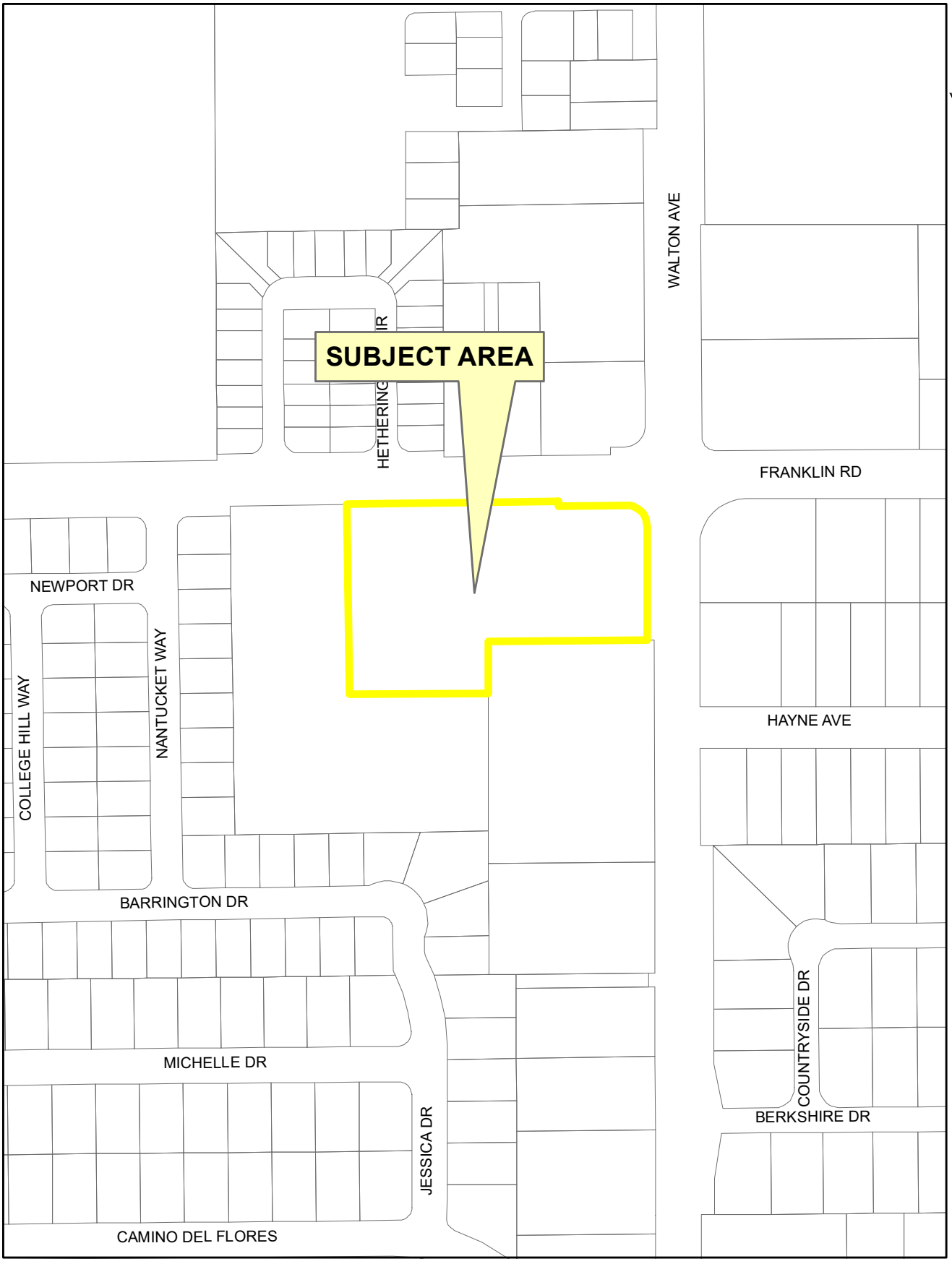
Sundeep Dharni
2423 Azure Place
Fairfield, CA 94533

2.6. Property owner

Sundeep Dharni
2423 Azure Place
Fairfield, CA 94533

2.7. General Plan Designation

Community Commercial (CC) land use designation.



Use Permit 23-08

1 inch = 200 feet

2.8. Specific Plan

The property is not within a specific plan area.

2.9. Zoning

Community Commercial (C-2) Zone District.

2.10. Project Description

Tentative Parcel Map (TPM) 23-05 proposes to subdivide a 5.82- acre parcel into three commercial lots and Use Permit (UP) 23-08 proposes a 4,500 square foot convenience store, a 1,000 square foot restaurant (attached to the store) with a drive-through lane, an eight-dispenser (16 fueling stations) gas station with an overhead canopy, and a car wash. The proposed commercial buildings are also subject to design review by the Planning Commission (collectively "Project").

TPM 23-05 will create three commercial parcels from the 5.82- acre parcel. The lot sizes will be:

Lot 1 - 2.82 acres
Lot 2 - 1.60 acres
Lot 3 - 1.40 acres
5.82 acres

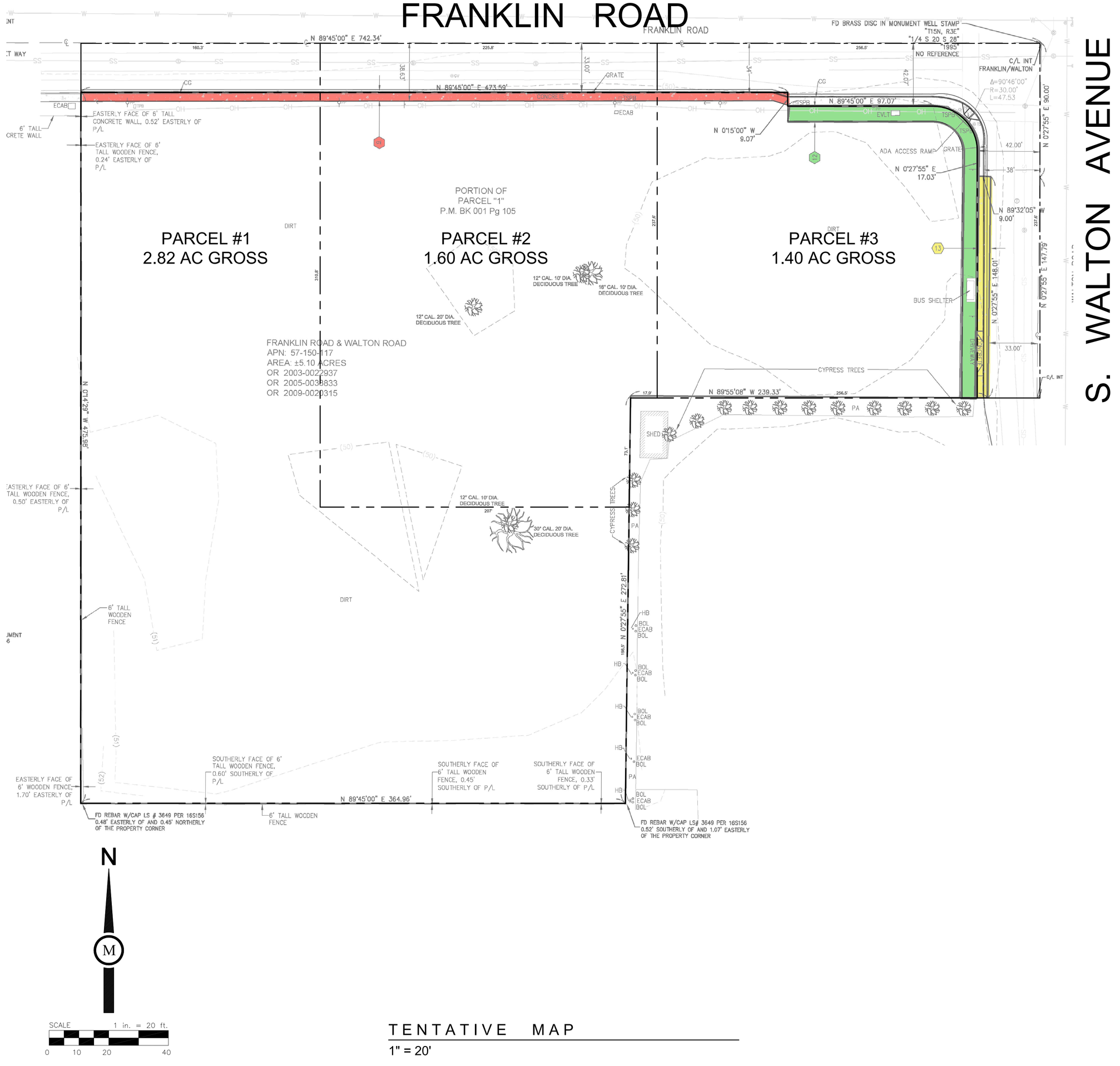
Lots 1 and 2 will be accessed from Franklin Road and Lot 3 is a corner lot will have access from both Franklin Road and Walton Avenue. All of the proposed lots are currently undeveloped. The TPM will be providing the appropriate right-of-way dedications and will complete the street improvements along their street frontages. All of the undeveloped properties are level and have full city services available to them.

UP 23-08 will cover the 1.4-acre Lot 3 located on the corner of Franklin Road and Walton Avenue with a 4,500 square foot convenience store and an attached 1,000 square foot restaurant with a drive through (5,500 square foot building). The convenience market will be accompanied by eight fuel dispensers (16 fueling stations) under a detached 4,180 square foot canopy. On Lot 2 will be a 5,171 square foot express carwash with 28 self-serve vacuum stations. A use permit is required under the Yuba City Municipal Code for fueling stations as well as drive throughs.

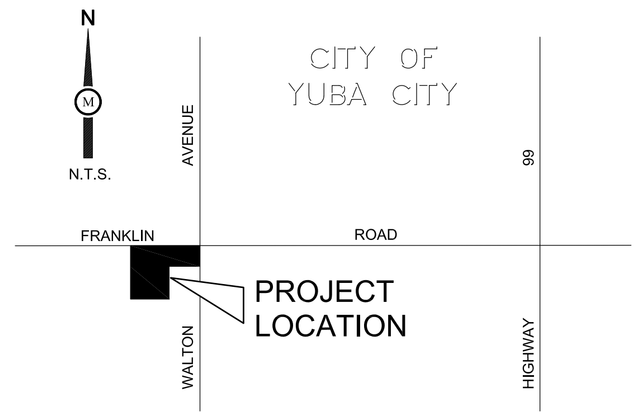
The proposed uses will be connected via internal access driveways ensured by cross easements. Similarly, reciprocal parking will be allowed between all uses, even though each use will provide its own required parking. The landscaping and parking lot lighting will be a unified design. All of the proposed uses will be provided with full City services.

Signage for each of the uses will be under a separate permit to be considered by staff.

The type and intensity of development of proposed Lot 1 is unknown.



TENTATIVE MAP
1" = 20'



VICINITY MAP
NOT TO SCALE

Project Information

APN:	57.150-117
PROJECT LOCATION:	FRANKLIN ROAD YUBA CITY
TOTAL ACREAGE:	5.82 ACRES
OWNER/APPLICANT:	MR. SUNNY DHARNI FRANKLIN PETROLEUM INC. 2423 AZURE PLACE FAIRFIELD, CA 94533 PH: 707-439-5973
DOMESTIC WATER:	CITY OF YUBA CITY
SEWAGE:	CITY OF YUBA CITY
DRAINAGE:	CITY OF YUBA CITY
EXISTING ZONING:	C-2 COMMUNITY COMMERCIAL
PROPOSED ZONING:	C-2 COMMUNITY COMMERCIAL
EXISTING USE:	VACANT - UNDEVELOPED
PROPOSED USE:	GAS STATION, CONVENIENCE STORE WITH DRIVE-THRU QSR, AND AN EXPRESS CARWASH

Legal Description

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF YUBA CITY, COUNTY OF SUTTER, STATE OF CALIFORNIA AND IS DESCRIBED AS FOLLOWS:

ALL THAT CERTAIN REAL PROPERTY SITUATE IN THE CITY OF YUBA CITY, COUNTY OF SUTTER, STATE OF CALIFORNIA, BEING A PORTION OF THE NORTHWEST ONE-QUARTER OF SECTION 28, TOWNSHIP 15 NORTH, RANGE 3 EAST, M.D.M.

APN: 57-150-117

General Notes

1. ACCESS SERVING PARCELS 1, 2, AND 3 IS FROM FRANKLIN ROAD.
2. PARCEL 3 ALSO HAS ACCESS FROM WALTON AVENUE.
3. RECIPROCAL CROSS-ACCESS AND PARKING WILL BE PROVIDED.

Flood Zone Classification

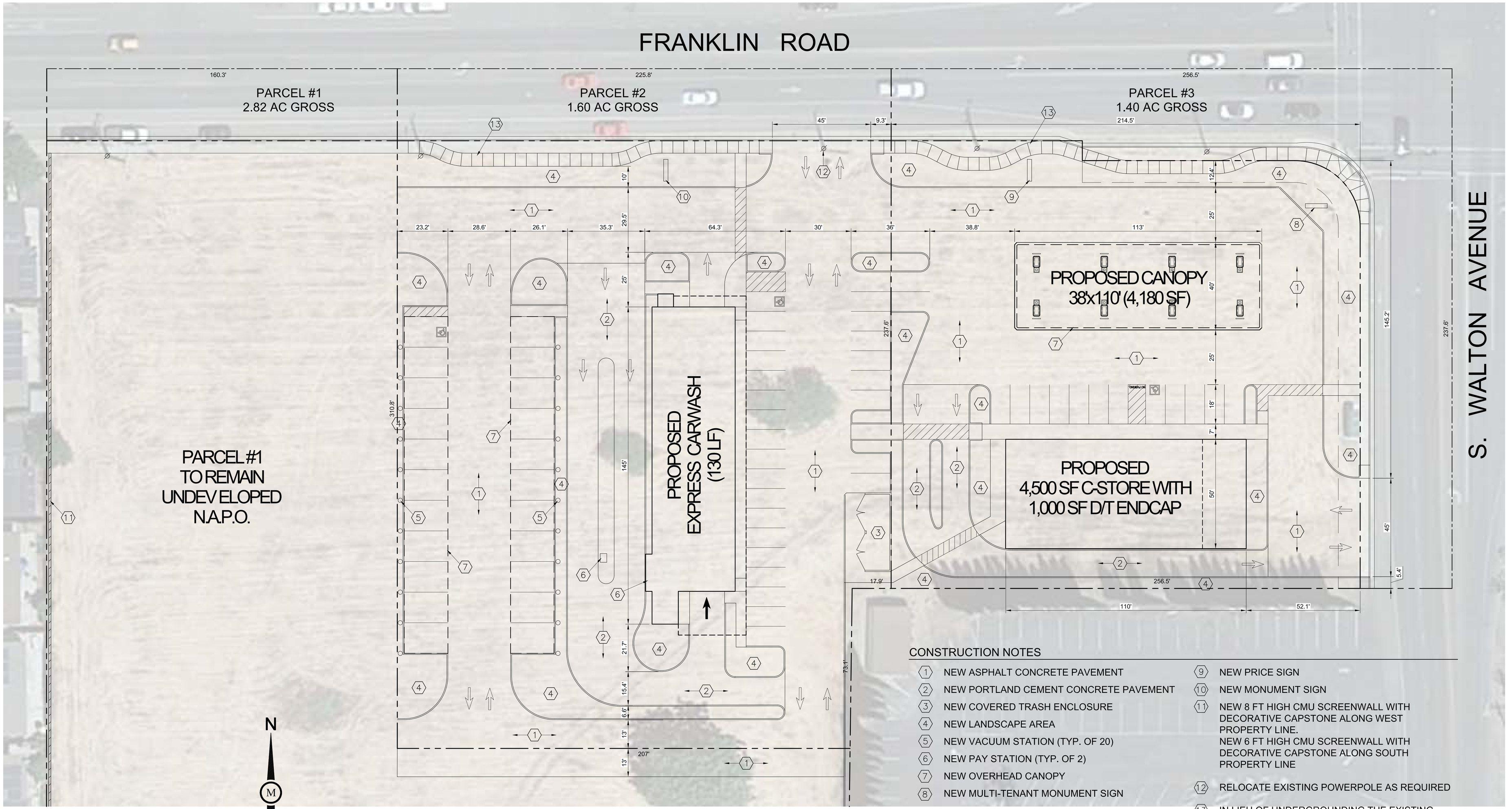
THIS PROPERTY DOES NOT LIE WITHIN A FLOODPLAIN

Milestone Associates Imagineering, Inc.
1000 Lincoln Road, Suite H202, Yuba City, CA 95991
(530) 755-4700

FRANKLIN COMMERCIAL CENTER
SWC FRANKLIN ROAD & WALTON AVENUE
YUBA CITY, CA 95993

TENTATIVE PARCEL MAP 10

10-25-2023



SITE PLAN
1" = 20'

CONSTRUCTION NOTES

1. NEW ASPHALT CONCRETE PAVEMENT
2. NEW PORTLAND CEMENT CONCRETE PAVEMENT
3. NEW COVERED TRASH ENCLOSURE
4. NEW LANDSCAPE AREA
5. NEW VACUUM STATION (TYP. OF 20)
6. NEW PAY STATION (TYP. OF 2)
7. NEW OVERHEAD CANOPY
8. NEW MULTI-TENANT MONUMENT SIGN
9. NEW PRICE SIGN
10. NEW MONUMENT SIGN
11. NEW 8 FT HIGH CMU SCREENWALL WITH DECORATIVE CAPSTONE ALONG WEST PROPERTY LINE.
    NEW 6 FT HIGH CMU SCREENWALL WITH DECORATIVE CAPSTONE ALONG SOUTH PROPERTY LINE
12. RELOCATE EXISTING POWERPOLE AS REQUIRED
13. IN LIEU OF UNDERGROUNDING THE EXISTING OVERHEAD LINES, PROJECT PROPOSES TO REMOVE EXISTING SIDEWALK AND REPLACE WITH NEW MEANDERING SIDEWALK WITH DECORATIVE LANDSCAPING

Milestone Associates Imagineering, Inc.
1000 Lincoln Road, Suite H202, Yuba City, CA 95991
(530) 755-4700

FRANKLIN COMMERCIAL CENTER
SWC FRANKLIN ROAD & WALTON AVENUE
YUBA CITY, CA 95993

ENLARGED SITE PLAN

2

3-14-24

2.11. Surrounding Land Uses and Setting

Setting: The 5.82 acre flat property is vacant. The site is bordered by single-family residential uses on two sides and also partially across the street along with some non-residential uses on those sides also.

Table 1: Bordering Uses	
North:	Franklin Road with commercial uses and single-family residences cross the street.
South:	Nine two-story single-family residences that back onto the property.
East:	A portion of the property fronts Walton Avenue with commercial use and there is a single-family residence across the street. The rest of the east property line is bordered by the Moose Lodge.
West:	Six single-family residences that back onto the property. Most are two story.

2.12. Other Public Agencies Whose Approval May be Required.

- Feather River Air Quality Management District, Dust Control Plan, Indirect Source Review.
- Central Valley Regional Water Quality Control Board.

2.13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

All geographically relevant Native American tribes were timely notified of the Project, and consultation was not requested.

2.14. Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this Project, as indicated by the checklist and subsequent discussion on the following pages.

	Aesthetics		Agriculture & Forestry Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
X	Geology/Soils	X	Greenhouse Gas Emissions		Hazzard & Hazardous Materials
	Hydrology/Water Quality		Land Use Planning		Mineral Resources
X	Noise		Population/Housing		Public Services
	Recreation		Transportation	X	Tribal Cultural Resources
	Utilities/Service Systems		Wildfire		Mandatory Findings of Significance

Determination: On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on the attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that, although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Doug Libby Digitally signed by Doug Libby
Date: 2024.06.06 13:38:40 -07'00'

Signature

June 6, 2024
Date

Doug Libby, AICP, Deputy Director of Development Services

2.15. Evaluation of Environmental Impacts:

A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

"Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analysis," as described below, may be cross referenced). A Mitigated Negative Declaration also requires preparation and adoption of a Mitigation Monitoring and Reporting Program (MMRP)

Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. In this case, a brief discussion should identify the following:

Earlier Analysis Used. Identify and state where they are available for review.

Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they addressed site-specific conditions for the project.

Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts. Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

3. Environmental Checklist and Impact Evaluation

The following section presents the initial study checklist recommended by the California Environmental Quality Act (CEQA; Appendix G) to determine potential impacts of a project. Explanations of all answers are provided following each question, as necessary.

3.1. Aesthetics

Table 3-1: Aesthetics				
Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) In nonurbanized 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.			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X	

3.1.1. Environmental Setting/Affected Environment

Background views are generally considered to be long-range views in excess of 3 to 5 miles from a vantage point. Background views surrounding the project site are limited due to the flat nature of the site and the surrounding urban landscape. Overall, the vast majority of Sutter County is relatively flat, with the Sutter Buttes being the exception. The Sutter Buttes, located several miles northwest of the Project site, are visibly prominent throughout Yuba City and Sutter County. The Sutter Buttes comprise the long-range views to the northwest and are visible from the much of the City, except in areas where trees or intervening structures block views of the mountain range.

The City's General Plan, more specifically the Community Design Element "establishes policies to ensure the creation of public and private improvements that will maintain and enhance the image, livability, and aesthetics of Yuba City in the years to come."

The following principles and policies are applicable:

- Maintain the identity of Yuba City as a small-town community, commercial hub, and residential community, surrounded by agricultural land and convey, through land uses and design amenities, Yuba City's character and place in the Sacramento Valley.

- Recognizing the livability and beauty of peer communities with highly designed visual landscapes, commit to a focus on the visual landscape of Yuba City.
- Maintain, develop, and enhance connections between existing and planned neighborhoods.
- Create and build upon a structured open space and parks network, centered on two large urban parks and the Feather River Corridor.
- Strive for lush, landscaped public areas marked by extensive tree plantings.
- Design commercial and industrial centers to be visually appealing, to serve both pedestrians and automobiles, and to integrate into the adjacent urban fabric.

In addition to the City's General Plan, the City provides Design Guidelines. The goal of the City's design guidelines is to ensure the highest quality of building design: designs that are aesthetically pleasing; designs that are compatible with the surroundings in terms of scale, mass, detailing, and building patterns; designs that accommodate the pedestrian, automobile, bicycle, and transit circulation; and designs that consider public safety, public interaction, and historic resources. The design guidelines apply to all commercial development, including these proposed commercial buildings.

3.1.2. Federal Regulatory Setting

Federal regulations relating to aesthetics include Organic Administration Act (1897), Multiple Use – Sustained Yield Act (1960), Wilderness Act (1964), Federal Lands Policy and Management Act (1976), Wild and Scenic Rivers Act. The proposed Project is not subject to these regulations since there are no federally designated lands or rivers in the vicinity.

3.1.3. State Regulatory Setting

The California State Scenic Highway Program was created by the California Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

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. When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A scenic corridor is the land generally adjacent to and visible from the highway. A scenic corridor is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. The corridor protection program does not preclude development but seeks to encourage quality development that does not degrade the scenic value of the corridor. Jurisdictional boundaries of the nominating agency are also considered. The agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program. County and city roads can also become part of the Scenic Highway System. To receive official designation, the county or city must follow the same process required for official designation of state scenic highways. There are no designated state or local scenic highways in the vicinity of the Project site.

California Building Code Title 24 Outdoor Lighting Standards: The requirements vary according to which "Lighting Zone" the equipment is in. The Standards contain lighting power allowances for newly installed equipment and specific alterations that are dependent on which Lighting Zone the project is located in. Existing outdoor lighting systems are not required to meet these lighting power allowances. However, alterations that increase the connected load, or replace more than 50 percent of the existing luminaires, for each outdoor lighting application that is regulated by the Standards, must meet the lighting power allowances for newly installed equipment.

An important part of the Standards is to base the lighting power that is allowed on how bright the surrounding conditions are. The eyes adapt to darker surrounding conditions, and less light is needed to properly see; when the surrounding conditions get brighter, more light is needed to see. The least power is allowed in Lighting Zone 1 and increasingly more power is allowed in Lighting Zones 2, 3, and 4. By default, government designated parks, recreation areas and wildlife preserves are Lighting Zone 1; rural areas are Lighting Zone 2; and urban areas are Lighting Zone 3. Lighting Zone 4 is a special use district that may be adopted by a local government. The proposed Project is located in an urban area; thereby, it is in Lighting Zone 3.

3.1.4. Impact Assessment/Environmental Consequences:

a) Have a substantial adverse effect on a scenic vista?

There are no designated scenic vistas within Yuba City or Sutter County so there would be no impacts on a designated scenic vista.

The proposed buildings are subject to the City's adopted Design Guidelines that will be considered by the Planning Commission. The current view of the property is of a vacant lot surrounded by developed properties. The preliminary determination by City Staff is that the proposed buildings, parking, and landscaping will meet the City's design criteria provided there is some enhancement to the proposed canopy structure. Also, the site will be fully landscaped as required by City ordinance. As such the view of the proposed Project from both Walton Avenue and Franklin Road will cause a less than significant impact on the views from those roads.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The site is unremarkable in that it is flat with no topographic features, rock outcroppings, or buildings. There are several trees randomly spread across the property, but none are large heritage type trees. Therefore, damage to the scenic resources associated with development of this property would be less than significant.

c) In nonurbanized areas substantially degrade the existing visual character 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.

The site is within the urbanized area. The landscaping, parking, and outdoor lighting meet all City standards and the design of the buildings meet City design criteria. As the Project meets all City zoning, development, and building design criteria, the visual impacts from the Project will have a less than significant impact.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

The property is located within the urban area where exterior lighting is already prevalent. The property is visible from both Walton Avenue and Franklin Road, with existing street lighting and a signal at the intersection. This Project, with its outdoor parking lot lighting, will generate lighting that is typically expected around a commercial use. The businesses will generate more outdoor light than nearby residential areas, but the residences will be screened by a wall, landscaping, and distance. Therefore, the Project lighting is not expected to generate any significant adverse effects on local residences or other sensitive uses.

3.2. Agricultural and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared (1997) by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

Table 3-2: Agricultural and Forestry Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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 non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forestland (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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) 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?				X

3.2.1. Environmental Setting/Affected Environment

Sutter County is located within the northern portion of California's Central Valley in the area known as the Sacramento Valley. It contains some of the richest soils in the State. These soils, combined with abundant surface and subsurface water supplies and a long, warm growing season, make Sutter County's agricultural resources very productive. Sutter County is one of California's leading agricultural counties, with 83 percent of the County's total land acreage currently being used for agricultural purposes. However, while Sutter County provides rich agricultural opportunities, the subject site is within an urban area and has been designated for urban uses for many years.

3.2.2. Federal Regulatory Setting

Farmland Protection Policy Act: The Natural Resources Conservation Service (NRCS), a federal agency within the U.S. Department of Agriculture (USDA), is the agency primarily responsible for implementation of the Farmland Protection Policy Act (FPPA). The FPPA was enacted after the 1981 Congressional report, Compact Cities: Energy-Saving Strategies for the Eighties indicated that a great deal of urban sprawl was the result of programs funded by the federal government. The purpose of the FPPA is to minimize federal programs' contribution to the conversion of farmland to non-agricultural uses by ensuring that federal programs are administered in a manner that is compatible with state, local, and private programs designed to protect farmland. Federal agencies are required to develop and review their policies and procures to implement the FPPA every two years (USDA-NRCS, 2011).

2014 Farm Bill: The Agricultural Act of 2014 (the Act), also known as the 2014 Farm Bill, was signed by President Obama on Feb. 7, 2014. The Act repeals certain programs, continues some programs with modifications, and authorizes several new programs administered by the Farm Service Agency (FSA). Most of these programs are authorized and funded through 2018.

The Farm Bill builds on historic economic gains in rural America over the past five years, while achieving meaningful reform and billions of dollars in savings for the taxpayer. It allows USDA to continue record accomplishments on behalf of the American people, while providing new opportunity and creating jobs across rural America. Additionally, it enables the USDA to further expand markets for agricultural products at home and abroad, strengthen conservation efforts, create new opportunities for local and regional food systems and grow the bio-based economy. It provides a dependable safety net for America's farmers, ranchers and growers and maintains important agricultural research, and ensure access to safe and nutritious food for all Americans.

Forestry Resources: Federal regulations regarding forestry resources are not relevant to the proposed Project because no forestry resources exist on the project site or in the vicinity.

3.2.3. State Regulatory Setting

California Environmental Quality Act (CEQA) Definition of Agricultural Lands: Public Resources Code Section 21060.1 defines "agricultural land" for the purposes of assessing environmental impacts using the Farmland Mapping & Monitoring Program (FMMP). The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California.

California Department of Conservation, Division of Land Resource Protection: The California Department of Conservation (DOC) applies the NRCS soil classifications to identify agricultural lands,

and these agricultural designations are used in planning for the present and future of California's agricultural land resources. Pursuant to the DOC's FMMP, these designated agricultural lands are included in the Important Farmland Maps (IFM) used in planning for the present and future of California's agricultural land resources. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

The list below provides a comprehensive description of all the categories mapped by the DOC. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland is referred to as Farmland.

- *Prime Farmland.* Farmland that has 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 similar to 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.* 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.* Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- *Grazing Land.* 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. The minimum mapping unit for Grazing Land is 40 acres.
- *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, institutional, public administrative purposes, 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 and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation Act (Williamson Act): The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Section 51200-51297.4, and therefore is applicable only to specific land parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the

purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts. However, an agricultural preserve must consist of no less than 100 acres. In order to meet this requirement two or more parcels may be combined if they are contiguous, or if they are in common ownership.

The Williamson Act program is administered by the Department of Conservation (DOC), in conjunction with local governments, which administer the individual contract arrangements with landowners. The landowner commits the parcel to a 10-year period, or a 20-year period for property restricted by a Farmland Security Zone Contract, wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. An application for immediate cancellation can also be requested by the landowner, provided that the proposed immediate cancellation application is consistent with the cancellation criteria stated in the California Land Conservation Act and those adopted by the affected county or city. Non-renewal or immediate cancellation does not change the zoning of the property. Participation in the Williamson Act program is dependent on county adoption and implementation of the program and is voluntary for landowners.

Farmland Security Zone Act: The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act Contracts." Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35% reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses.

Forestry Resources: State regulations regarding forestry resources are not relevant to the proposed Project because no forestry resources exist on the project site or in the vicinity.

3.2.4. Impact Assessment/Environmental Consequences:

a) 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 non-agricultural use?

The approximately 5.82-acre vacant site is located on land that the 2018 Department of Conservation Important Farmland Map for Sutter County identifies as "Urban and Built-Up Land" as it is well within the existing City limits. The Project site is not considered to be Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The property is too small for productive agricultural use and surrounded by urban uses that are typically not considered to be compatible with agricultural uses. For all those reasons the impacts of this proposal on the conversion of agricultural land to non-agricultural uses will be less than significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The proposed Project site is currently zoned for urban type uses and is not under a Williamson Act contract. There will therefore be no impact related to a Williamson Act contract. See discussion above under item 3.2.4.a.

c) Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4256), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The proposed Project is located in the Sacramento Valley in a relatively flat area that was likely at one time utilized for agriculture but designated years ago for urban use. There is no timberland located on the Project site or within the vicinity of the Project. There will be no impact on existing zoning of forestland and the proposed Project will not cause the rezoning of any forestlands.

d) Result in the loss of forestland or conversion of forest land to non-forest use?

There is no forested land on the Project site or within the vicinity of the Project; therefore, there will be no impact on forest land.

e) 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?

The 5.82 acres are surrounded by properties already served by City services and developed with other urban uses. There are no forestlands on the Project site or in the vicinity. No properties within the area are under a Williamson Act contract. Therefore, as there are no neighboring agricultural lands or forested lands there will be no impacts on agricultural or forest lands.

3.3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Table 3-3: Air Quality				
Would the project?	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?				X
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?			X	

3.3.1. Environmental Setting/Affected Environment

Yuba City is located within the Sacramento Valley Air Basin (SVAB), which consists of the northern half of the Central Valley and approximates the drainage basin for the Sacramento River and its tributaries. The SVAB is bounded on the west by the Coast Range, on the north by the Cascade Range, on the east by the Sierra Nevada, and on the south by the San Joaquin Valley Air Basin. The intervening terrain is flat, and approximately 70 feet above sea level. The SVAB consists of the counties of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba and portions of Placer and Solano Counties.

Hot dry summers and mild rainy winters characterize the Mediterranean climate of the Sacramento Valley. The climate of the SVAB is dominated by the strength and position of the semi-permanent high-pressure cell over the Pacific Ocean north of Hawaii. In summer, when the high-pressure cell is strongest and farthest north, temperatures are high and humidity is low, although the incursion of the sea breeze into the Central Valley helps moderate the summer heat. In winter, when the high-pressure cell is weakest and farthest south, conditions are characterized by occasional rainstorms interspersed with stagnant and sometimes foggy weather. Throughout the year, daily temperatures may range from summer highs often exceeding 100 degrees Fahrenheit and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north.

In addition to prevailing wind patterns that control the rate of dispersion of local pollutant emissions, the region experiences two types of inversions that affect the vertical depth of the atmosphere through which pollutants can be mixed. In the warmer months in the SVAB (May through October), sinking air forms a "lid" over the region. These subsidence inversions contribute to summer photochemical smog problems by confining pollution to a shallow layer near the ground. These

warmer months are characterized by stagnant morning air or light winds with the delta sea breeze arriving in the afternoon out of the southwest. Usually, the evening breeze transports the airborne pollutants to the north and out of the SVAB. During about half of the day from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating federal or State standards. The Schultz Eddy normally dissipates around noon when the Delta sea breeze begins. In the second type of inversion, the mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants in the valley. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The air near the ground cools by radiative processes, while the air aloft remains warm. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. These inversions typically occur during winter nights and can cause localized air pollution "hot spots" near emission sources because of poor dispersion. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air and pollutants near the ground. Although these subsidence and radiative inversions are present throughout much of the year, they are much less dominant during spring and fall, and the air quality during these seasons is generally good."

Local Climate: The climate of Sutter County is subject to hot dry summers and mild rainy winters, which characterize the Mediterranean climate of the SVAB. Summer temperatures average approximately 90 degrees Fahrenheit during the day and 50 degrees Fahrenheit at night. Winter daytime temperatures average in the low 50s and nighttime temperatures are mainly in the upper 30s. During summer, prevailing winds are from the south. This is primarily because of the north-south orientation of the valley and the location of the Carquinez Straits, a sea-level gap in the coast range that is southwest of Sutter County.

Criteria Air Pollutants: Criteria air pollutants are a group of pollutants for which federal or State regulatory agencies have adopted ambient air quality standards. Criteria air pollutants are classified in each air basin, county, or in some cases, within a specific urbanized area. The classification is determined by comparing actual monitoring data with State and federal standards. If a pollutant concentration is lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "non-attainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified."

Ambient Air Quality Standards: Both the federal and state government have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The federal and state ambient air quality standards have been set at levels whose concentrations could be generally harmful to human health and welfare and to protect the most sensitive persons from experiencing health impacts with a margin of safety. Applicable ambient air quality standards are identified later in this section. The air pollutants for which federal and State standards have been promulgated and which are most relevant to air quality planning and regulation in the air basins include ozone, carbon monoxide, nitrogen oxides, suspended particulate matter, sulfur dioxide, and lead. In addition, toxic air contaminants are of concern in Sutter County. Each of these pollutants is briefly described below.

Ozone (O3): is a gas that is formed when reactive organic gases (ROGs) and nitrogen oxides (NOX), both byproducts of internal combustion engine exhaust and other processes undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.

Carbon Monoxide (CO): is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the SVAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Nitrogen Oxides (NOX): is the generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. Many of the nitrogen oxides are colorless and odorless. However, one common pollutant, nitrogen dioxide (NO2) along with particles in the air can often be seen as a reddish-brown layer over many urban areas. Nitrogen oxides form when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of NOX are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels.

Nitrogen oxides can also be formed naturally.

Respirable Particulate Matter (PM10) and Fine Particulate Matter (PM2.5): consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of suspended particulate matter, like pollen and windstorms, occur naturally. However, in populated areas, most fine suspended particulate matter is caused by road dust, diesel soot, and combustion products, abrasion of tires and brakes, and construction activities.

Sulfur Dioxide (SO2): is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of the burning of high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries.

Lead: occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead. Since the use of leaded gasoline is no longer permitted for on-road motor vehicles, lead is not a pollutant of concern in the SVAB.

Toxic Air Contaminants (TACs): are known to be highly hazardous to health, even in small quantities. TACs are airborne substances capable of causing short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects (i.e., injury or illness). TACs can be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations.

TAC impacts are assessed using a maximum individual cancer risk (MICR) that estimates the probability of a potential maximally exposed individual (MEI) contracting cancer as a result of sustained exposure to toxic air contaminants over a constant period of 24 hours per day for 70 years for residential receptor locations. The CARB and local air districts have determined that any stationary source posing an incremental cancer risk to the general population (above background risk levels) equal to or greater than 10 people out of 1 million to be excessive. For stationary sources, if the incremental risk of exposure to project-related TAC emissions meets or exceeds the threshold of 10 excess cancer cases per 1 million people, the CARB and local air district require the installation of best available control technology (BACT) or maximum available control technology (MACT) to reduce the risk threshold. To assess risk from ambient air concentrations, the CARB has conducted studies to

determine the total cancer inhalation risk to individuals due to outdoor toxic pollutant levels. The CARB has conducted studies to determine the total cancer inhalation risk to individuals due to outdoor toxic pollutant levels. According to the map prepared by the CARB showing the estimated inhalation cancer risk for TACs in the State of California, Sutter County has an existing estimated risk that is between 50 and 500 cancer cases per 1 million people. A significant portion of Sutter County is within the 100 to 250 cancer cases per 1 million people range. There is a higher risk around Yuba City where the cancer risk is as high as 500 cases per 1 million people. There are only very small portions of the County where the cancer risk is between 50 and 100 cases. This represents the lifetime risk that between 50 and 500 people in 1 million may contract cancer from inhalation of toxic compounds at current ambient concentrations under an MEI scenario.

3.3.2. Federal Regulatory Setting

Clean Air Act: The federal Clean Air Act of 1970 (as amended in 1990) required the U.S. Environmental Protection Agency (EPA) to develop standards for pollutants considered harmful to public health or the environment. Two types of National Ambient Air Quality Standards (NAAQS) were established. Primary standards protect public health, while secondary standards protect public welfare, by including protection against decreased visibility, and damage to animals, crops, landscaping and vegetation, or buildings. NAAQS have been established for six "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), ozone (O3), particulate matter (PM10 and PM2.5), and lead (Pb).

3.3.3. State Regulatory Setting

California Air Resources Board: The California Air Resources Board (CARB) is the state agency responsible for implementing the federal and state Clean Air Acts. CARB has established California Ambient Air Quality Standards (CAAQS), which include all criteria pollutants established by the NAAQS, but with additional regulations for Visibility Reducing Particles, sulfates, hydrogen sulfide (H2S), and vinyl chloride. The proposed Project is located within the Sacramento Valley Air Basin, which includes Butte, Colusa, Glenn, Tehama, Shasta, Yolo, Sacramento, Yuba Sutter and portions of Placer, El Dorado and Solano counties. Air basins are classified as attainment, nonattainment, or unclassified. The FRAQMD is comprised Sutter and Yuba Counties. Attainment is achieved when monitored ambient air quality data is in compliance with the standards for a specified pollutant. Non-compliance with an established standard will result in a nonattainment designation and an unclassified designation indicates insufficient data is available to determine compliance for that pollutant.

California Clean Air Act: The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO2, and NO2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

CARB Portable Equipment Registration Program: This program was designed to allow owners and operators of portable engines and other common construction or farming equipment to register their

equipment under a statewide program so they may operate it statewide without the need to obtain a permit from the local air district.

U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program: The California Clean Air Act (CCAA) requires CARB to achieve a maximum degree of emissions reductions from off-road mobile sources to attain State Ambient Air Quality Standards (SAAQS); off- road mobile sources include most construction equipment. Tier 1 standards for large compression-ignition engines used in off-road mobile sources went into effect in California in 1996. These standards, along with ongoing rulemaking, address emissions of nitrogen oxides (NOX) and toxic particulate matter from diesel engines. CARB is currently developing a control measure to reduce diesel PM and NOX emissions from existing off-road diesel equipment throughout the state.

California Global Warming Solutions Act: Established in 2006, Assembly Bill 32 (AB 32) requires that California's GHG emissions be reduced to 1990 levels by the year 2020. This will be implemented through a statewide cap on GHG emissions, which will be phased in beginning in 2012. AB 32 requires CARB to develop regulations and a mandatory reporting system to monitor global warming emissions level.

3.3.4. Regional Regulatory Setting

Feather River Air Quality Management District (FRAQMD): The FRAQMD is a bi-county district formed in 1991 to administer local, state, and federal air quality management programs for Yuba and Sutter Counties within the Sacramento Valley Air Basin. The goal of the FRAQMD is to improve air quality in the region through monitoring, evaluation, education and implementing control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations and by supporting and implementing measures to reduce emissions from motor vehicles.

The FRAQMD adopted its Indirect Source Review guidelines document for assessment and mitigation of air quality impacts under CEQA in 1998. The guide contains criteria and thresholds for determining whether a project may have a significant adverse impact on air quality, and methods available to mitigate impacts on air quality. FRAQMD updated its Indirect Source Review Guidelines to reflect the most recent methods recommended to evaluate air quality impacts and mitigation measures for land use development projects in June 2010. This analysis uses guidance and thresholds of significance from the 2010 FRAQMD Indirect Source Review Guidelines to evaluate the proposed project's air quality impacts.

According to FRAQMD's 2010 Indirect Source Review Guidelines, a project would be considered to have a significant impact on air quality if it would:

- Generate daily construction or operational emissions that would exceed 25 pounds per day for reactive organic gases (ROG), 25 pounds per day for oxides of nitrogen (NOX), or 80 pounds per day for PM10; or generate annual construction or operational emissions of ROG or NOX that exceed 4.5 tons per year.

Northern Sacramento Valley Planning Area 2015 Air Quality Attainment Plan: As specified in the California Clean Air Act of 1988 (CCAA), Chapters 1568-1588, it is the responsibility of each air district in California to attain and maintain the state's ambient air quality standards. The CCAA requires that an Attainment Plan be developed by all nonattainment districts for O3, CO, SOx, and NOx that are either receptors or contributors of transported air pollutants. The purpose of the Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan (TAQAP) is to comply with the requirements of the CCAA as implemented through the California Health and Safety Code.

Districts in the NSVPA are required to update the Plan every three years. The TAQAP is formatted to reflect the 1990 baseline emissions year with a planning horizon of 2020. The Health and Safety Code, sections 40910 and 40913, require the Districts to achieve state standards by the earliest practicable date to protect the public health, particularly that of children, the elderly, and people with respiratory illness.

Health and Safety Code Section 41503(b): Requires that control measures for the same emission sources are uniform throughout the planning area to the extent that is feasible. To meet this requirement, the NSVPA has coordinated the development of an Attainment Plan and has set up a specific rule adoption protocol. The protocol was established by the Technical Advisory Committee of the Sacramento Valley Basin-wide Air Pollution Control Council and the Sacramento Valley Air Quality Engineering and Enforcement Professionals, which allow the Districts in the Basin to act and work as a united group with the CARB as well as with industry in the rule adoption process. Section 40912 of the Health and Safety Code states that each District responsible for, or affected by, air pollutant transport shall provide for attainment and maintenance of the state and federal standards in both upwind and downwind Districts. This section also states that each downwind District's Plan shall contain sufficient measures to reduce emissions originating in each District to below levels which violate state ambient air quality standards, assuming the absence of transport contribution

Construction Generated Emissions of Criteria Air Pollutants: The District recommends the following best management practices:

- Implement the Fugitive Dust Control Plan.
- Construction equipment exhaust emissions shall not exceed FRAQMD Regulation III, Rule 3.0,
- Visible Emissions limitations (40 percent opacity or Ringelmann 2.0).
- The contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation.
- Limiting idling time to 5 minutes – saves fuel and reduces emissions.
- Utilize existing power sources or clean fuel generators rather than temporary power generators.
- Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
- Portable engines and portable engine-driven equipment units used at the Project work site, with the exception of on-road and off-road motor vehicles, may require California Air Resources Board (ARB) Portable Equipment Registration with the State or a local district permit. The owner/operator shall be responsible for arranging appropriate consultations with the ARB or the District to determine registration and permitting requirements prior to equipment operation at the site.

3.3.5. Impact Assessment/Environmental Consequences:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Site grading will briefly create equipment exhaust and fugitive dust. The new parking lot will be paved, which will generate some air pollutants. Ongoing air quality impacts will be from exhaust generated by vehicle traffic from employees and customers driving to and from the facility. Standards set by FRQAMD, CARB, and Federal agencies relating to the proposed Project will apply to this Project. Prior to the initiation of construction, a Fugitive Dust Control Plan must be submitted to FRAQMD as a part of standard measures required by the District. An Indirect Source Review (ISR) application will be filed with the Air District to address emissions from construction.

Since the developer must prepare an air quality analysis and incorporate all of the resulting conditions into the Project and that a fugitive dust control plan be submitted prior to beginning work, any potential significant air quality impacts will be reduced to less than significant.

As there is no proposal to develop Lot 1 at this time its air quality impacts would be too speculative to consider as part of this analysis.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The proposed commercial development would generate criteria pollutants during its construction and from ongoing vehicle traffic generated by the new commercial uses. However, due to limited size of the proposal it would not be considered a large project and FRAQMD did not comment that the standards would be exceeded by this Project to the extent of being cumulatively significant. Therefore, the cumulative air quality impacts are considered to be a less than significant impact.

c) Expose sensitive receptors to substantial pollutant concentrations?

The FRAQMD defines sensitive receptors as: facilities that house or attract children, the elderly, and people with illnesses, or others who are especially sensitive to the effects of air pollutants. FRAQMD states that if a project is located within 1,000 feet of a sensitive receptor location, the impact of diesel particulate matter shall be evaluated. According to the FRAQMD's Indirect Source Review Guidelines, "Construction activity can result in emissions of particulate matter from the diesel exhaust (diesel PM) of construction equipment.

There are no sensitive receptors within 1,000 feet of the Project. As such there will be no impacts on a sensitive receptor.

d) Result in other emissions such as those leading to odors adversely affecting a substantial number of people?

Construction of the market and restaurant, fueling station, and car wash typically do not generate objectionable odors. As such, the impact of the Project towards creating local offensive odors would be less than significant. Development of proposed Lot 1 would be too speculative to determine at this time and will be considered at the time a specific development project is proposed.

3.4. Biological Resources

Table 3.4: Biological Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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 Game or U.S. Fish and Wildlife Service?			X	
b) 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 Game or U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on states or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) 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?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

3.4.1. Environmental Setting/Affected Environment

The approximately 5.82 acres are level, vacant, and within the Yuba City urbanized area. The property is surrounded by existing single-family residences, commercial development, and public streets. There are no riparian areas or known critical habitat areas on-site or in the vicinity.

3.4.2. Federal & State Regulatory Setting

Threatened and Endangered Species: State and federal "endangered species" legislation has provided California Department of Fish & Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are

collectively referred to as "species of special status." Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Migratory Birds: State and federal laws also protect most birds. The Federal Migratory Bird Treaty Act (16U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Birds of Prey: Birds of prey are also protected in California under provisions of the California Fish and Game Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Wetlands and Other Jurisdictional Waters: Natural drainage channels and adjacent wetlands may be considered "Waters of the United States" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts.

Waters of the U.S. generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters, which are subject to the ebb and flow of the tide.
- All interstate waters including interstate wetlands.
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries of waters identified in the bulleted items above.

As determined by the United States Supreme Court in its 2001 Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated Carabell/Rapanos decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable, and therefore, jurisdictional water.

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high-

water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

CEQA Guidelines Section 15380: Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria that define "endangered" and "rare" as specified in CEQA Guidelines section 15380(b).

3.4.3. Local Regulatory Setting

The General Plan provides the following policies for the protection of biological resources within the Project area:

8.4-G-1 Protect special status species, in accordance with State regulatory requirements.

8.4-G-2 Protect and enhance the natural habitat features of the Feather River and new open space corridors within and around the urban growth area.

8.4-G-3 Preserve and enhance heritage oaks in the Planning Area.

8.4-G-4 Where appropriate, incorporate natural wildlife habitat features into public landscapes, parks, and other public facilities

8.4-I-1 Require protection of sensitive habitat area and special status species in new development site designs in the following order: 1) avoidance; 2) onsite mitigation; 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species.

8.4-I-2 Require preservation of oak trees and other native trees that are of a significant size, by requiring site designs to incorporate these trees to the maximum extent feasible.

8.4-I-3 Require to the extent feasible, use of drought tolerant plants in landscaping for new development, including private and public projects.

3.4.4. Impact Assessment/Environmental Consequences:

a) 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 Game or U.S. Fish and Wildlife Service.

b) 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 Game or U.S. Fish and Wildlife Service?

A review of the 5.82-acre site identified several small trees scattered across the property and there are no wetland areas or creek corridors or areas that appear to be sensitive habitat areas. The site is several miles from the Feather River. Per the environmental impact report (EIR) prepared for the

City's 2004 General Plan, there were no known special status species, riparian habitat identified in the vicinity, and the site is surrounded by urban development. The impact on biological resources would be less than significant.

c) Have a substantial adverse effect on states or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No wetlands or federal jurisdictional waters of the U.S. are present within the proposed Project area or general vicinity. There would be no impact on any wetland areas or waterways.

d) 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?

The proposed Project would not disturb any waterways, as the nearest waterway is the Feather River, being several miles to the east. Therefore, migratory fish would not be affected. Nor are there any significant native trees on the property that could be potential nesting habitat for raptors and migratory birds that may choose to nest in the vicinity of the Project. As such there would be no significant impacts on fish or wildlife habitat.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No large trees or other known biological resources that would be protected by local policies or ordinances remain on the proposed Project site. Therefore, there would be no significant impacts on biological resources caused by this Project.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or any other approved local, regional, or state habitat conservation plans in the vicinity of this Project.

3.5. Cultural Resources

Table 3.5: Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.			X	
b) Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5.		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

3.5.1. Federal Regulatory Setting

National Historic Preservation Act of 1966 (as amended), Section 106: The significance of cultural resources is evaluated under the criteria for inclusion in the National Register of Historic Places (NRHP), authorized under the National Historic Preservation Act of 1966, as amended. The criteria defined in 36 CFR 60.4 are as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- That are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That have yielded, or may be likely to yield, information important to prehistory or history.

Sites listed or eligible for listing on the NRHP are considered to be historic properties. Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP.

3.5.2. State Regulatory Setting

CEQA requires consideration of project impacts on archaeological or historical sites deemed to be "historical resources." Under CEQA, a substantial adverse change in the significant qualities of a historical resource is considered a significant effect on the environment. For the purposes of CEQA, a "historical resource" is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (Title 14 CCR §15064.5[a][1]-[3]). Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC §5020.1[j]).

The eligibility criteria for the California Register are the definitive criteria for assessing the significance of historical resources for the purposes of CEQA (Office of Historic Preservation). Generally, a resource is considered "historically significant" if it meets one or more of the following criteria for listing on the California Register:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Is associated with the lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1[c])

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, § 4852(c)).

Historical resources may include, but are not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC §5020.1[j]).

California Health and Safety Code Section 7050.5: Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

3.5.3. Native American Consultation

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze project impacts on "tribal cultural resources" separately from archaeological resources (PRC § 21074; 21083.09). AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC § 21080.3.1, 21080.3.2, 21082.3).

In response to AB 52, the City supplied the following Native American tribes with a Project description and map of the proposed Project area and a request for comments:

- United Auburn Indian Community of the Auburn Rancheria
-
- Ione Band of Miwok Indians

Additional detail on tribal comments is provided in Section 3.18, Tribal Cultural Resources.

3.5.4. Impact Assessment/Environmental Consequences:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.

There are no existing structures on the property and the site has been graded many times in the past. As such, the potential significant impacts on any historical resources, directly or indirectly, is considered a less than significant impact.

b) Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5.

No tribes responded to the City's request for comments on the Project, so it is unlikely that any archeological resources are present. However, there still remains the potential for previously unknown sub-surface resources to be present. As such the "Unanticipated Discoveries" mitigation should be utilized. This mitigation measure is provided in Section 3.18 to ensure impacts on any cultural resources remain less than significant.

c) Disturb any human remains, including those interred outside of formal cemeteries?

The 5.82-acre property is vacant. No formal cemeteries or other places of human internment are known to exist on the proposed Project site. However, there still remains the potential for previously unknown sub-surface resources to be present. As such the "Unanticipated Discoveries" mitigation should be utilized. This mitigation measure is provided in Section 3.18 to ensure impacts on any cultural resources remain less than significant.

3.6. Energy

Table 3-6: Energy				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

3.6.1 State Regulatory Setting

California has implemented numerous energy efficiency and conservation programs that have resulted in substantial energy savings. The State has adopted comprehensive energy efficiency standards as part of its Building Standards Code, California Codes of Regulations, Title 24. In 2009, the California Building Standards Commission adopted a voluntary Green Building Standards Code, also known as CALGreen, which became mandatory in 2011. Both Title 24 and CALGreen are implemented by the City of Yuba City in conjunction with its processing of building permits.

CALGreen sets forth mandatory measures, applicable to new residential and nonresidential structures as well as additions and alterations, on water efficiency and conservation, building material conservation, interior environmental quality, and energy efficiency. California has adopted a Renewables Portfolio Standard, which requires electricity retailers in the state to generate 33% of electricity they sell from renewable energy sources (i.e., solar, wind, geothermal, hydroelectric from small generators, etc.) by the end of 2020. In 2018, SB 100 was signed into law, which increases the electricity generation requirement from renewable sources to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045.

3.6.2. Impact Assessment/Environmental Consequences

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Project construction would involve fuel consumption and use of other non-renewable resources. Construction equipment used for such improvements typically operate on diesel fuel or gasoline. The same fuels typically are used for vehicles that transport equipment and workers to and from a construction site. However, construction-related fuel consumption would be finite, short-term, and consistent with construction activities of a similar character. This energy use would not be considered wasteful, inefficient, or unnecessary.

Electricity may be used for equipment operation during construction activities. It is expected that more electrical construction equipment would be used in the future, as it would generate fewer air pollutant and GHG emissions. This electrical consumption would be consistent with construction activities of a similar character; therefore, the use of electricity in construction activities would not be considered wasteful, inefficient, or unnecessary, especially since fossil fuel consumption would be reduced. Moreover, under California's Renewables Portfolio Standard, a greater share of electricity would be provided from renewable energy sources over time, so less fossil fuel consumption to generate electricity would occur.

The Project would be required to comply with CALGreen and with the building energy efficiency standards of California Code of Regulations Title 24, Part 6 in effect at the time of Project approval. Compliance with these standards would reduce energy consumption associated with Project operations, although reductions from compliance cannot be readily quantified. Overall, Project construction would typically not consume energy resources in a manner considered wasteful, inefficient, or unnecessary.

Project impacts related to energy consumption are considered less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed Project would be required to be consistent with applicable state and local plans to increase energy efficiency. Thus, the Project's impacts on energy usage is considered to be a less than significant impact.

3.7. Geology and Soils

Table 3.7: Geology and Soils				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly create potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) 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? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geological 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?				X
d) Be located on expansive soil, as defined in the California Building Code creating substantial direct or indirect risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resources or site or unique geologic feature?		X		

3.7.1 Environmental Setting/Affected Environment

Topography and Geology: According to the Sutter County General Plan, Sutter County is located in the flat surface of the Great Valley geomorphic province of California. The Great Valley is an alluvial plain approximately 50 miles wide and 400 miles long in the central portion of California. The Great

Valley's northern portion is the Sacramento Valley, drained by the Sacramento River, and its southern portion is the San Joaquin Valley, drained by the San Joaquin River. The geology of the Great Valley is typified by thick sequences of alluvial sediments derived primarily from erosion of the mountains of the Sierra Nevada to the east, and to a lesser extent, erosion of the Klamath Mountains and Cascade Range to the north. These sediments were transported downstream and subsequently laid down as a river channel, floodplain deposits, and alluvial fans.

Seismic Hazards: Earthquakes are due to a sudden slip of plates along a fault. Seismic shaking is typically the greatest cause of losses to structures during earthquakes. Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks such as water, power, gas, communication, and transportation lines. Other damage-causing effects of earthquakes include surface rupture, fissuring, settlement, and permanent horizontal and vertical shifting of the ground. Secondary impacts can include landslides, seiches, liquefaction, and dam failure.

Seismicity: Although all of California is typically regarded as seismically active, the Central Valley region does not commonly experience strong ground shaking resulting from earthquakes along known and previously unknown active faults. Though no active earthquake faults are known to exist in Yuba City, active faults in the region could generate ground motion felt within the County. Numerous earthquakes of magnitude 5.0 or greater on the Richter scale have occurred on regional faults, primarily those within the San Andreas Fault System in the region. There are several potentially active faults underlying the Sutter Buttes, which are associated with deep-seated volcanism.

The faults identified in Sutter County include the Quaternary Faults, located in the northern section of the County within the Sutter Buttes, and the Pre-Quaternary Fault, located in the southeast of the City, just east of where Highway 70 enters into the County. Both Faults are listed as non-active faults but have the potential for seismic activity.

Ground Shaking: As stated in the Sutter County Multi-Hazard Mitigation Plan, although the County has felt ground shaking from earthquakes with epicenters located elsewhere, no major earthquakes or earthquake related damage has been recorded within the County. Based on historic data and known active or potentially active faults in the region, parts of Sutter County have the potential to experience low to moderate ground shaking. The intensity of ground shaking at any specific site depends on the characteristics of the earthquake, the distance from the earthquake fault, and on the local geologic and soils conditions. Fault zone maps are used to identify where such hazards are more likely to occur based on analyses of faults, soils, topography, groundwater, and the potential for earthquake shaking sufficiently strong to trigger landslide and liquefaction.

Liquefaction: Liquefaction, which can occur in earthquakes with strong ground shaking, is mostly found in areas with sandy soil or fill and a high-water table located 50 feet or less below the ground surface. Liquefaction can cause damage to property with the ground below structures liquefying making the structure unstable causing sinking or other major structural damage. Evidence of liquefaction may be observed in "sand boils," which are expulsions of sand and water from below the surface due to increased pressure below the surface.

Liquefaction during an earthquake requires strong shaking and is not likely to occur in the city due to the relatively low occurrence of seismic activity in the area; however, the clean sandy layers paralleling the Sacramento River, Feather River, and Bear River have lower soil densities and high overall water table are potentially a higher risk area if major seismic activity were to occur. Areas of bedrock, including the Sutter Buttes have high density compacted soils and contain no liquefaction potential, although localized areas of valley fill alluvium can have moderate to high liquefaction potential.

Landslides: Landslides are downward and outward movements of slope forming materials which may be rock, soil, artificial fill, or combinations of such materials. The size of landslides varies from those containing less than a cubic yard of material to massive ones containing millions of cubic yards. Large landslides may move down slope for hundreds of yards or even several miles. A landslide may move rapidly or so slow that a change of position can be noted only over a period of weeks or years. A similar, but much slower movement is called creep. The susceptibility of a given area to landslides depends on a great many variables. With the exception of the Sutter Buttes, Yuba City is located in a landslide-free zone due to the flat topography. The Sutter Buttes are considered to be in a low landslide hazard zone as shown in Bulletin 198 by the California Division of Mines and Geology.

Soil Erosion: Erosion is a two-step process by which soils and rocks are broken down or fragmented and then transported. The breakdown processes include mechanical abrasion, dissolution, and weathering. Erosion occurs naturally in most systems but is often accelerated by human activities that disturb soil and vegetation. The rate at which erosion occurs is largely a function of climate, soil cover, slope conditions, and inherent soil properties such as texture and structure. Water is the dominant agent of erosion and is responsible for most of the breakdown processes as well as most of the transport processes that result in erosion. Wind may also be an important erosion agent. The rate of erosion depends on many variables including the soil or rock texture and composition, soil permeability, slope, extent of vegetative cover, and precipitation amounts and patterns. Erosion increases with increasing slope, increasing precipitation, and decreasing vegetative cover. Erosion can be extremely high in areas where vegetation has been removed by fire, construction, or cultivation. High rates of erosion may have several negative impacts including degradation and loss of agricultural land, degradation of streams and other water habitats, and rapid silting of reservoirs.

Subsidence: Subsidence is the sinking of a large area of ground surface in which the material is displaced vertically downward, with little or no horizontal movement. Subsidence is usually a direct result of groundwater, oil, or gas withdrawal. These activities are common in several areas of California, including parts of the Sacramento Valley and in large areas of the San Joaquin Valley. Subsidence is a greater hazard in areas where subsurface geology includes compressible layers of silt and clay. Subsidence due to groundwater withdrawal generally affects larger areas and presents a more serious hazard than does subsidence due to oil and gas withdrawal. In portions of the San Joaquin Valley, subsidence has exceeded 20 feet over the past 50 years. In the Sacramento Valley, preliminary studies suggest that much smaller levels of subsidence, up to two feet may have occurred. In most of the valley, elevation data are inadequate to determine positively if subsidence has occurred. However, groundwater withdrawal in the Sacramento Valley has been increasing and groundwater levels have declined in some areas. The amount of subsidence caused by groundwater withdrawal depends on several factors, including: (1) the extent of water level decline, (2) the thickness and depth of the water bearing strata tapped, (3) the thickness and compressibility of silt-clay layers within the vertical sections where groundwater withdrawal is occurring, (4) the duration of maintained groundwater level decline, (5) the number and magnitude of water withdrawals in a given area, and (6) the general geology and geologic structure of the groundwater basin. The damaging effects of subsidence include gradient changes in roads, streams, canals, drains, sewers, and dikes. Many such systems are constructed with slight gradients and may be significantly damaged by even small elevation changes. Other effects include damage to water wells resulting from sediment compaction and increased likelihood of flooding of low-lying areas.

Expansive Soils: Expansive soils are prone to change in volume due to the presence of moisture. Soft clay soils have the tendency to increase in volume when moisture is present and shrink when it is dry (shrink/swell). Swelling soils contain high percentages of certain kinds of clay particles that are

capable of absorbing large quantities of water, expanding up to 10 percent or more as the clay becomes wet. The force of expansion is capable of exerting pressure on foundations, slabs, and other confining structures.

Soils: The Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service) has mapped over 40 individual soil units in the county. The predominant soil series in the county are the Capay, Clear Lake, Conejo, Oswald, and Olashes soils, which account for over 60 percent of the total land area. The remaining soil units each account for smaller percentages the total land area. The Capay and Clear Lake soils are generally present in the western and southern parts of the county. The Conejo soils occur in the eastern part closer to the incorporated areas of the county. Oswald and Olashes soils are located in the central portion of the county extending north to south, with scattered areas along the southeastern edge of the county. Soil descriptions for the principal soil units in the county are provided below. These descriptions, which were developed by the NRCS, are for native, undisturbed soils and are primarily associated with agricultural suitability. Soil characteristics may vary considerably from the mapped locations and descriptions due to development and other uses. Geotechnical studies are required to identify actual engineering properties of soils at specific locations to determine whether there are specific soil characteristics that could affect foundations, drainage, infrastructure, or other structural features.

3.7.2 Federal Regulatory Setting

Historic Sites Act of 1935: This Act became law on August 21, 1935 (49 Stat. 666; 16 U.S.C. 461-467) and has been amended eight times. This Act establishes as a national policy to preserve for public use historic sites, buildings, and objects, including geologic formations.

National Earthquake Hazards Reduction Program: The National Earthquake Hazards Reduction Program (NEHRP), which was first authorized by Congress in 1977, coordinates the earthquake-related activities of the Federal Government. The goal of NEHRP is to mitigate earthquake losses in the United States through basic and directed research and implementation activities in the fields of earthquake science and engineering. Under NEHRP, FEMA is responsible for developing effective earthquake risk reduction tools and promoting their implementation, as well as supporting the development of disaster-resistant building codes and standards. FEMA's NEHRP activities are led by the FEMA Headquarters (HQ), Federal Insurance and Mitigation Administration, Risk Reduction Division, Building Science Branch, in strong partnership with other FEMA HQ Directorates, and in coordination with the FEMA Regions, the States, the earthquake consortia, and other public and private partners.

3.7.3 State Regulatory Setting

California Alquist-Priolo Earthquake Fault Zoning Act: The Alquist-Priolo Earthquake Fault Zoning Act (originally enacted in 1972 and renamed in 1994) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The statute prohibits the location of most types of structures intended for human occupancy across the traces of active faults and regulates construction in the corridors along active faults.

California Seismic Hazards Mapping Act: The Seismic Hazards Mapping Act is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Earthquake Fault Zoning Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including ground shaking, liquefaction, and seismically induced landslides. The state is charged with

identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Uniform Building Code: The California Code of Regulations (CCR) Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the Uniform Building Code with necessary California amendments. The Uniform Building Code is a widely adopted model building code in the United States published by the International Conference of Building Officials. About one-third of the text within the California Building Code has been tailored for California earthquake conditions.

Paleontological Resources: Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section 15126.4 (a)(1)). California Public Resources Code Section 5097.5 (see above) also applies to paleontological resources.

3.7.4 Impact Assessment/Environmental Consequences:

a. Directly or indirectly create potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. 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? Refer to Division of Mines and Geology Special Publication 42.

According to the 2004 Yuba City General Plan, no active earthquake faults are known to exist in Sutter County, although active faults in the region could produce ground motion in Yuba City (Dyett & Bhatia, 2004). The closest known fault zone is the Bear Mountain Fault Zone, located approximately 20 miles northeast of Yuba City (California Geological Survey [CGS], 2015). Potentially active faults do exist in the Sutter Buttes, but those faults are considered small and have not exhibited activity in recent history. Because the distance from the City to the closest known active fault zone is large, the potential for exposure of people or structures to substantial adverse effects from fault rupture is low. Considering that the Building Code incorporates construction standards for minimizing earthquake damage to buildings, and the low potential for a significant earthquake activity in the vicinity, the potential for adverse impacts from an earthquake is considered to be a less than significant impact.

ii. Strong seismic ground shaking?

In the event of a major regional earthquake, fault rupture or seismic ground shaking could potentially injure people and cause collapse or structural damage to existing and proposed structures. Ground

shaking could potentially expose people and property to seismic-related hazards, including localized liquefaction and ground failure. However, all new structures are required to adhere to current California Building Code standards. These standards require adequate design, construction, and maintenance of structures to prevent exposure of people and structures to major geologic hazards. General Plan Implementing Policies 9.2-I-1 through 9.2-I-8 and the building codes reduce the potential impacts to a less than significant level.

iii. Seismic-related ground failure, including liquefaction?

The proposed Project is not located within a liquefaction zone according to the California Department of Conservation's California Geologic Survey regulatory maps. Regardless, all new structures are required to adhere to current California Building Code standards. These standards require adequate design, construction, and maintenance of structures to prevent exposure of people and structures to major geologic hazards. Therefore, the potential impact from ground failure is considered less than significant.

iv. Landslides?

According to the Environmental Impact Report prepared for the City's 2004 General Plan, due to the flat topography, erosion, landslides, and mudflows are not considered to be a significant risk in the City limits or within the City's Sphere of Influence or vicinity.

b) Result in substantial soil erosion or the loss of topsoil?

As a result of this tentative parcel map and use permit, development of the property would result in approximately 5.82 acres of ground being disturbed during site grading. Even though the area is relatively flat, during site grading a large storm could result in the loss of topsoil into the City/Sutter County drainage system. However, as part of the grading and construction of the Project area, the applicant will be required to follow Best Management Practices (BMP's) and provide erosion control measures to minimize soil runoff during the construction process. Therefore, impacts from soil erosion are considered to be a less than significant impact.

c) Be located on a geological 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?

d) Be located on expansive soil, as defined in the California Building Code creating substantial direct or indirect risks to life or property?

The extreme southwest corner of the Yuba City Sphere of Influence is the only known area with expansive soils. The Project area is not located within that area and therefore will not be impacted by the presence of expansive soils. As a result, no impacts are anticipated.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The new market, fueling station, and car wash will be connected to the City's wastewater collection and treatment system. No new septic systems will be utilized. As such, there will be no new impacts from septic systems.

f) *Directly or indirectly destroy a unique paleontological resources or site or unique geologic feature?*

Due to prior ground disturbances from the numerous times the site has been graded it is unlikely that any paleontological resources exist on the site. However, the mitigation measure provided below shall apply if any paleontological resources are discovered:

Paleontological Mitigation Measure 1: Mitigation Measure # 1 shall be placed as a note on the Demolition and Grading Plans. If paleontological resources are found, the construction manager shall halt all activity and immediately contact the Development Services Department @ 530-822-4700.

Mitigation shall be conducted as follows:

1. Identify and evaluate paleontological resources by intense field survey in the vicinity that potential paleontological resource was found, as determined by the paleontologist;
2. Assess effects on identified sites;
3. Consult with the institutional/academic paleontologists conducting research investigations within the geological formations that are slated to be impacted;
4. Obtain comments from the researchers;
5. Comply with researchers' recommendations to address any significant adverse effects were determined by the City to be feasible.

In considering any suggested mitigation proposed by a consulting paleontologist, the City's Community Development Department Staff shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, Specific or General Plan policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

With application of this mitigation any impacts on paleontological resources will be less than significant.

3.8. Greenhouse Gas Emissions

Table 3.8: Greenhouse Gas Emissions				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?		X		

3.8.1 Federal Regulatory Setting

The United States Environmental Protection Agency (USEPA) Mandatory Reporting Rule (40 CFR Part 98), which became effective December 29, 2009, requires that all facilities that emit more than 25,000 metric tons CO2-equivalent per year beginning in 2010, report their emissions on an annual basis. On May 13, 2010, the USEPA issued a final rule that established an approach to addressing GHG emissions from stationary sources under the Clean Air Act (CAA) permitting programs. The final rule set thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration and title V Operating Permit programs are required for new and existing industrial facilities.

In addition, the Supreme Court decision in Massachusetts v. EPA (Supreme Court Case 05-1120) found that the USEPA has the authority to list GHGs as pollutants and to regulate emissions of greenhouse gases (GHG) under the CAA. On April 17, 2009, the USEPA found that CO2, CH4, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride may contribute to air pollution and may endanger public health and welfare. This finding may result in the USEPA regulating GHG emissions; however, to date the USEPA has not proposed regulations based on this finding.

3.8.2 State & Local Regulatory Setting

The City's Resource Efficiency Plan as designed under the premise that the City, and the community it represents, is uniquely capable of addressing emissions associated with sources under the City's jurisdiction and that the City's emission reduction efforts should coordinate with the state strategies of reducing emissions in order to accomplish these reductions in an efficient and cost-effective manner. The City developed this document with the following purposes in mind:

- Local Control: The Yuba City Efficiency Plan allows the City to identify strategies to reduce resource consumption, costs, and GHG emissions in all economic sectors in a way that maintains local control over the issues and fits the character of the community. It also may position the City for funding to implement programs tied to climate goals.
- Energy and Resource Efficiency: The Efficiency Plan identifies opportunities for the City to increase energy efficiency and lower GHG emissions in a manner that is most feasible within the community. Reducing energy consumption through increasing the efficiency of energy

technologies, reducing energy use, and using renewable sources of energy are effective ways to reduce GHG emissions. Energy efficiency also provides opportunities for cost-savings.

- Improved Public Health: Many of the GHG reduction strategies identified in the Efficiency Plan also have local public health benefits. Benefits include local air quality improvements; creating a more active community through implementing resource-efficient living practices; and reducing health risks, such as heat stroke, that would be otherwise elevated by climate change impacts such as increased extreme heat days.

Demonstrating Consistency with State GHG Reduction Goals—A GHG reduction plan may be used as GHG mitigation in a General Plan to demonstrate that the City is aligned with State goals for reducing GHG emissions to a level considered less than cumulatively considerable.

3.8.3 Impact Assessment/Environmental Consequences:

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, similar to a greenhouse. The accumulation of GHGs has been implicated as a driving force for Global Climate Change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the climate caused by natural fluctuations and the impact of human activities that alter the composition of the global atmosphere. Both natural processes and human activities emit GHGs. Global Climate Change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, the vast majority of the scientific community now agrees that there is a direct link between increased emission of GHGs and long-term global temperature. Potential global warming impacts in California may include, but are not limited to, loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA).

The proposed grading and public improvements caused by the parcel map improvements and construction of the proposed commercial buildings will create GHG emissions due to the use of motorized construction equipment. Once completed, vehicle traffic generated by auto use will contribute GHG gases. Due to the small size of the Project, it is not expected to create significant greenhouse gas emissions. However, on a cumulative scale, possible reasonable reductions could be applied to the Project in order to further minimize those impacts. Specifically addressing this proposal, the City's Resource Efficiency Plan addresses greenhouse gas concerns and provides a description of greenhouse gas reduction measures. A mitigation measure is included that requires the Project incorporate the relevant greenhouse gas reduction measures. With this mitigation the impacts from greenhouse gases will be less than significant.

Greenhouse Gas Mitigation Measure 1: The site grading process and construction of the facility shall comply with the GHG Reduction Measures provided in the adopted Yuba City Resource Efficiency Plan.

3.9. Hazards and Hazardous Materials

Table 3.9: Hazards and Hazardous Materials				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) 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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) 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 create a significant hazard to the public or the environment?				X
e) 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 for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.				X

3.9.1 Federal Regulatory Setting

U.S. Environmental Protection Agency (USEPA): The USEPA was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard setting, and enforcement activities to ensure environmental protection. USEPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends. USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for

researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, USEPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act: The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act: The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (U.S. Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulation [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Clean Water Act/SPCC Rule: The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq., formerly the Federal Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the Clean Water Act, the U.S. EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112 (Title 40 CFR, Part 112) which is often referred to as the "SPCC rule" because the regulations describe the requirements for facilities to prepare, amend and implement Spill Prevention, Control, and

Countermeasure (SPCC) Plans: A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total above ground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the "Navigable Waters" of the United States.

Other federal regulations overseen by the U.S. EPA relevant to hazardous materials and environmental contamination include Title 40, CFR, Chapter 1, Subchapter D – Water Programs and Subchapter I – Solid Wastes. Title 40, CFR, Chapter 1, Subchapter D, Parts 116 and 117 designate hazardous substances under the Federal Water Pollution Control Act: Title 40, CFR, Part 116 sets forth a determination of the reportable quantity for each substance that is designated as hazardous. Title 40, CFR, Part 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

The NFPA 70®: National Electrical Code® is adopted in all 50 states. Any electrical work associated with the proposed Project is required to comply with the standards set forth in this code. Several federal regulations govern hazards as they are related to transportation issues. They include:

Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.

49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.

49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

3.9.2 State Regulatory Setting

California Environmental Protection Agency (CalEPA): The California Environmental Protection Agency (CalEPA) was created in 1991 by Governor's Executive Order. The six boards, departments, and office were placed under the CalEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of State resources. The mission of CalEPA is to restore, protect, and enhance the environment to ensure public health, environmental quality, and economic vitality under Title 22 of the California Code of Regulations (CCR).

Department of Toxic Substances Control (DTSC): DTSC is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC listed hazardous waste facilities and sites, DHS lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

Unified Program: The Unified Program (codified CCR Title 27, Division 1, Subdivision 4, Chapter 1, Sections 15100- 15620) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs:

- Hazardous Waste Generator (HWG) program and Hazardous Waste On-site Treatment activities;
- Aboveground Storage Tank (AST) program Spill Prevention Control and Countermeasure Plan requirements;
- Underground Storage Tank (UST) program;
- Hazardous Materials Release Response Plans and Inventory (HMRRP) program;
- California Accidental Release Prevention (CalARP) program;
- Hazardous Materials Management Plans and Hazardous Materials Inventory Statement (HMMP/HMIS) requirements.

The Secretary of CalEPA is directly responsible for coordinating the administration of the Unified Program. The Unified Program requires all counties to apply to the CalEPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate,

coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements in the county. Most CUPAs have been established as a function of a local environmental health or fire department.

Hazardous Waste Management Program: The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement, and Unified Program activities in accordance with California Health and Safety Code Section 25135 et seq. The main focus of HWMP is to ensure the safe storage, treatment, transportation, and disposal of hazardous wastes.

State Water Resources Control Board (SWRCB): The State Water Resources Control Board (SWRCB) was created by the California legislature in 1967. The mission of SWRCB is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables SWRCB to provide comprehensive protection for California's waters.

California Department of Industrial Relations – Division of Occupational Safety and Health (Cal OSHA): In California, every employer has a legal obligation to provide and maintain a safe and healthful workplace for employees, according to the California Occupational Safety and Health Act of 1973 (per Title 8 of the CCR). The Division of Occupational Safety and Health (Cal/OSHA) program is responsible for enforcing California laws and regulations pertaining to workplace safety and health and for providing assistance to employers and workers about workplace safety and health issues. Cal/OSHA regulations are administered through Title 8 of the CCR. The regulations require all manufacturers or importers to assess the hazards of substances that they produce or import and all employers to provide information to their employees about the hazardous substances to which they may be exposed.

California Fire Code: The California Fire Code is Part 9 of the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. The California Fire Code incorporates the Uniform Fire Code with necessary California amendments. This Code prescribes regulations consistent with nationally recognized good practice for the safeguarding to a reasonable degree of life and property from the hazards of fire explosion, and dangerous conditions arising from the storage, handling and use of hazardous materials and devices, and from conditions hazardous to life or property in the use or occupancy of buildings or premises and provisions to assist emergency response personnel.

3.9.3 Local Regulatory Setting

Sutter County Airport Comprehensive Land Use Plan: The SCACLUP was adopted in April 1994 by the Sacramento Area Council of Governments (SACOG). SACOG is the designated Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo, and Yuba Counties under the provisions of the California Public Utilities Code, Chapter 4, Article 3.5, Section 21670.1 Airport Land Use Commission Law. The purpose of the ALUC law is to (1) protect public health, safety, and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise, and (2) Prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utilities of these airports into the future.

3.9.4 Impact Assessment/Environmental Consequences:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The only hazardous materials that could result from construction of this tentative parcel map and the use permit will be those materials associated with grading and construction equipment, which typically includes solvents, oil, and fuel. Provided that these materials are legally and properly used and stored, the proposed Project will not create a significant hazard to the public or the environment. On an ongoing basis the only anticipated hazardous waste would be storage of fuel and storage of oil, lubricants, anti-freeze, and related items at the fueling facility. Assuming proper and legal disposal of those wastes there should not be a significant impact from hazardous materials.

b) 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?

See a) above.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no schools within one-quarter mile of the Project. As such here will be no impacts on local schools.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section and, as a result, would create a significant hazard to the public or the environment?

The property is not on any listings of sites that are contaminated by hazardous wastes. Therefore, there is not a potential for significant impacts from a hazardous materials site.

e) 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 for people residing or working in the project area?

The Project is not located within the Sutter County Airport Comprehensive Land Use Plan, nor is it within two miles of a public use airport. There will be no impacts.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Yuba City Fire Department and Police Department serve this area. Neither agency has expressed concern over impacts the Project may have on any emergency response plans nor were any emergency response issues noted in the Traffic Study. Accordingly, there will be no significant impacts on emergency response or evacuations plans

g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The Project site is located in the Yuba City urban area, and the Yuba City urban area is surrounded by irrigated agricultural lands. There are no wildlands on the site or in the immediate vicinity.

Accordingly, the potential for any significant impacts from potential wildland fires will be less than significant.

3.10. Hydrology and Water Quality

Table 3.10: Hydrology and Water Quality				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin?			X	
c) 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:				
i) result in substantial erosion or siltation on- or off-site?			X	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?			X	
iii) 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?			X	
iv. impede or redirect flood flows?				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

3.10.1 Federal Regulatory Setting

Clean Water Act: The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

Federal Emergency Management Agency (FEMA) Flood Zones: The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes. Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded).

3.10.2 State Regulatory Setting

State Water Resources Control Board: The State Water Resources Control Board (SWRCB) is the agency with jurisdiction over water quality issues in the State of California. The WRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter- Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The Project site is located within the Central Valley Regional Water Quality Control board.

Central Valley Regional Water Quality Control Board (CVRWQCB): administers the NPDES storm water-permitting program in the Central Valley region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). Additionally, CVRWQCB is responsible for issuing Waste Discharge Requirements Orders under California Water Code Section 13260, Article 4, Waste Discharge Requirements.

State Department of Water Resources: California Water Code (Sections 10004 et seq.) requires that the State Department of Water Resources update the State Water Plan every five years. The 2013 update is the most current review and included (but is not limited to) the following conclusions:

- The total number of wells completed in California between 1977 and 2010 is approximately 432,469 and ranges from a high of 108,346 wells for the Sacramento River Hydrologic Region to a low of 4,069 wells for the North Lahontan Hydrologic Region.
- Based on the June 2014 California Statewide Groundwater Elevation Monitoring (CASGEM) basin prioritization for California's 515 groundwater basins, 43 basins are identified as high priority, 84 basins as medium priority, 27 basins as low priority, and the remaining 361 basins as very low priority.
- The 127 basins designated as high or medium priority account for 96 percent of the average annual statewide groundwater use and 88 percent of the 2010 population overlying the groundwater basin area.

- Depth-to-groundwater contours were developed for the unconfined aquifer system in the Central Valley. In the Sacramento Valley, the spring 2010 groundwater depths range from less than 10 feet below ground surface (bgs) to approximately 50 feet bgs, with local areas showing maximum depths of as much as 160 feet bgs.
- The most prevalent groundwater contaminants affecting California's community drinking water wells are arsenic, nitrate, gross alpha activity, and perchlorate.

California Government Code 65302 (d): The General Plan must contain a Conservation Element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, river and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. That portion of the conservation element including waters shall be developed in coordination with any County-wide water agency and with all district and city agencies which have developed, served, controlled, or conserved water for any purpose for the County or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5 if that information has been submitted by the water agency to the city or County. The Conservation Element may also cover:

- The reclamation of land and waters.
- Prevention and control of the pollution of streams and other waters.
- Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
- Prevention, control, and correction of the erosion of soils, beaches, and shores.
- Protection of watersheds.
- The location, quantity, and quality of the rock, sand, and gravel resources.
- Flood control.

Sustainable Groundwater Management Act: On September 16, 2014, Governor Edmund G. Brown Jr. signed historic legislation to strengthen local management and monitoring of groundwater basins most critical to the state's water needs. The three bills, SB 1168 (Pavley) SB 1319 (Pavley) and AB 1739 (Dickinson) together makeup the Sustainable Groundwater Management Act. The Sustainable Groundwater Management Act comprehensively reforms groundwater management in California. The intent of the Act is to place management at the local level, although the state may intervene to manage basins when local agencies fail to take appropriate responsibility. The Act provides authority for local agency management of groundwater and requires creation of groundwater sustainability agencies and implementation of plans to achieve groundwater sustainability within basins of high and medium priority.

3.10.3 Impact Assessment/Environmental Consequences:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Most of the City's public water supply comes from the Feather River. The water is pumped from the river to the Water Treatment Plant located in northern Yuba City. The plant also sometimes utilizes a groundwater well in addition to surface water supplies due to past drought conditions. Since these

commercial facilities will only receive water through the City system, it is unlikely that the Project could impact the water quality in the City system.

Wastewater generated by the Project will flow into the City wastewater treatment facility, which is in compliance with state water discharge standards. The wastewater from the Project is not expected to generate any unique type of waste that would cause the system to become out of compliance with state standards.

All storm water runoff associated with the Project will drain into the Gilsizer Drainage facilities and ultimately into the Sutter By-Pass. The water quality of the stormwater runoff is addressed through General Plan Implementing Policies 8.5-I-1 through 8.5-I-10 which require a wide range of developer and City actions involving coordination with the State Regional Water Quality Control Board, protecting waterways, and following Yuba City's adopted Best Management Practices for new construction.

With the level of oversight on the City's water supply, and enforcement of Best Management Practices at construction sites, there will not be significant impacts on the City's water and waste-water systems or storm water drainage system from the proposed land division or new commercial facilities.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin?

The proposed uses will be connected to the City's water system. While consumer consumption of City water will increase with the Project, very little groundwater will be utilized as the City primarily utilizes surface water supplies in its system.

c) 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:

i) result in substantial erosion or siltation on- or off-site?

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

iii) 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?

There will be an increased amount of stormwater drainage caused by new impermeable surfaces created by the proposed Project, which ultimately drains into the Feather River. The Project will be required to construct the local collection facilities and pay the appropriate fees to the Sutter County Water Agency for its fair share of improvements and expansion to the existing drainage system that will be connected too. Also, as noted above, all new construction must involve use of Best Management Practices. Assuming all required standards are met there is not expected to be any significant impacts from additional storm water drainage from the site.

iv) impede or redirect flood flows?

According to the Federal Emergency Management Agency, this portion of the City is outside of the 100-year flood plain. This is due to the existing levee system that contains seasonally high-water flows from the nearby Feather River from flooding areas outside of the levee system. Additional

construction within the City that is outside of the levee system does not impact the levee system and therefore does not increase, impede, or otherwise have any effect on the highwater flows within the levee system. Therefore, there is no significant impact on the high-water flows within the Feather River levee system.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

According to the Federal Emergency Management Agency, this portion of the City is outside of the 100-year flood plain. The City is not close to the ocean or any large lakes so a seiche is unlikely to happen in or near the City. The City is located inland from the Pacific Ocean, so people or structures in the City would not be exposed to inundation by tsunami. Mudflows and landslides are unlikely to happen due to the relatively flat topography within the project area. Thus, it is unlikely that the Project site would be subject to inundation by a seiche, tsunami, mudflow or landslide. Therefore, there is not a potential for significant impacts from any of these types of events.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Regarding impacts on a groundwater management plan, the City primarily utilizes surface water, so any impact on groundwater would be less than significant. Regarding water quality, as noted in Part a) above, all new construction is required to utilize Best Management Practices. Assuming all required standards are met, water quality of runoff water from the Project will not create any significant impacts.

3.11. Land Use and Planning

Table 3:11: Land Use and Planning					
Would the project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Physically divide an established community?			X	
b)	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?			X	

3.11.1 Environmental Setting/Affected Environment

The proposed new businesses are located within a retail commercial area but there are nearby single-family residences. As such, some of the residences could be impacted by the Project from excessive noise or lighting caused by the new development.

3.11.2 Federal Regulatory Setting

There are no federal regulations pertaining to land use and planning relevant to the proposed Project.

3.11.3 Local Regulatory Setting

Yuba City General Plan Land Use Element: The Land Use Element of the General Plan establishes guidance for the ultimate pattern of growth in the City's Sphere of Influence. It provides direction regarding how lands are to be used, where growth will occur, the density/intensity and physical form of that growth, and key design considerations.

3.11.4 Impact Assessment/Environmental Consequences:

a) Physically divide an established community?

This Project will not physically divide an established community as the site is within an existing commercial area that is located on the corner of two major streets. As the Project is on the perimeter of a residential area it will not divide the local community. Therefore the impacts of this proposal on dividing the community is considered to be less than significant.

b) 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?

The proposed Project is consistent with the Community Commercial General Plan land use designation applied to the property. The Project also meets all of the land use and development standards of the C-2 Zone District and the design standards of the Yuba City Design Guidelines. Section 8-5.13022(5) of the Zoning Regulations require the car wash be at least 100 feet from the nearest residence. As it will be at least 120 feet, with Franklin Road located between the car wash and nearest residences, the proposed project meets all City standards. Since there are not conflicts with the appropriate plans or Zoning Regulations the impacts for conflicts with any plan or programs is less than significant

3.12. Mineral Resources

Table 3-12: Mineral Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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?				X
b) 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?				X

3.12.1 Federal Regulatory Setting

There are no federal regulations pertaining to mineral resources relevant to the proposed Project.

3.12.2 State Regulatory Setting

California Surface Mining and Reclamation Act of 1975: Enacted by the State Legislature in 1975, the Surface Mining and Reclamation Act (SMARA), Public Resources Code Section 2710 et seq., insures a continuing supply of mineral resources for the State. The act also creates surface mining and reclamation policy to assure that:

- Production and conservation of minerals is encouraged;
- Environmental effects are prevented or minimized;
- Consideration is given to recreational activities, watersheds, wildlife, range and forage, and aesthetic enjoyment;
- Mined lands are reclaimed to a useable condition once mining is completed; and
- Hazards to public safety both now and in the future are eliminated.

Areas in the State (city or county) that do not have their own regulations for mining and reclamation activities rely on the Department of Conservation, Division of Mines and Geology, Office of Mine Reclamation to enforce this law. SMARA contains provisions for the inventory of mineral lands in the State of California.

The State Geologist, in accordance with the State Board's Guidelines for Classification and Designation of Mineral Lands, must classify Mineral Resource Zones (MRZ) as designated below:

- MRZ-1. Areas where available geologic information indicates that there is minimal likelihood of significant resources.
- MRZ-2. Areas underlain by mineral deposits where geologic data indicate that significant mineral deposits are located or likely to be located.
- MRZ-3. Areas where mineral deposits are found but the significance of the deposits cannot be evaluated without further exploration.
- MRZ-4. Areas where there is not enough information to assess the zone. These are areas that have unknown mineral resource significance.

SMARA only covers mining activities that impact or disturb the surface of the land. Deep mining (tunnel) or petroleum and gas production is not covered by SMARA.

3.12.3 Impact Assessment/Environmental Consequences:

a) 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?

The property contains no known mineral resources and there is little opportunity for mineral resource extraction. The Yuba City General Plan does not recognize any mineral resource zone within the City limits, and no mineral extraction facilities currently exist within the City. Additionally, the site has nearby residential uses, which generally is considered incompatible with mineral extraction facilities. As such the Project will not have an impact on mineral resources.

b) 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?

See a) above.

3.13. Noise

Table 3.13: Noise				
Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial 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?		X		
b) Generation of excessive ground borne vibration or ground borne noise levels?			X	
c) 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, would the project expose people residing or working in the project area to excessive noise levels?				X

3.13.1 Environmental Setting/Affected Environment for Noise

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

3.13.2 Environmental Setting/Affected Environment for Groundbourne Vibration

Vibration is the periodic oscillation of a medium or object. Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground borne vibrations may be described by amplitude and frequency. Vibration amplitudes are usually expressed in peak particle velocity (PPV), or root mean squared (RMS), as in RMS vibration velocity. The PPV and RMS (VbA) vibration velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal and is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings.

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. As it takes some time for the human body to respond to vibration signals, it is more prudent to use vibration velocity when measuring human response. The typical background vibration velocity level in residential areas is approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels.

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous. The approximate threshold of vibration perception is 65 VdB, while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day.

3.13.3 Federal Regulatory Setting

Federal Vibration Policies: The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to ground-borne vibration levels of 90 VdB without experiencing structural damage. The FTA has identified the human annoyance response to vibration levels as 75 VdB.

3.13.4 State Regulatory Setting

California Noise Control Act: The California Noise Control Act was enacted in 1973 (Health and Safety Code §46010 et seq.), and states that the Office of Noise Control (ONC) should provide assistance to local communities in developing local noise control programs. It also indicates that ONC staff would work with the Department of Resources Office of Planning and Research (OPR) to provide guidance for the preparation of the required noise elements in city and county General Plans, pursuant to Government Code § 65302(f). California Government Code § 65302(f) requires city and county general plans to include a noise element. The purpose of a noise element is to guide future development to enhance future land use compatibility.

Title 24 – Sound Transmission Control: Title 24 of the California Code of Regulations (CCR) codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new dwellings Title 24, Part 2 requires an acoustical report that demonstrates the achievements of the required 45 dBA CNEL. Dwellings are designed so that interior noise levels will meet this standard for at least ten years from the time of building permit application.

3.13.5 Local Regulatory Setting

The **City of Yuba City General Plan** presents the vision for the future of Yuba City and outlines several guiding policies and policies relevant to noise.

The following goals and policies from the City of Yuba City General Plan are relevant to noise.

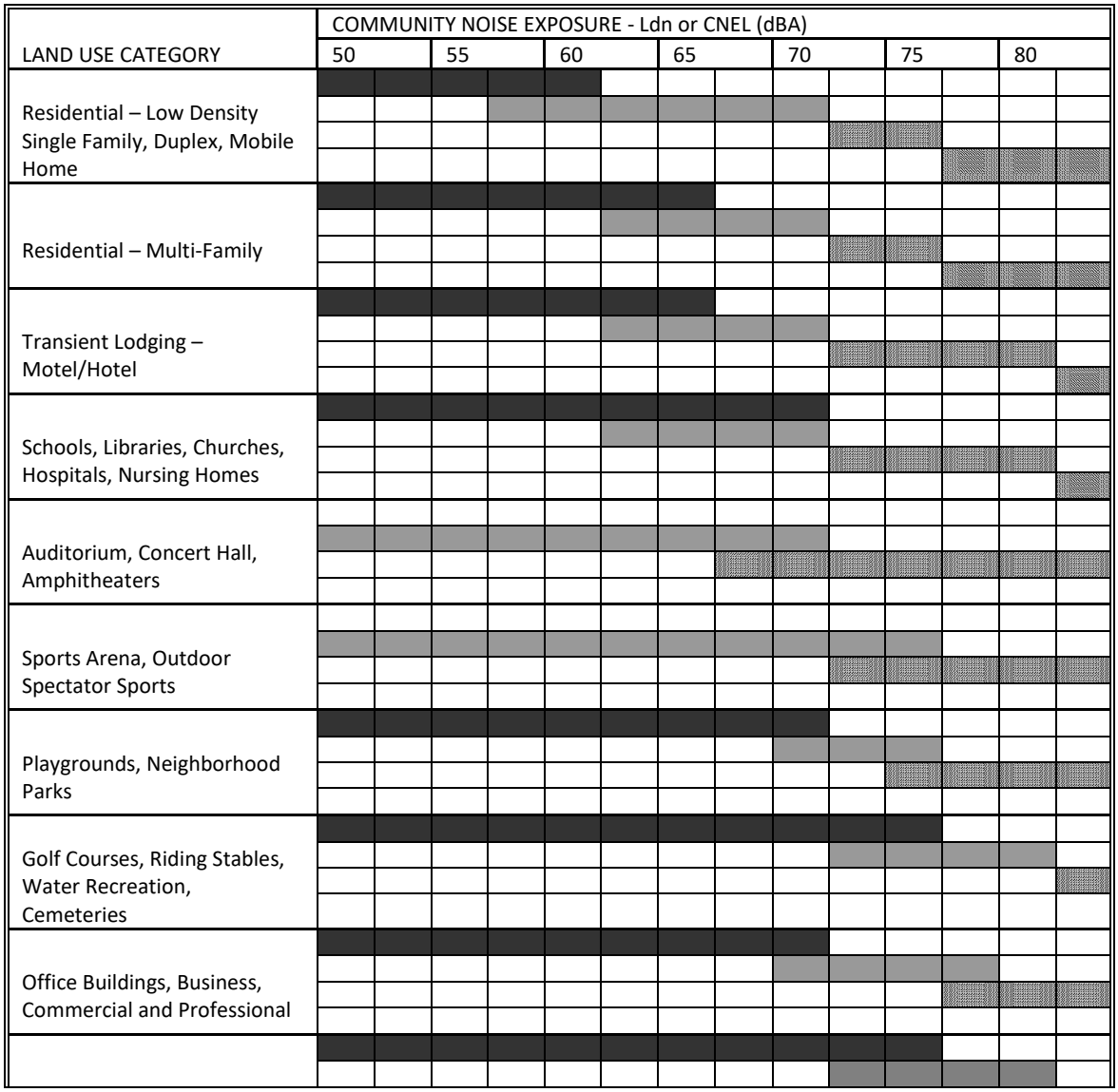
Guiding Policies

- 9.1-G-1 Strive to achieve an acceptable noise environment for the present and future residences of Yuba City.
- 9.1-G-2 Incorporate noise considerations into land use planning decisions and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.
- Implementing Policies
- 9.1-I-1 Require a noise study and mitigation for all projects that have noise exposure greater than “normally acceptable” levels. Noise mitigation measures include, but are not limited to, the following actions:
- Screen and control noise sources, such as parking and loading facilities, outdoor activities, and mechanical equipment,
- Increase setbacks for noise sources from adjacent dwellings,
- Retain fences, walls, and landscaping that serve as noise buffers,
- Use soundproofing materials and double-glazed windows, and
- Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.
- 9.1-I-3 In making a determination of impact under the California Environmental Quality Act (CEQA), consider an increase of four or more dBA to be "significant" if the resulting noise

level would exceed that described as normally acceptable for the affected land use in Figure 5.

- 9.1-I-4 Protect especially sensitive uses, including schools, hospitals, and senior care facilities, from excessive noise, by enforcing "normally acceptable" noise level standards for these uses.
- 9.1-I-5 Discourage the use of sound walls. As a last resort, construct sound walls along highways and arterials when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility.
- 9.1-I-6 Require new noise sources to use best available control technology (BACT) to minimize noise from all sources.
- 9.1-I-7 Minimize vehicular and stationary noise sources and noise emanating from temporary activities, such as construction

Figure 1: Noise Exposure



Industrial, Manufacturing, Utilities, Agriculture														

	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable: New construction or development generally should not be undertaken.
Source: State of California, Governor's Office of Planning and Research, 2003. General Plan Guidelines.	

City of Yuba City Municipal Code: Title 4, Chapter 17, Section 4-17.10(e) of the Yuba City Municipal Code prohibits the operation of noise-generating construction equipment before 6:00 a.m. or after 9:00 p.m. daily, except Sunday and State or federal holidays when the prohibited time is before 8:00 a.m. and after 9:00 p.m.

3.13.6 Impact Assessment/Environmental Consequences:

a) Generation of a substantial 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 established in the local general plan or noise ordinance, or applicable standards of other agencies?

A noise study was prepared to address noise concerns, primarily from the proposed car wash and its associated vacuum system (Acoustics Group Inc., March 12, 2024 – a copy is attached to this Initial Study as Appendix A). Temporary construction noise on nearby residences was not addressed in the study, but due to the distance to the single-family residences, the existing noise levels on Franklin Road, limited duration of the construction activities, and that the construction will occur during the less sensitive daylight hours, the noise impacts on the nearby residences are not expected to have the potential to generate significant noise impacts.

The study focused on the ongoing operational noise from the Project, primarily from the proposed car wash and vacuum system, as it relates to nearby single-family residences. The study concluded that without mitigation measures applied to reduce the expected noise levels, the noise levels would exceed the City's General Plan noise standards at the residences on the north, south and west side of the project. This would be a potential significant impact but with the proposed mitigations the City noise standard would be met. Table 1 below provides the noise level projections without the application of noise reduction measures.

Table 1: Impact Assessment on Neighboring Residences from the Gas Station and Car Wash Without Noise Control

Noise Sensitive Location	Future Gas Station and Car Wash Without Noise Control. CNEL, dBA	City Noise Standard. CNEL, dB	Assessment
Residential property to the north	68.2	60	Exceedance
Residential property to the east	56.1	60	Compliance
Residential property to the south	64.7	60	Exceedance
Residential property to the west	68.0	60	Exceedance

Source: Acoustics Group – Project noise study

With the proposed mitigation measures the noise would be reduced to within acceptable levels per City noise policy, as shown below in Table 2. The proposed mitigations include constructing an eight-foot-high masonry wall (the study requires six feet, as does the City code, but suggests eight feet to cover potential future uses) along the west and portions of south perimeter of the property that backs to residential properties and utilizing state of the art technology for the car wash equipment that are the primary noise generators (the newer equipment is significantly quieter than past equipment). The applicant proposed, and the noise study recognizes that the car wash will not operate between the hours of 7:00 PM and 7:00 AM. The applicant is also required to prepare a noise study following completion of the Project to verify compliance with the City noise standard. With these mitigations the noise generated by this proposal is expected to be within City standards and will be compatible with the neighboring residents.

Table 2: Impact Assessment on the Neighboring Residences from the Gas Station and Car Wash With Noise Control

Noise Sensitive Location	Future Gas Station and Car Wash With Noise Control. CNEL, dBA	City Noise Standard. CNEL, dB	Assessment
Residential property to the north	53.7	60	Compliance
Residential property to the east	48.4	60	Compliance
Residential property to the south	49.3	60	Compliance
Residential property to the west	39.9	60	Compliance

Source: Acoustics Group – Project noise study

b) Generation of excessive ground borne vibration or ground borne noise levels?

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Table 3 describes the typical construction equipment vibration levels.

Table 3: Typical Construction Vibration Levels	
Equipment (1)	VdB at 25 ft2
Small Bulldozer	58
Vibratory Roller	94
Jackhammer	79
Loaded Trucks	86
(1) US Environmental Protection Agency. "Noise from Construction Equipment and Operations, Building Equipment and Home Appliances." Figure IV.H-4. 1971.	

Vibration levels of construction equipment in Table 3 are at a distance of 25 feet from the equipment. As noted above, construction activities are limited to daylight hours. Infrequent construction-related vibrations would be short-term and temporary, and operation of heavy-duty construction equipment would be intermittent throughout the day during construction. Therefore, with the short duration of grading activities associated with the Project, the approximate reduction of 6 VdB for every doubling of distance from the source, and consideration of the distance to the nearest existing residence, the temporary impact to any uses in the vicinity of the Project would be less than significant.

c) 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, would the project expose people residing or working in the project area to excessive noise levels?

The Project is not within an airport land use plan nor are there any public or private airports or airfields located in this vicinity. Therefore, this impact is not applicable to the Project.

3.8.7 Noise Mitigation Measures

Noise Mitigation Measure 1: Prior to recording the final parcel map or issuance of a final for a building permit, whichever comes first, the developer shall construct an eight-foot-high solid masonry wall along the entire 5.82-acre property's western and southern property lines. The noise barriers shall be continuous structures without any gaps or openings.

Noise Mitigation Measure 2: The car wash and vacuum equipment shall be selected based on the most current quiet technology and shall not exceed the following equipment noise source levels:

Noise Source	Distance (feet)	Maximum Allowable Equipment Noise Level Leq, dBA
40 HP Predator Quiet Dryer System	5	76
Vacuum 40 HP with VFD	15	64
Drive-through PA system	3	75

Source: AutoVac Industrial Vacuum & Air Systems Equipment Decibel Certification, AGI Industry Database

Noise Mitigation Measure 3: The final design of the car wash and its equipment shall be reviewed by a licensed Mechanical Engineer to ensure compliance with all applicable mechanical, fire, and safety codes.

Noise Mitigation Measure 4: Upon completion of the ca wash, and prior to issuance of a final building permit, a noise verification study by a qualified noise consultant shall be performed to verify compliance with City noise criteria, which is that the car wash and all associated equipment will not exceed the General Plan noise standard of 60 CNEL, dB at the residential property lines.

Noise Mitigation Measure 5: The car wash may operate only between the hours of 7:00 am and 7:00 pm, 7 days a week.

3.14. Population and Housing

Table 4-14: Population and Housing				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

3.14.1 Environmental Setting/Affected Environment

The property is in a community commercial zoned area, but with numerous nearby single-family residences. The Yuba City General Plan designates this 5.82 acres for Community Commercial uses.

3.14.2 Federal Regulatory Setting

There are no federal regulations, plans, programs, or guidelines associated with population or housing that are applicable to the proposed Project.

3.14.3 State Regulatory Setting

California law (Government Code Section 65580, et seq.) requires cities and counties to include a housing element as a part of their general plan to address housing conditions and needs in the community. Housing elements are prepared approximately every five years (eight following implementation of Senate Bill [SB] 375), following timetables set forth in the law. The housing element must identify and analyze existing and projected housing needs and "make adequate provision for the existing and projected needs of all economic segments of the community," among other requirements. The City adopted its current Housing Element in 2021.

3.14.4 Regional Regulatory Setting

State law mandates that all cities and counties offer a portion of housing to accommodate the increasing needs of regional population growth. The statewide housing demand is determined by the California Department of Housing and Community Development (HCD), while local governments and councils of governments decide and manage their specific regional and jurisdictional housing needs and develop a regional housing needs assessment (RHNA).

In the greater Sacramento region, which includes the City of Yuba City, SACOG has the responsibility of developing and approving an RHNA and a Regional Housing Needs Plan (RHNP) every eight years (Government Code, Section 65580 et seq.). This document has a central role of distributing the allocation of housing for every county and city in the SACOG region. Housing needs are assessed for very low income, low income, moderate income, and above moderate households.

As described above, SACOG is the association of local governments that includes Yuba City, along with other jurisdictions comprising the six counties in the greater Sacramento region. In addition to preparing the Metropolitan Transportation Plan and Sustainable Communities Strategy for the region, SACOG approves the distribution of affordable housing in the region through its RHNP. SACOG also assists in planning for transit, bicycle networks, clean air and serves as the Airport Land Use Commission for the region.

3.14.5 Impact Assessment/Environmental Consequences:

a) 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)?

The proposed Project does not propose any residential development. This is a commercial infill proposal as this 5.82 acres is within a community commercial area, well within the urban boundaries. Further, the area has been planned for this growth for many years. This commercial area would primarily serve the surrounding residences. There is not a potential for this Project to attract unplanned growth to the area.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

There will be no residences removed as a result of this Project.

3.15. Public Services

Table 3.15: Public Services				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government 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 public services:				
i) Fire protection?			X	
ii) Police protection?			X	
iii) Schools?			X	
iv) Parks?			X	
v) Other public facilities?			X	

3.15.1 Environmental Setting/Affected Environment

Law enforcement is provided by the Yuba City Police Department. Fire protection is provided by the Yuba City Fire Department. Nearby parks and other urban services including streets, water, sewer, and stormwater drainage will also be provided by Yuba City.

3.15.2 Federal Regulatory Setting

National Fire Protection Association: The National Fire Protection Association (NFPA) is an international nonprofit organization that provides consensus codes and standards, research, training, and education on fire prevention and public safety. The NFPA develops, publishes, and disseminates more than 300 such codes and standards intended to minimize the possibility and effects of fire and other risks. The NFPA publishes the NFPA 1, Uniform Fire Code, which provides requirements to establish a reasonable level of fire safety and property protection in new and existing buildings.

3.15.3 State Regulatory Setting

California Fire Code and Building Code: The 2013 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to fire fighters and emergency responders during emergency operations. The provision of the Fire Code includes regulations regarding fire-resistance rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, fire safety during construction and demolition, and wildland urban interface areas.

California Health and Safety Code (HSC): State fire regulations are set forth in Sections 13000 et seq. of the California HSC, which includes regulations for building standards (as set forth in the CBC), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, childcare facility standards, and fire suppression training.

California Master Mutual Aid Agreement: The California Master Mutual Aid Agreement is a framework agreement between the State of California and local governments for aid and assistance by the interchange of services, facilities, and equipment, including but not limited to fire, police, medical and health, communication, and transportation services and facilities to cope with the problems of emergency rescue, relief, evacuation, rehabilitation, and reconstruction.

3.15.4 Impact Assessment/Environmental Consequences:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government 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 public services:

i) Fire Protection: The Fire Department reviewed the proposal and did not express concerns. Since all new development pays development impact fees intended to offset the cost of additional fire facilities and equipment costs resulting from this growth, the impacts on fire services are considered to be less than significant.

ii) Police Protection: The Police Department reviewed the proposal and did not express concerns. Since new development will pay development impact fees intended to offset the cost of additional police facilities and equipment resulting from this growth the impacts on police services are considered to be less than significant.

iii) Schools: Expanding existing businesses or adding new businesses can create a demand for housing via its employees. However new residences that may result from new employment opportunities must pay the Yuba City Unified School District adopted school impact fees that are intended to provide their fair share for expanded or new educational facilities needed to accommodate this new growth. Therefore, the impact on schools is considered to be less than significant.

iv) Parks: Commercial development typically does not generate significant demand for parks. Therefore, the impact on parks from this Project is considered to be less than significant.

v) Other Public Facilities: The Project will be connected to City water and wastewater systems. Each new connection to those systems must pay connection fees that are utilized for expansion of the respective treatment plants. The City also collects development impact fees for County services that are provided to the new development, such as the library system and justice system.

Accordingly, the Project will have a less than significant impact with regard to the provision of public services.

3.16. Recreation

Table 3-16: Recreation				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

3.16.1 Environmental Setting/Affected Environment

Yuba City has 23 City-owned parks and recreational areas, managed by the City's Parks and Recreation Department. This consists of five community parks, 15 neighborhood parks, and three passive or mini parks.

3.16.2 Federal Regulatory Setting

There are no federal regulations regarding parks and open space that are applicable to the proposed Project.

3.16.3 State Regulatory Setting

State Public Park Preservation Act: The primary instrument for protecting and preserving parkland is the Public Park Preservation Act of 1971. Under the PRC section 5400-5409, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

Quimby Act: California Government Code Section 66477, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density and housing type, land cost, and other factors. Land dedicated and fees collected pursuant to the Quimby Act may be used for developing new or rehabilitating existing park or recreational facilities.

3.16.4 Local Regulatory Setting

The Yuba City General Plan and the City's Parks Master Plan provide a goal of providing 5 acres of public parkland per 1,000 residents, while it also requires 1 acre of Neighborhood Park for every 1,000

residents. The City's development impact fee program collects fees for new development which is allocated for the acquisition and development of open space in the City.

3.16.5 Impact Assessment/Environmental Consequences:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Since there is no residential development associated with the Project, it will not materially increase the use of the City's park system. Therefore, the impact on the City park system from this Project is considered to be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

There is no proposal to provide any on-site recreational facilities, nor does commercial development materially increase demand for park usage. Therefore, the impact on parks from this Project is considered to be less than significant.

3.17. Transportation/Traffic

Table 4-17: Transportation Recreation				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

3.17.1 Federal Regulatory Setting

Federal Highway Administration: FHWA is the agency of the U.S. Department of Transportation (DOT) responsible for the Federally funded roadway system, including the interstate highway network and portions of the primary State highway network. FHWA funding is provided through the Safe, Accountable, Flexible, Efficiency Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA- LU can be used to fund local transportation improvement projects, such as projects to

improve the efficiency of existing roadways, traffic signal coordination, bikeways, and transit system upgrades.

Several federal regulations govern transportation issues. They include:

- Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.

3.17.2. State Regulatory Setting

The measurement of the impacts of a project's traffic is set by the CEQA Guidelines. Section 15064.3 of the Guidelines states that vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. VMT is a metric which refers to the amount of distance of automobile traffic that is generated by a project. Per the Guidelines "Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact." "Projects that decrease vehicle miles traveled compared to existing conditions should be presumed to have a less than significant environmental impact."

The CEQA Guidelines also states that the lead agency (Yuba City) may "choose the most appropriate methodology to evaluate a project's vehicle miles traveled …". As this is a new form of calculating significant traffic events, the City has not yet determined its own methodology to calculate levels of significance for VMT. Until that methodology is determined, for purposes of this initial study the information provided by the Sacramento Council of Governments (SACOG) and the CA Office of Planning and Research is utilized. A review of these studies indicates several factors that may be utilized for determining levels of significance. One is that if the project will generate less than 110 vehicle trips per day, it is assumed that with the small size of the project, the impact is less than significant. A second criteria is that for a project, on a per capita or per employee basis, the VMT will be at least 15 percent below that of existing development is a reasonable threshold for determining significance.

As this is a new methodology, future projects may utilize different criterion as they become available.

3.17.3. Impact Assessment/Environmental Consequences:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

A traffic study was prepared for this TPM/UP (Wood Rodgers, April 16, 2024, Franklin Road Commercial Transportation Impact Analysis) (Traffic Study). The primary intersection impacted by the Project is at Franklin Road/Walton Avenue. The Traffic Study determined that this intersection and the Project's nearby driveways, under existing traffic conditions plus the Project, the Level of Service (LOS) would remain at acceptable levels, which per General Plan policy is LOS D or better. However, under cumulative conditions (2035) plus the Project the LOS would in some cases fall below an acceptable level to an LOS E or F if there are no intersection improvements. This would be considered a significant impact.

Per the Traffic Study, to lower the cumulative plus Project impact to acceptable levels would primarily entail creating two eastbound left turn lanes. The Project is offering for dedication the needed right-of-way, and, according to staff, the intersection improvements are part of the City's Development Impact Fee Program to which the Project will be paying its fair-share. As such all City transportation ordinances and policies will be met, making the potential impacts less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

The Traffic Study concluded that, based on OPR guidance, local-serving retail uses under 50,000 square feet may be considered to have a less-than-significant VMT impact. In general, gas stations/convenience stores, car washes, and fast-food restaurants may be considered local serving. As the total Project square footage is under 50,000 square feet, the Project can be considered to have a less-than-significant VMT impact.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Traffic Study prepared for this TPM/UP did not identify any hazards due to design features or incompatible uses. As such the impacts from hazards due to improper design features or nearby incompatible uses are less than significant.

d) Result in inadequate emergency access?

The Fire and Police Departments have reviewed the Project plans and did not express concerns about emergency access to the property nor did the Traffic Study find any emergency access issues. As such the impacts from this Project on emergency access to this area will be less than significant.

3.18. Tribal Cultural Resources

Table 3-18: Tribal Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause of 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:				
a) 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), or			X	
b) 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

3.18.1 Environmental Setting/Affected Environment

This section describes the affected environment and regulatory setting for Tribal Cultural Resources (TCRs). The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- Environmental Impact Report for the City of Yuba City General Plan (2004).
- Consultation record with California Native American tribes under Assembly Bill 52 and Senate Bill 18.

3.18.2 State Regulatory Setting

Assembly Bill 52: Effective July 1, 2015, Assembly Bill 52 (AB 52) amended CEQA to require that: 1) a lead agency provide notice to any California Native American tribes that have requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the Public Resources Code defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-

federally recognized tribes.

Section 21074(a) of the Public Resource Code defines TCRs for the purpose of CEQA as:

1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or

   b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

   c. 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as a Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their TCRs and heritage, AB 52 requires that CEQA lead agencies initiate consultation with tribes at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures.

3.18.3 Cultural Setting

The Nisenan (also referred to as Southern Maidu) inhabited the General Plan area prior to large-scale European and Euroamerican settlement of the surrounding area. Nisenan territory comprised the drainages of the Yuba, Bear, and American Rivers, and the lower drainages of the Feather River. The Nisenan, together with the Maidu and Konkow, their northern neighbors, form the Maiduan language family of the Penutian linguistic stock (Shipley 1978:89). Kroeber (1976:392) noted three dialects: Northern Hill Nisenan, Southern Hill Nisenan, and Valley Nisenan. Although cultural descriptions of this group in the English language are known from as early as 1849, most of our current cultural knowledge comes from various anthropologists in the early part of the 20th century (Levy 1978:413; Wilson and Towne 1978:397).

The basic subsistence strategy of the Nisenan was seasonally mobile hunting and gathering. Acorns, the primary staple of the Nisenan diet, were gathered in the valley along with seeds, buckeye, salmon, insects, and a wide variety of other plants and animals. During the warmer months, people moved to mountainous areas to hunt and collect food resources, such as pine nuts. Bedrock and portable mortars and pestles were used to process acorns. Nisenan settlement patterns were oriented to major river drainages and tributaries. In the foothills and lower Sierra Nevada, Nisenan located their villages in large flats or ridges near major streams. These villages tended to be smaller than the villages in the valley. (Wilson and Towne 1978:389–390.)

Trade provided other valuable resources that were not normally available in the Nisenan environment. The Valley Nisenan received black acorns, pine nuts, manzanita berries, skins, bows,

and bow wood from the Hill Nisenan to their east, in exchange for fish, roots, grasses, shells, beads, salt, and feathers (Wilson and Towne 1978). To obtain, process, and utilize these material resources, the Nisenan had an array of tools to assist them. Wooden digging sticks, poles for shaking acorns loose, and baskets of primarily willow and redbud were used to gather vegetal resources. Stone mortars and pestles were used to process many of the vegetal foods; baskets, heated stones, and wooden stirring sticks were used for cooking. Basalt and obsidian were primary stone materials used for making knives, arrow and spear points, clubs, arrow straighteners, and scrapers. (Wilson and Towne 1978.)

Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages were usually located on low rises along major watercourses. Village size ranged from three houses to 40 or 50 houses. Larger villages often had semi-subterranean dance houses that were covered in earth and tule or brush and had a central smoke hole at the top and an entrance that faced east (Wilson and Towne 1978:388). Early Nisenan contact with Europeans appears to have been limited to the southern reaches of their territory. Spanish expeditions intruded into Nisenan territory in the early 1800s. In the two or three years following the gold discovery, Nisenan territory was overrun by immigrants from all over the world. Gold seekers and the settlements that sprang up to support them were nearly fatal to the native inhabitants. Survivors worked as wage laborers and domestic help and lived on the edges of foothill towns. Despite severe depredations, descendants of the Nisenan still live in their original land area and maintain and pass on their cultural identity.

3.18.4 Summary of Native American Consultation

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the PRC regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze project impacts on "tribal cultural resources" separately from archaeological resources (PRC § 21074; 21083.09). AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC § 21080.3.1, 21080.3.2, 21082.3).

In response to AB 52, the City supplied the following Native American tribes with a Project description and map of the proposed Project area and a request for comments:

- United Auburn Indian Community of the Auburn Rancheria
- Ione Band of Miwok Indians

3.18.6 Thresholds of Significance

AB 52 established that a substantial adverse change to a TCR has a significant effect on the environment. The thresholds of significance for impacts to TCRs are as follows:

Would the Project cause a substantial adverse change to a TCR, defined in Section 21074 as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a Native

American tribe that are:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources;
- Included in a local register of historical resources as defined in subdivision k of Section 5010.1; and/or
- Determined by the City to be significant, as supported by substantial evidence, including:
    - A cultural landscape with a geographically defined boundary;
    - A historical resource as described in Section 21084.1 (either eligible for or listed on the California Register of Historical Resources or listed on a local registry);
    - A unique archaeological resource as defined in Section 21083.2; and/or
    - A non-unique archaeological resource as defined in Section 21083.2.

In assessing substantial adverse change, the City must determine whether or not the Project will adversely affect the qualities of the resource that convey its significance. The qualities are expressed through integrity. Integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)]. Accordingly, impacts to a TCR would likely be significant if the Project negatively affects the qualities of integrity that made it significant in the first place. In making this determination, the City need only address the aspects of integrity that are important to the TCR's significance.

3.18.7 Impact Assessment/Environmental Consequences:

a) 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).

There are no buildings on the property. Further, the site was previously tilled on an annual basis for vegetation control and likely farmed before that. Therefore, the impacts on any historical resources, directly or indirectly, will be less than significant.

b) 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The City solicited consultation with culturally affiliated California Native American tribes (regarding the proposed project in accordance with AB 52) to which no tribes responded. No known TCRs have been identified (as defined in Section 21074) within the proposed Project area. Given the level of previous disturbance within the Project area, it is not expected that any TCRs would remain. However, during grading and excavation activities, there is a potential to encounter native soils, which may contain undiscovered TCRs. In the unlikely event resources are discovered during ground disturbing activities that are associated with Native American culture, compliance with the TCR Mitigation Measure provided below would reduce the potential impacts to a less than significant level.

3.18.8 Tribal Cultural Resources Mitigation Measure

Tribal Cultural Resources Mitigation Measure 1: Unanticipated Discoveries: If any suspected TCRs are discovered during ground disturbing construction activities, all work shall cease within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find. A Tribal Representative from a California Native American Tribe that is traditionally and culturally affiliated with a geographic area shall be immediately notified and shall determine if the find is a TCR (PRC 21074). The Tribal Representative will make recommendations for further evaluation and treatment as necessary.

Preservation in place is the preferred alternative under CEQA and UAIC protocols, and every effort must be made to preserve the resources in place, including through project redesign. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, returning objects to a location within the project area where they will not be subject to future impacts. The Tribe does not consider curation of TCR's to be appropriate or respectful and request that materials not be permanently curated, unless approved by the Tribe.

The contractor shall implement any measures deemed by the CEQA lead agency to be necessary and feasible to preserve in place, avoid, or minimize impacts to the resource, including but limited to, facilitating the appropriate tribal treatment of the find, as necessary. Treatment that preserves or restores the cultural character and integrity of a Tribal Cultural Resource may include Tribal monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.

Work at the discovery location cannot resume until all necessary investigation and evaluation of the discovery under the requirements of CEQA, including AB 523 has been satisfied.

3.19. Utilities and Service Systems

Table 3-19: Utilities and Service Systems				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the projected demand in addition to the existing commitments?			X	
d) 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?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

3.19.1 Environmental Setting/Affected Environment

Wastewater:

Yuba City owns, operates, and maintains the wastewater collection, treatment, and disposal system that provides sewer service to approximately 70,000 residents and numerous businesses. The remainder of the residents and businesses in the Yuba City Sphere of Influence (SOI) are currently serviced by private septic systems. In the early 1970s, the City's original sewage treatment plant was abandoned, and the current Wastewater Treatment Facility (WWTF) was constructed.

Water:

The water supply source for the City is surface water from the Feather River with use of a backup groundwater well. The City of Yuba City is a public water agency with over 18,000 connections. City policy only allows areas within the City limits to be served by the surface water system.

Reuse and Recycling:

Solid waste generated in Yuba City is collected by Recology Yuba-Sutter. Recology offers residential, commercial, industrial, electronic, and hazardous waste collection, processing, recycling, and disposal, as well as construction and demolition waste processing, diversion, and transfer to a disposal facility.

The City's municipal solid waste is delivered to the Ostrom Road Landfill; a State-permitted solid waste facility that provides a full range of transfer and diversion services. As of June 2021, the Recology Ostrom Road Landfill Remaining Site Net Airspace is 33,764,000 cy; and has a remaining capacity of 21,297,000 tons; and remaining landfill service life is 53 years.

3.19.2 Federal Regulatory Setting

National Pollutant Discharge Elimination System: Discharge of treated wastewater to surface water(s) of the U.S., including wetlands, requires an NPDES permit. In California, the RWQCB administers the issuance of these federal permits. Obtaining a NPDES permit requires preparation of detailed information, including characterization of wastewater sources, treatment processes, and effluent quality. Any future development that exceeds one acre in size would be required to comply with NPDES criteria, including preparation of a Stormwater Pollution Prevention Plan (SWPPP) and the inclusion of BMPs to control erosion and offsite transport of soils.

3.19.3 State Regulatory Setting

State Water Resources Control Board (SWRCB): Waste Discharge Requirements Program. State regulations pertaining to the treatment, storage, processing, or disposal of solid waste are found in Title 27, CCR, Section 20005 et seq. (hereafter Title 27). In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non-Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to Section 20230 of Title 27. Several programs are administered under the WDR Program, including the Sanitary Sewer Order and recycled water programs.

Department of Resources Recycling and Recovery (CalRecycle): The Department of Resources Recycling and Recovery (CalRecycle) is the State agency designated to oversee, manage, and track the 76 million tons of waste generated each year in California. CalRecycle develops laws and regulations to control and manage waste, for which enforcement authority is typically delegated to the local government. The board works jointly with local government to implement regulations and fund programs.

The Integrated Waste Management Act of 1989 (PRC 40050 et seq. or Assembly Bill (AB 939, codified in PRC 40000), administered by CalRecycle, requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. To assist local jurisdictions in achieving these targets, the California Solid Waste Reuse and Recycling Access Act of 1991 requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

Regional Water Quality Control Boards: The primary responsibility for the protection of water quality in California rests with the State Water Resources Control Board (State Board) and nine Regional Water Quality Control Boards. The State Board sets statewide policy for the implementation of state and federal laws and regulations. The Regional Boards adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities.

National Pollutant Discharge Elimination System (NPDES) Permit: As authorized by the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into water of the United States. In California, it is the responsibility of Regional Water Quality Control Boards (RWQCB) to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements (WDRs). WDRs for discharges to surface waters also serve as NPDES permits.

California Department of Water Resources: The California Department of Water Resources (DWR) is a department within the California Resources Agency. The DWR is responsible for the State of California's management and regulation of water usage.

3.19.4 Impact Assessment/Environmental Consequences:

a) Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The Project will connect to both the City's water and wastewater treatment systems. The Yuba City Wastewater Treatment Facility (WWTF) has available capacity to accommodate new growth. The WWTF current permitted capacity is 10.5 mgd (annual average dry weather flow). The existing average influent flow to the WWTF is approximately 6 mgd. The remaining treatment capacity at the WWTF can be used to accommodate additional flow from the future developments.

The City's Water Treatment plant (WTP), for which its primary source of water is from the Feather River, also has adequate capacity to accommodate this project. The WTP uses two types of treatment systems, conventional and membrane treatment. The permitted capacity of the conventional WTP is 24 million gallons per day (mgd). The membrane treatment system has a permitted capacity of 12 mgd. Water produced from the conventional and the membrane treatment plants are blended for chlorine disinfection. Operating the conventional and membrane treatment facilities provides a total WTP capacity of 36 mgd. The City is permitted to draw 30 mgd from the Feather River. The current maximum day use is 26 mgd. The City also has an on-site water well at the water plant that supplements the surface water when needed.

For both public facilities there are City adopted master plans to expand those plants to the extent that they will accommodate the overall growth of the City.

The ongoing expansions of those plants to accommodate growth beyond this project are funded by the connection fees paid by each new connection. Therefore, the impact on the water and wastewater treatment facilities will be less than significant.

Stormwater drainage in this area is provided by the Gilsizer County Drainage District. As the Sutter County Water Agency (manages the district) did not comment on the Project, the impacts on the stormwater drainage system will be less than significant.

The extension of electric power facilities, natural gas facilities and telecommunication facilities are provided by private companies, none of which have voiced concerns over the extensions of their

services to this Project site. With these considerations the impact on these types of facilities are expected to be less than significant.

c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the projected demand in addition to the existing commitments?

See Parts a) and b), above.

d). 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.

e) Comply with federal, state, and local statutes and regulations related to solid waste?

Recology Yuba-Sutter provides solid waste disposal for the area as well as for all of Sutter and Yuba Counties. There is adequate collection and landfill capacity to accommodate the proposed development.

3.20. Wildfire

Table 3-20: Wildfire				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) 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?			X	
c) 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?			X	
d) 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?			X	

3.20.1 Environmental Setting/Affected Environment

Wildland fires are an annual hazard in Sutter County, particularly in the vicinity of the Sutter Buttes, and, to a lesser degree due to urbanized development, Yuba City. Wildland fires burn natural vegetation on undeveloped lands and include rangeland, brush, and grass fires. Long, hot, and dry summers with temperatures often exceeding 100°F add to the County's fire hazard. Human activities are the major causes of wildland fires, while lightning causes the remaining wildland fires. Irrigated agricultural areas, which tend to surround Yuba City, are considered a low hazard for wildland fires.

The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program identifies fire threat based on a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined in determining the following Fire Hazard Severity Zones: Moderate, High, Very High, Extreme. These zones apply to areas designated as State Responsibility Areas – areas in which the State has primary firefighting responsibility. The project site is not within a State Responsibility Area and therefore has not been placed in a Fire Hazard Severity Zone.

3.20.2 Impact Assessment/ Environmental Consequences

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

As discussed in Section 3.17 of this Initial Study, this Project is not expected to substantially obstruct emergency vehicles or any evacuations that may occur in the area. Therefore, the impacts of the Project related to emergency response or evacuations would be less than significant.

b) 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?

The Project site is in a level urban area with little to no native vegetation remaining, and the urban area is surrounded by irrigated farmland. This type of environment is generally not subject to wildfires. In light of this, the exposure of the Project to wildfire is considered a less than significant impact.

c) 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?

As discussed above, the site is not near any wildland areas and the Project itself will not create any improvements that potentially could generate wildfire conditions. As such the Project will not be constructing or maintaining wildfire related infrastructure such as fire breaks, emergency water sources, etc. Thus, the Project will not create any potential significant impacts that could result from these types of improvements.

d) 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?.

The Project site is in a topographically flat area. There are no streams or other channels that cross the site. As such, it is not expected that people or structures would be exposed to significant risks from changes resulting from fires in steeper areas, including downslope or downstream flooding or landslides. Impacts of the Project related to these issues would be less than significant.

3.21. Mandatory Findings of Significance

Table 3.21: Mandatory Findings of Significance				
Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, 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 a rare or endangered plant or animal or eliminate important example of the major periods of California history or prehistory?			X	
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)			X	
c) Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

3.21.1 Impact Assessment/Environmental Consequences:

a) Does the project have the potential to degrade the quality of the environment, 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 a rare or endangered plant or animal or eliminate important example of the major periods of California history or prehistory?

The land was stripped many years ago of native vegetation, likely for farming purposes and is located well within the urban area; nor are there any nearby water courses or wetland areas. Any development that occurs will not significantly degrade the quality of the natural environment, 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, reduce the number

or restrict the range of a rare or endangered plant or animal or eliminate an important example of the major periods of California history or prehistory.

The analysis conducted in this Initial Study/Mitigated Negative Declaration resulted in a determination that the proposed Project, with the proposed mitigation measures, will have a less than significant effect on the local environment.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)

CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects.

The traffic study for the Project found that the impacts from traffic generated by the proposed market, fueling station, and car wash would be less than significant due to the Project's right-of-way dedication and payment of transportation related development impact fees. The City has adequate water and wastewater capacity, and the Project will be extending those services onto the site. Stormwater drainage will also meet all City standards. The loss of agricultural land is cumulative but based on City and County agricultural protection program, the loss is within the urban area, which is a minor portion of the entire County. The FRAQMD also did not comment that the Project would create any significant cumulative impacts on air quality. Therefore, there are no impacts that will be individually limited but that will create significant cumulative impacts.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality, noise, and hazardous materials exposure impacts would occur for a very short period and only be a minor impact during that time period. With the mitigation measures applied to the car wash, ongoing noise impacts will be reduced to a less than significant level. Therefore, the proposed Project would not have any direct or indirect significant adverse impacts on humans.

4. Section References and/or Incorporated by Reference

According to Section 15150 of the CEQA Guidelines, an ND may incorporate by reference all or portions of another document that is a matter of public record. The incorporated language will be considered to be set forth in full as part of the text of the ND. All documents incorporated by reference are available for review at, or can be obtained through, the City of Yuba City Development Services Department located at the address provided above. The following documents are incorporated by reference:

Acoustics Group, Inc. , March 12, 2024, "Franklin Petroleum Gas Station and Car Wash Noise Study."

Wood Rodgers, April 16, 2024, Memo to City of Yuba City titled "Franklin Road Commercial Traffic Analysis."

Fehr & Peers, Inc. September 2020. SB 743 Implementation Guidelines for City of Yuba City.

Governor's Office of Planning and Research, November 2017. Technical Advisory on Evaluating Transportation Impacts in CEQA.

Sacramento Area Council of Governments. Hex Maps. Work VMT-2020 MTP/SCS (Adopted).

California Department of Conservation, Division of Land Resource Protection (CDC DLRP). 2014. Farmland Mapping and Monitoring Program – Sutter County Important Farmland 2012. August 2014.

California Department of Conservation, Division of Land Resource Protection (CDC DLRP). 2013. Sutter County Williamson Act FY 2013/2014.

Carollo. 2011. City of Yuba City 2010 Urban Water Management Plan. June 2011.

Yuba City, City of. 2016. City of Yuba City Municipal Code.
https://www.municode.com/library/ca/yuba_city/codes/code_of_ordinances

Dyett & Bhatia. 2004. City of Yuba City General Plan. Adopted April 8, 2004.

Yuba City General Plan, 2004 Environmental Impact Report. (SCH #2001072105).

Fehr & Peers Associates, Inc. 1995. Yuba-Sutter Bikeway Master Plan. December 1995.

"Determination of 1-in-200 Year Floodplain for Yuba City Urban Level of Flood Protection Determination," prepared for Yuba City by MBK Engineers, November 2015.

Sutter County General Plan.

Feather River Air Quality Management District (FRAQMD) CEQA Significance Thresholds.

Yuba Sutter Transit Route Map.

California Department of Conservation, California Geological Survey. "Fault Zone Activity Map." Alquist-Priolo Earthquake Fault Zones.

California Department of Toxic Substances Control (DTSC). 2016. EnviroStor. Available at http://www.envirostor.dtsc.ca.gov/public/
California Department of Conservation, Division of Land Resource Protection Farmland Mapping and Monitoring Program – Sutter County Important Farmland Map.

Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps.

Carollo. 2011. City of Yuba City 2010 Urban Water Management Plan. June 2011.

City of Yuba City Wastewater Master Plan.

Sutter County Airport Comprehensive Land Use Plan, April 1994.

Yuba County Airport Land Use Compatibility Plan, Sept. 2010.

California Department of Transportation (Caltrans). 2011. California Scenic Highway Mapping System website. Updated September 7, 2011. Available at http://dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm

Appendix A

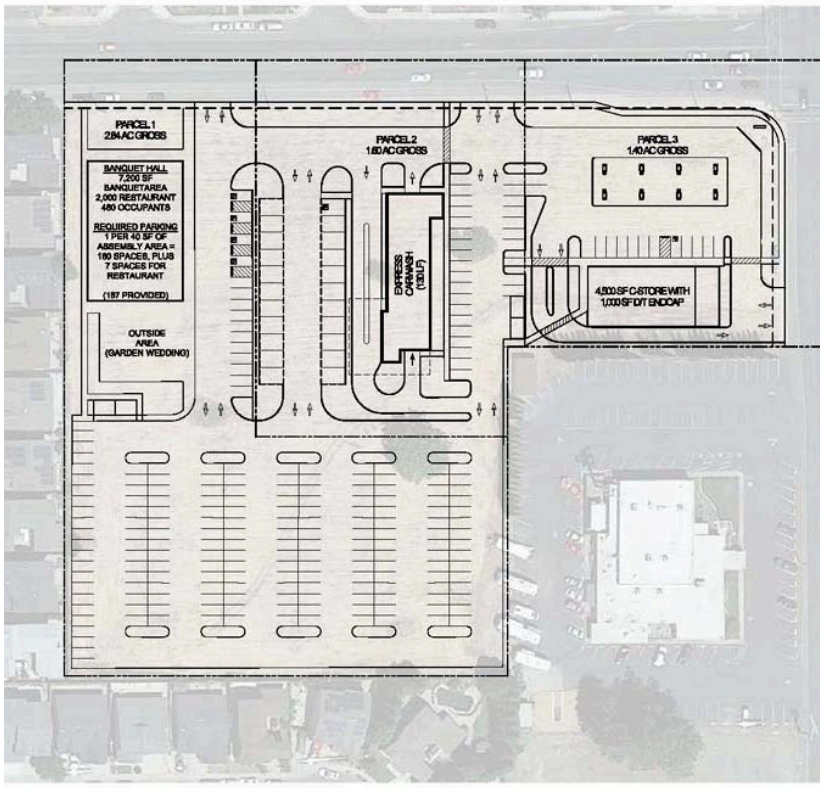
Franklin Petroleum Gas Station and Car Wash Noise Study.

Acoustics Group, Inc.

Appendix B

Memo to City of Yuba City titled Franklin Road Commercial Traffic Analysis.

Wood Rodgers



FRANKLIN PETROLEUM

GAS STATION, CAR WASH AND BANQUET HALL

NOISE STUDY – YUBA CITY, CA

DECEMBER 5, 2023

PREPARED FOR:
FRANKLIN PETROLEUM, INC

PREPARED BY:
ACOUSTICS GROUP, INC.
CONSULTANTS IN ACOUSTICS, NOISE & VIBRATION

Franklin Petroleum
Gas Station, Car Wash and Banquet Hall
Noise Study – Yuba City, CA

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Figures

Tables

1. EXECUTIVE SUMMARY

Acoustics Group, Inc., (AGI) was retained to conduct a noise study of the proposed Gas Station, Car Wash, and Banquet Hall at the southwest corner of Franklin and Walton in Yuba City, CA. AGI has reviewed the Yuba City Noise Standards, conducted noise measurements, analyzed the noise levels from future operations at the site, assessed the impact of the future noise to determine compliance with the Noise Standards, and recommended noise control measures. Based on the operations information provided by Franklin Petroleum, the following scenarios were evaluated:

- Gas Station and Car Wash operations 7AM to 7PM

The hourly Leq from future gas station and car wash operations is estimated to be as high as 71.5, 58.4, 67.7, and 71.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels and would not comply with County noise standards at the nearest receptors to the East, South and West. At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards. Noise control is necessary to comply with the County's standards.

- Gas Station operations from 7PM to 7AM

The hourly Leq from gas station operations is estimated to be as high as 42.0, 41.4, 38.7, and 33.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would be below the existing ambient noise levels and would comply with County's noise standards.

- Banquet Hall Indoor and Outdoor operations from 11AM to 10PM

The hourly Leq from future indoor and outdoor banquet hall operations is estimated to be as high as 40.3, 37.6, 46.5, and 64.8 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels at the nearest residential receptors to the west and would not comply with County's noise standards.

- Banquet Hall Indoor operations on Monday through Thursday from 11AM to 12PM Midnight and on Friday to Sunday from 11AM to 2AM the Next Day

The hourly Leq from indoor banquet hall operations is estimated to be as high as 31.2, 15.1, 24.7, and 43.7 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would be below the existing ambient noise levels and would comply with County's noise standards.

- Gas Station, Car Wash, and Banquet operations from 11AM to 7PM

This scenario represents the worst-case condition with gas station, car wash and banquet hall operations all occurring simultaneously. The hourly Leq from gas station, car wash and banquet hall operations is estimated to be as high as 71.5, 58.4, 67.7, and 72.3 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels and would not comply with County noise standards at the nearest receptors to the East, South and West. At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards.

Noise control has been recommended to reduce operations' noise levels for compliance with the County's Standards.

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2. INTRODUCTION

Franklin Petroleum proposes a new gas station with a drive-through C-store, car wash and banquet hall at the project site located at the southwest corner of Franklin and Walton in Yuba City, CA. Refer to Figure 1 for the general location of the Site and a Vicinity Map. Land uses immediately surrounding the site are commercial and residential. The main noise concern is the gas station, car wash and banquet hall operations affecting the residential properties that directly border the proposed facility. Refer to Figure 2 for the Project Site Plan.

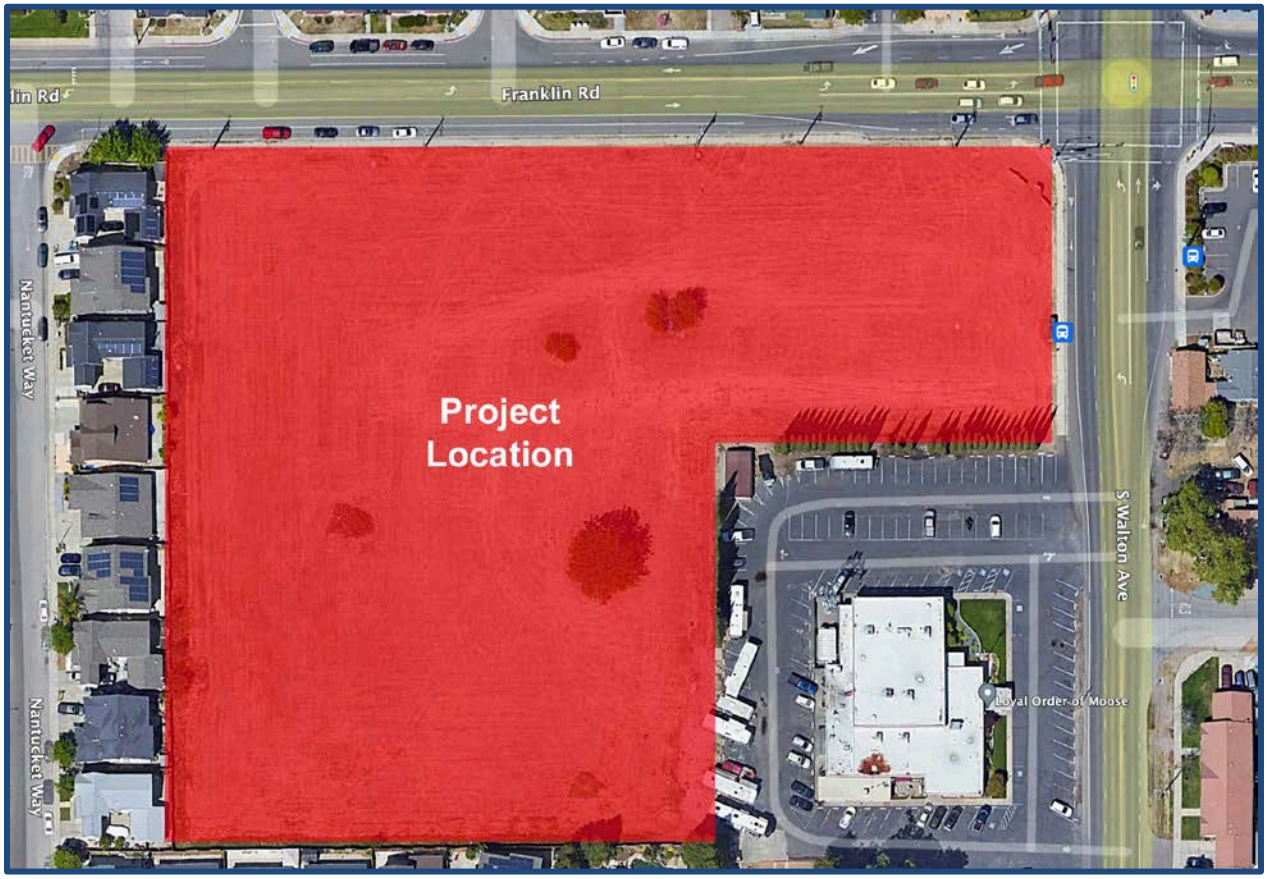


Figure 1. Project Location

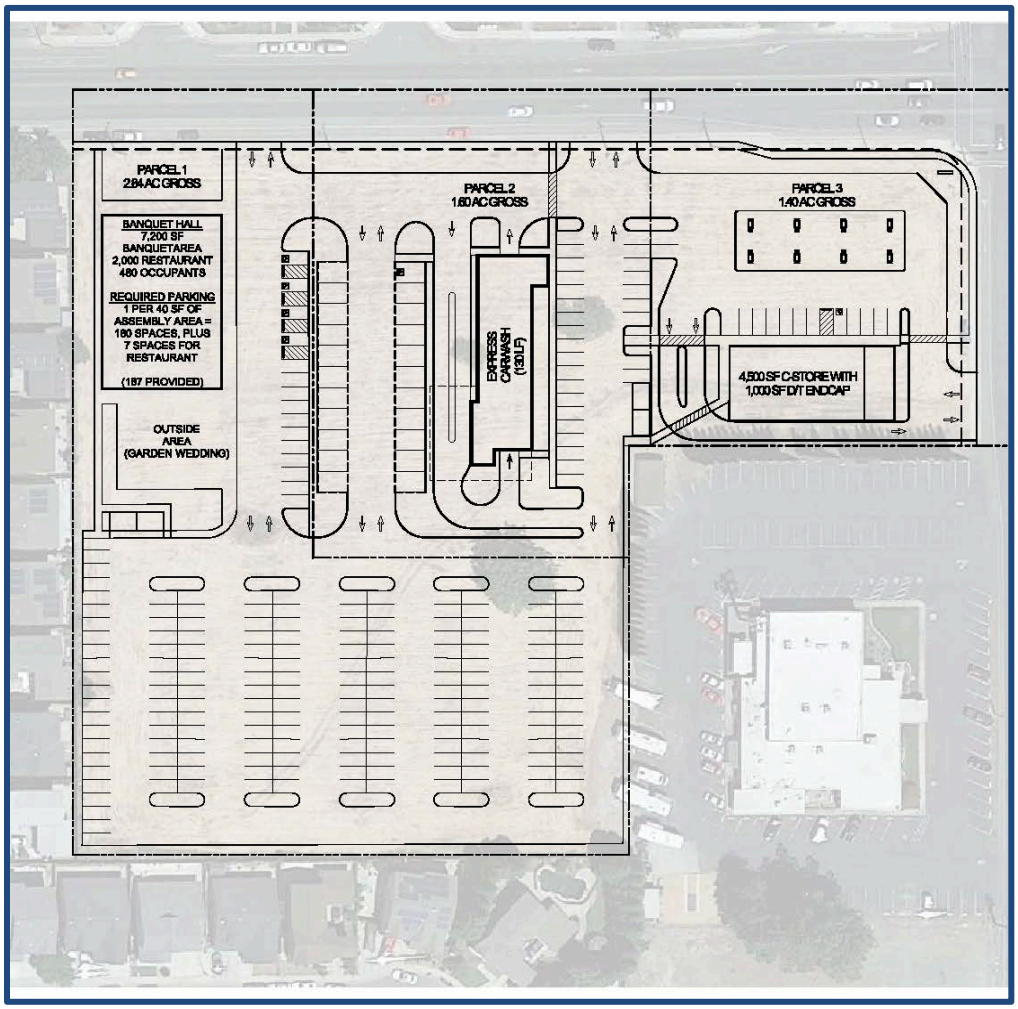
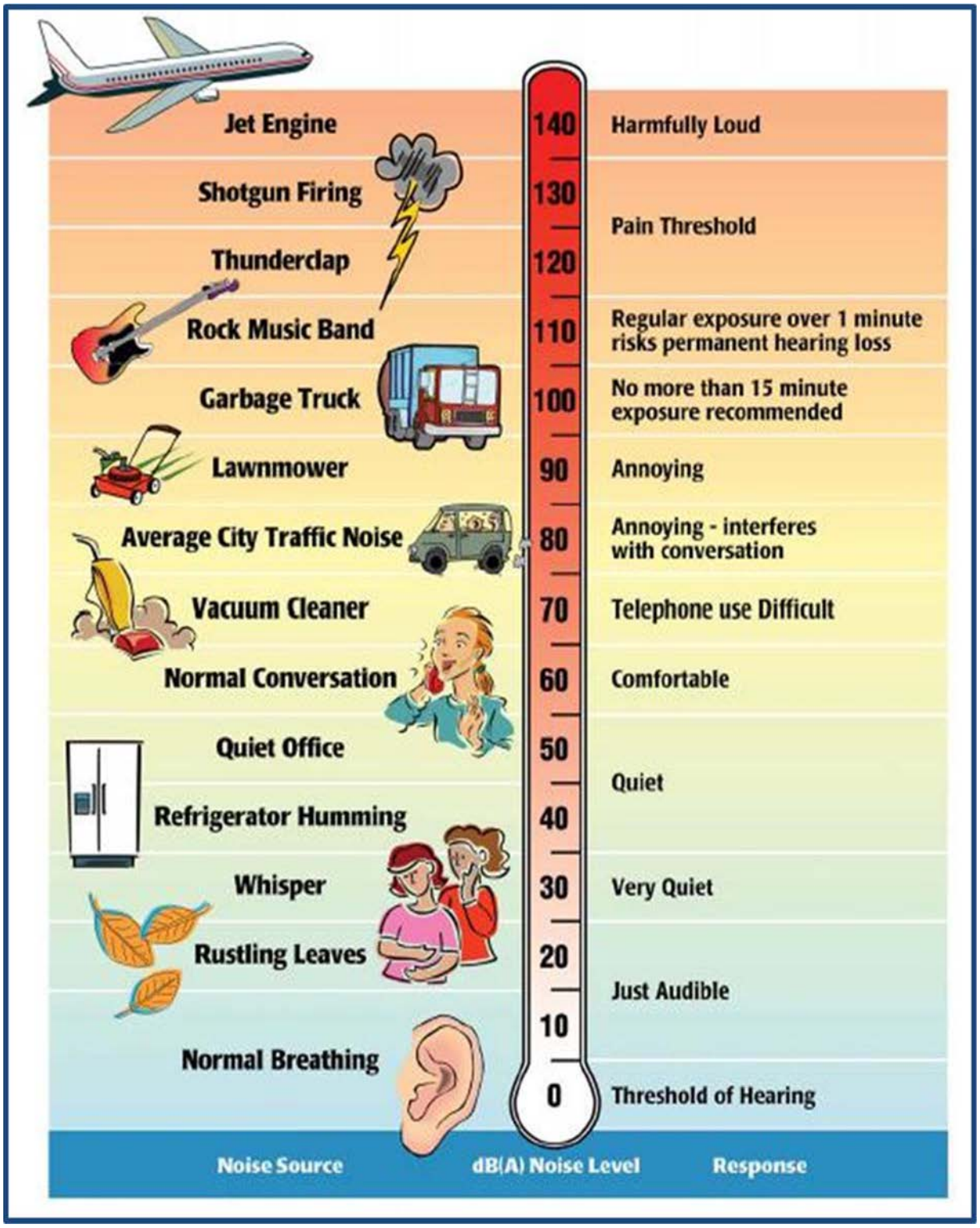


Figure 2. Site Plan

3. NOISE

The magnitude by which noise affects its surrounding environment is measured on a logarithmic scale in decibels (dB). Because the human ear is limited to hearing a specific range of frequencies, the A-weighted filter system is used to form relevant results. A-weighted sound levels are represented as dBA. Figure 3 shows typical A-weighted exterior and interior noise levels that occur in human environments.

Several noise metrics have been developed to evaluate noise. L_{eq} is the energy average noise level and corresponds to a steady-state sound level that has the same acoustical energy as the sum of all the time varying noise events. L_{max} is the maximum noise level measured during a sampling period, and L_{xx} are the statistical noise levels that are exceeded xx-% of the time of the measurement. L_{50} is the average noise level that is exceeded 50% of the time, 30 minutes in a 60-minute period.



Source: Melville Branch and R. Beland, 1970. EPA/ONAC 550/9-74-004, March 1974.

Figure 3. Typical A-weighted Noise Levels

4. NOISE STANDARDS

The Yuba City Municipal Code has adopted regulations for the purpose of protecting citizens from potential hearing damage and from various other adverse physiological, psychological, and social effects associated with noise (Chapter 17). The City's municipal code prohibits any "loud and raucous noise". However, the City does not have an established noise level limit.

The County of Sutter has also adopted noise standards to protect the health of County Residents. The County's Code limits noise levels affecting residential zoned property to 55 and 45 dBA during the daytime and nighttime, respectively. Additionally, the County's Code limits Lmax levels to 70 and 65 dBA during the daytime and nighttime, respectively. Audio Equipment on private property is prohibited if equipment is unreasonably audible beyond the property line. Refer to Table 1 for the County of Sutter Noise Standards.

Table 1. Sutter County Exterior Noise Standards

Noise Level Descriptor	Time Period	Noise Standard, Leq, dBA
Hourly Leq, dBA	Daytime (7AM – 10PM)	55
	Nighttime (10PM – 7AM)	45
Maximum Level, Lmax, dBA	Daytime (7AM – 10PM)	70
	Nighttime (10PM – 7AM)	65

Source: County of Sutter Municipal Code Section 1500.21.5-050

For the purposes of this study, the County Noise Standards and the ambient background noise will be used for assessing the impact of project operations noise at the nearby residential boundaries.

5. EXISTING NOISE LEVELS

AGI performed a site visit on October 2 to 3, 2023 to conduct two long-term ambient noise measurements and three short-term ambient noise measurements to document existing baseline hourly noise levels. Figure 4 shows the location of the noise measurements. At location NM1, the measured Leq ranged from 46.3 to 57.6 dBA, respectively. At location NM2, the measured Leq ranged from 43.3 to 57.2 dBA, respectively. At ST1, ST2, and ST3, the measured Leq was 56.1, 67.9, and 68.8 dBA, respectively. The noise sources contributing to the ambient measurement data were primarily from vehicular traffic. Table 2 summarizes the noise measurement data from the survey. Refer to the Appendix for the field measurement data sheets.

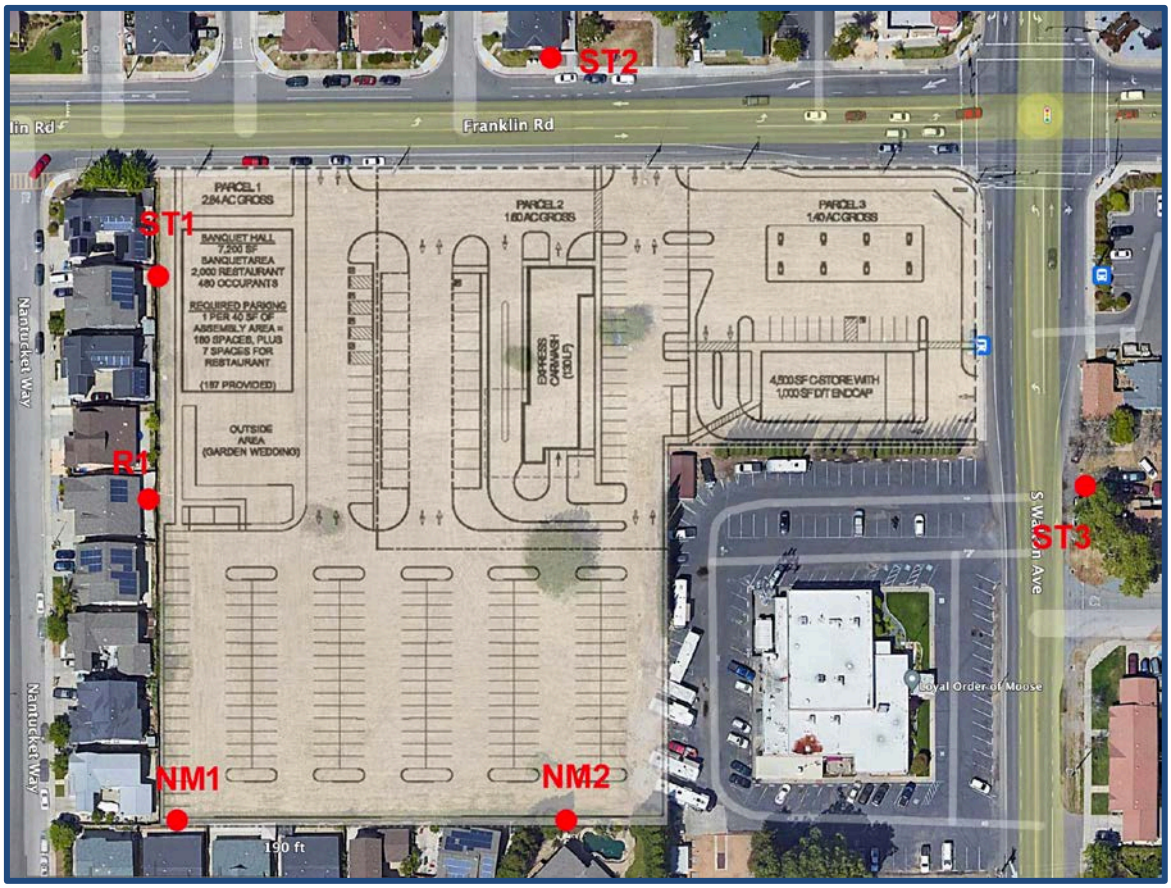


Figure 4. Noise Measurement Locations

Table 2. Summary of Ambient Noise Measurements

Receiver Location	Location	Time	Lmin, dBA	Lmax, dBA	Leq, dBA	Contributing Noise Sources
NM1	Southwest Property Line	10/2/2023 11:00 AM – 10/3/2023 11:00 AM	33.1	80.0	46.3 to 57.6	Vehicular Traffic
NM2	Southeast Property Line	10/2/2023 11:00 AM – 10/3/2023 11:00 AM	31.8	86.0	43.3 to 57.2	Vehicular Traffic
ST1	Northwest Property Line	10/2/2023 12:10 PM – 12:21 PM	43.8	66.5	56.1	Vehicular Traffic
ST2	Nearest Residence to the North (434 Hetherington Cir, Yuba City, CA)	10/2/2023 12:24 PM – 12:34 PM	46.7	86.0	67.9	Vehicular Traffic
ST3	Nearest Residence to the East (1593 Hayne Ave, Yuba City, CA)	10/2/2023 12:44 PM – 12:54 PM	51.3	78.9	68.8	Vehicular Traffic

6. NOISE ANALYSIS

The following section evaluates the noise impacts associated with the proposed project.

Methodology

The future noise generated from the gas station, car wash, and banquet hall operations has the potential to impact nearby properties. The methodology used to analyze and predict operations noise from the project involved the use of the CadnaA computer noise model. CadnaA can simulate the physical environment by factoring in x, y, and z geometrics of a particular site to simulate the buildings, obstacles, and typography. The model uses industry recognized algorithms (ISO 9613) to perform acoustical analyses. The noise generated by future operations was calculated by inputting acoustical sources at the project site.

Operations sound levels and assumptions were provided by Franklin Petroleum. The Gas Station and C-Store will operate 24 hours per day, 7 days per week. The car wash will operate between 7:00AM to 7:00PM with a peak of approximately 120 car wash cycles per peak hour. The Banquet Hall interior operations will occur from 11:00AM to 12:00AM Midnight with a max occupancy of 480 guests. The Banquet Hall outdoor operations will occur from 11:00AM to 10:00PM. Based on the operations information provided by Franklin Petroleum, the Leq noise level will be evaluated for the following scenarios:

- Gas Station and Car Wash operations 7AM to 7PM
- Gas Station operations from 7PM to 7AM
- Banquet Hall Indoor and Outdoor operations from 11AM to 10PM
- Banquet Hall Indoor operations on Monday through Thursday from 11AM to 12PM Midnight and on Friday to Sunday from 11AM to 2AM the Next Day
- Gas Station, Car Wash, and Banquet Hall operations from 11AM to 7PM

Refer to Table 3 for the noise sources used in the analysis.

Table 3. Operations Noise Sources

Noise Source	Distance, ft	Equipment Noise Level Leq, dBA
Car Wash Blower (Exit)	50	79
Car Wash Entrance	50	72
Vacuum 40HP without VFD	15	95
Vacuum 40HP with VFD (measured noise level) _	15	64
Restaurant/Retail Drive-Through PA System	3	75
Amplified Music	3	84

Source: AutoVac Industrial Vacuum & Air Systems Equipment Decibel Certification, Sonny's Enterprises Blower Assembly, AGI Industry Database

Gas Station and Car Wash Noise (7AM to 7PM)

Both the gas station and car wash will operate during the hours of 7:00AM to 7:00PM. The gas station/drive through c-store and car wash future operations were modeled for worst case conditions during a peak hour of activity. The hourly Leq from future gas station and car wash operations is estimated to be as high as 71.5, 58.4, 67.7, and 71.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. Refer to Figure 5 for a noise contour map of the Gas Station and Car Wash Proposed Operations without noise control. Table 4 summarizes the predicted gas station and car wash noise levels without noise control.

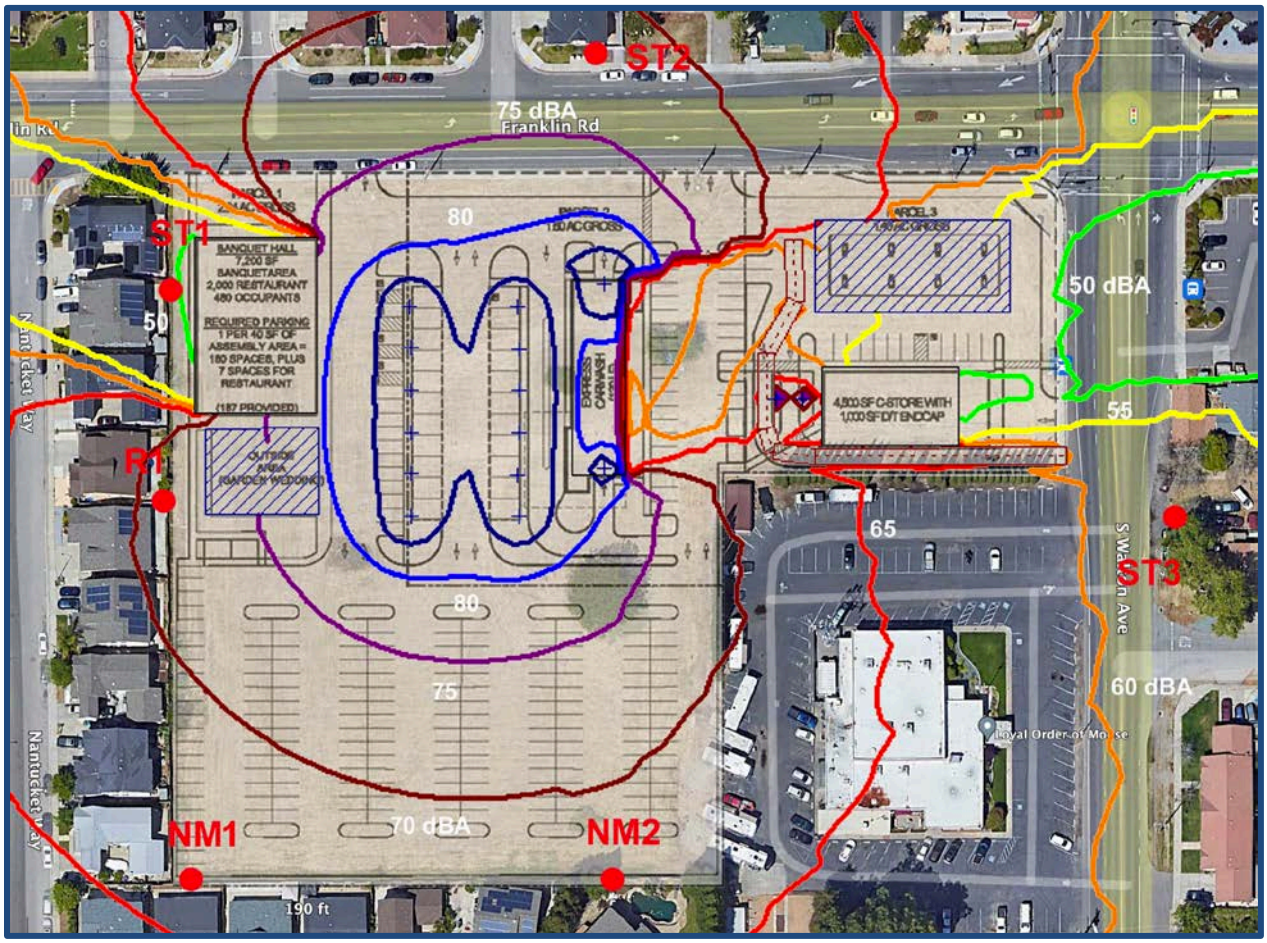


Figure 5. Predicted Gas Station and Car Wash Operations Noise Contour Map – Without Noise Control (7AM to 7PM)

Table 4. Predicted Noise Levels for Gas Station and Car Wash Without Noise Control (7AM to 7PM)

Noise Sensitive Location	Operation Peak Hour Leq, dBA Future Gas Station and Car Wash Without Noise Control (7AM to 7PM)
Residential Property to the North (ST2)	71.5
Residential Property to the East (ST3)	58.4
Residential Property to the South (NM1/NM2)	67.7
Residential Property to the West (R1/ST1)	71.0

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Gas Station Noise (7PM to 7AM)

Only the gas station will operate during the hours of 7:00PM to 7:00AM, as there will be no car wash operations during the evening, nighttime and early morning hours. The hourly Leq from gas station and c-store operations is estimated to be as high as 42.0, 41.4, 38.7, and 33.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. Refer to Figure 6 for a noise contour map of the Gas Station proposed operations without noise control. Table 5 summarizes the predicted gas station noise levels without noise control.

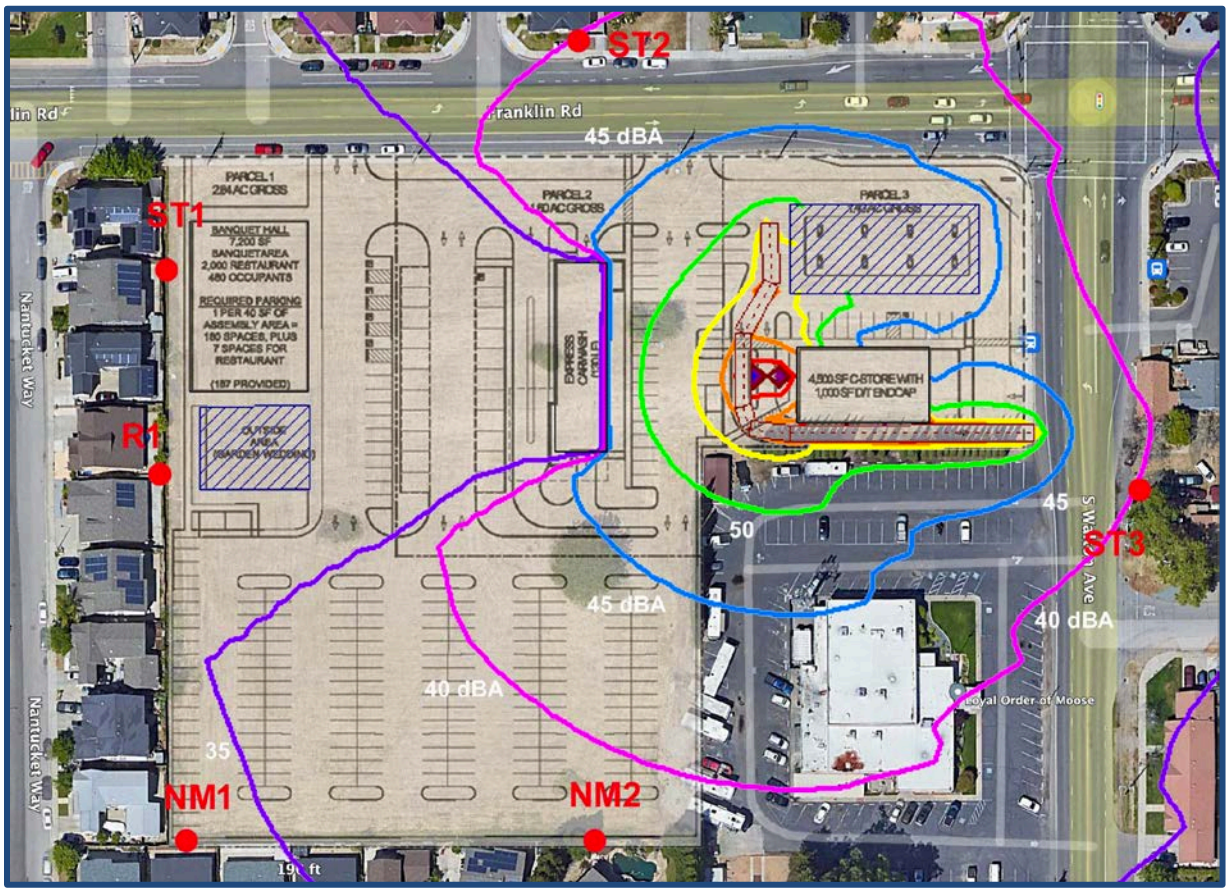

Figure 6. Predicted Gas Station Operations Noise Contour Map – Without Noise Control (7PM to 7AM)

Table 5. Predicted Noise Levels for Gas Station Without Noise Control (7PM to 7AM)

Noise Sensitive Location	Operation Peak Hour Leq, dBA Future Gas Station Without Noise Control (7PM to 7AM)
Residential Property to the North (ST2)	42.0
Residential Property to the East (ST3)	41.4
Residential Property to the South (NM1/NM2)	38.7
Residential Property to the West (R1/ST1)	33.0

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Banquet Hall Indoor and Outdoor Noise (11AM to 10PM)

Both the indoor and outdoor areas of the Banquet Hall will operate during the hours of 11:00AM to 10:00PM. The banquet hall future operations were modeled for worst case conditions during a peak hour of activity for both indoor and outdoor operations. The hourly Leq from future operations is estimated to be as high as 40.3, 37.6, 46.5, and 64.8 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. Refer to Figure 7 for a noise contour map of the Banquet Hall Indoor and Outdoor Operations without noise control. Table 6 summarizes the predicted banquet hall indoor and outdoor noise levels without noise control.

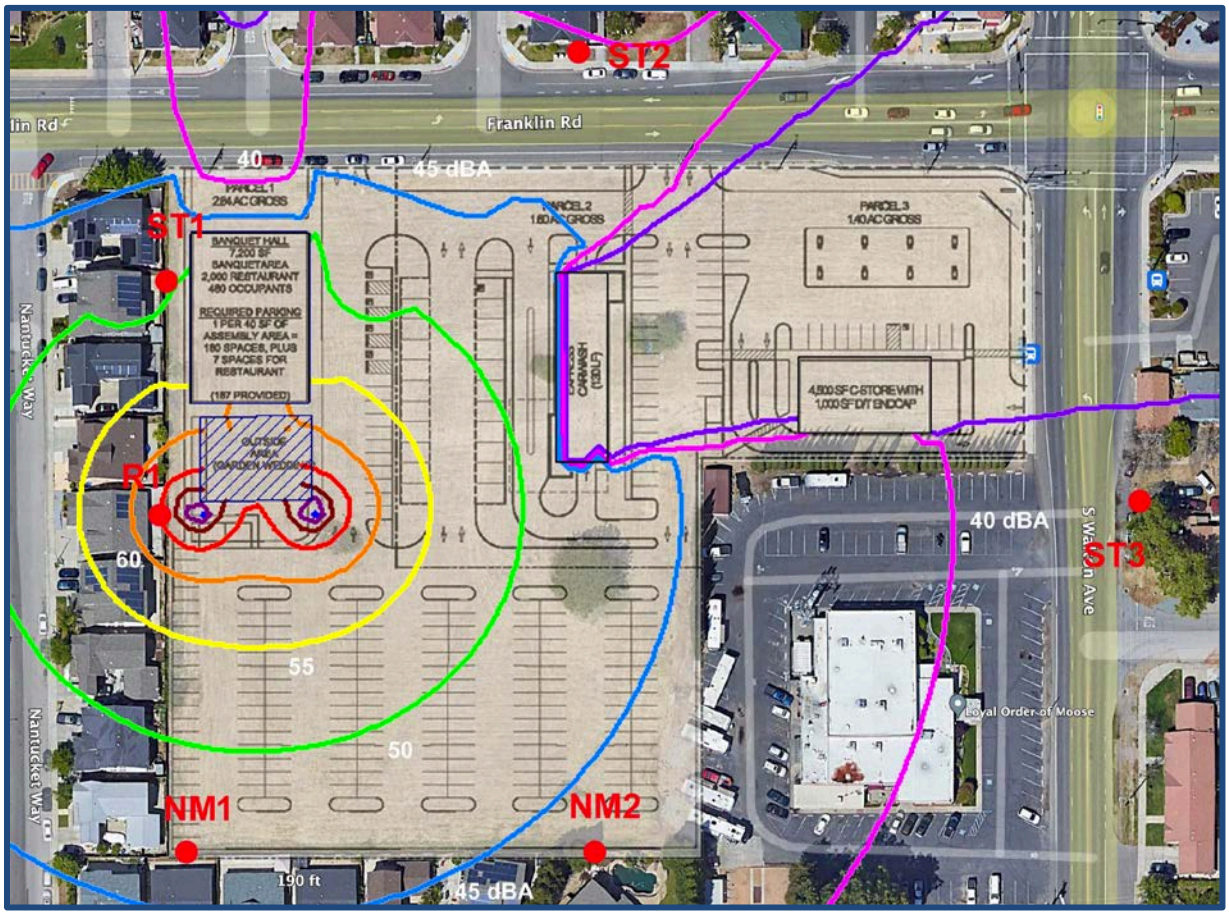

Figure 7. Predicted Banquet Hall Outdoor Operations Noise Contour Map – Without Noise Control (11AM to 10AM)

Table 6. Predicted Noise Levels for Banquet Hall Indoor and Outdoor Without Noise Control (11AM to 10PM)

Noise Sensitive Location	Operation Peak Hour Leq, dBA Future Banquet Indoor and Outdoor Without Noise Control (11AM to 10PM)
Residential Property to the North (ST2)	40.3
Residential Property to the East (ST3)	37.6
Residential Property to the South (NM1/NM2)	46.5
Residential Property to the West (R1/ST1)	64.8

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Banquet Hall Indoor Noise (Monday through Thursday 11AM to 12AM, Friday through Sunday 11AM to 2AM)

The indoor area of the Banquet Hall will operate on Monday through Thursday from 11AM to 12PM Midnight and on Friday to Sunday from 11AM to 2AM the Next Day. The hourly Leq from only interior operations is estimated to be as high as 31.2, 15.1, 24.7, and 43.7 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. Refer to Figure 8 for a noise contour map of the Banquet Hall Indoor Operations without noise control. Table 7 summarizes the predicted banquet hall indoor noise levels without noise control.

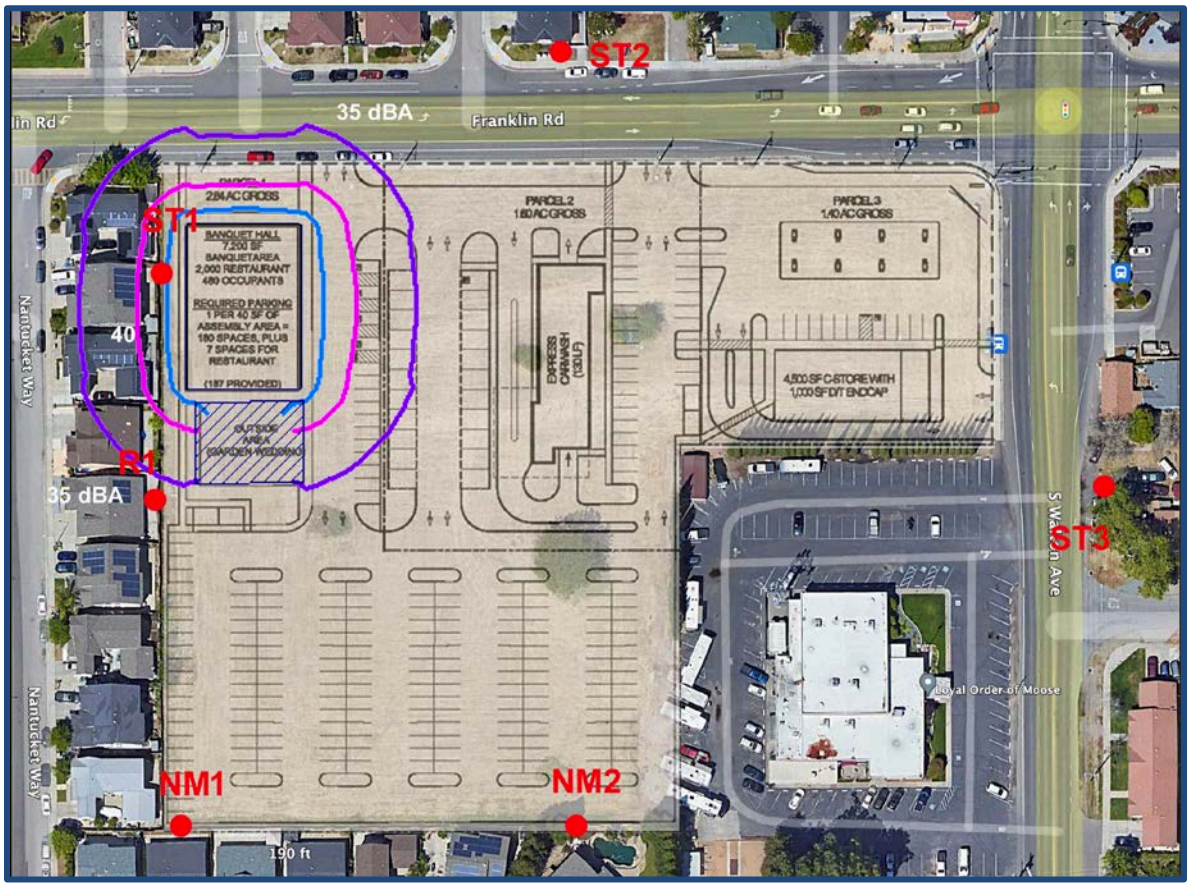

Figure 8. Predicted Banquet Hall Indoor Operations Noise Contour Map – Without Noise Control (Monday through Thursday 11AM to 12AM, Friday through Sunday 11AM to 2AM)

Table 7. Predicted Noise Levels for Banquet Hall Indoor Without Noise Control (Monday through Thursday 11AM to 12AM, Friday through Sunday 11AM to 2AM)

Noise Sensitive Location	Operation Peak Hour Leq, dBA Future Banquet Indoor Wi (Mon - Thurs 11AM to 12AM, Fri - Sun 11AM to 2AM)
Residential Property to the North (ST2)	31.2
Residential Property to the East (ST3)	15.1
Residential Property to the South (NM1/NM2)	24.7
Residential Property to the West (R1/ST1)	43.7

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Gas Station, Car Wash, and Banquet Hall Noise (11AM to 7PM)

The gas station, car wash, banquet hall indoor and outdoor areas can simultaneously operate during the hours of 11:00AM to 7:00PM and would represent the worst-case noise condition with the highest noise produced during future operations. The hourly Leq from these operations is estimated to be as high as 71.5, 58.4, 67.7, and 72.3 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. Refer to Figure 9 for a noise contour map of the Banquet Hall Indoor Operations without noise control. Table 8 summarizes the predicted banquet hall indoor noise levels without noise control.

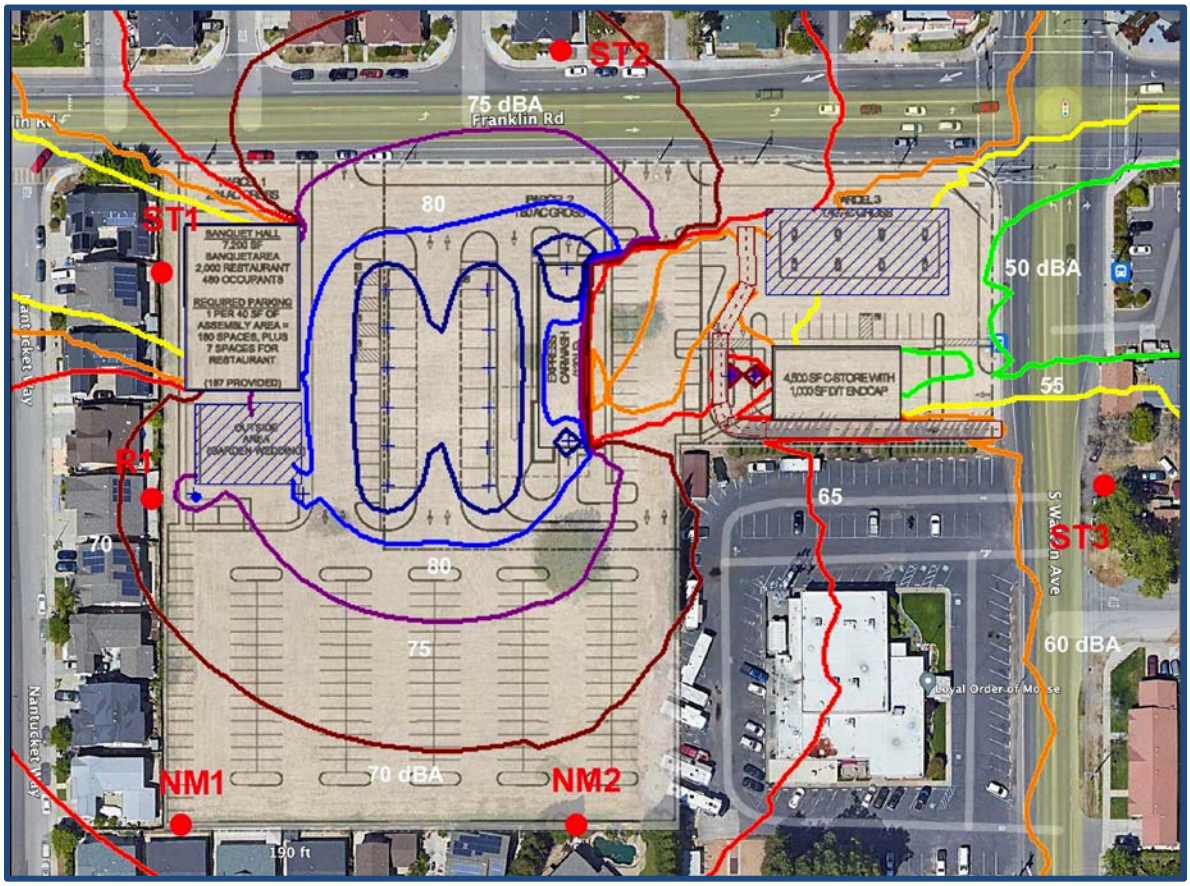

Figure 9. Predicted Gas Station, Car Wash and Banquet Hall Operations Noise Contour Map – Without Noise Control (11AM to 7PM)

Table 8. Predicted Noise Levels for Gas Station, Car Wash, and Banquet Hall Without Noise Control (11AM to 7PM)

Noise Sensitive Location	Operation Peak Hour Leq, dBA Future Gas Station, Car Wash and Banquet Hall Without Noise Control (11AM to 7PM)
Residential Property to the North (ST2)	71.5
Residential Property to the East (ST3)	58.4
Residential Property to the South (NM1/NM2)	67.7
Residential Property to the West (R1/ST1)	72.3

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7. IMPACT ASSESSMENT

Gas Station and Car Wash Noise (7AM to 7PM)

Both the gas station and car wash will operate during the hours of 7:00AM to 7:00PM. The hourly Leq from future gas station and car wash operations is estimated to be as high as 71.5, 58.4, 67.7, and 71.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels and would not comply with County noise standards at the nearest receptors to the East, South and West. At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards. Noise control is necessary to comply with the noise standards. Refer to Table 9 for a summary of the future Gas Station and Car Wash noise levels and impact assessments.

Table 9. Impact Assessment of Gas Station and Car Wash Operations Noise (7AM to 7PM) - Without Noise Control

Noise Sensitive Location	Future Operation Without Noise Control Peak Hour Leq, dBA (7AM to 7PM)	Ambient Noise Level, Leq, dBA (7AM to 7PM)[1]	Sutter County Noise Standard (7AM-10PM / 10PM-7AM)	Assessment
Residential Property to the North (ST2)	71.5	72.8 to 75.8	55/45	Compliance
Residential Property to the East (ST3)	58.4	75.7 to 78.7	55/45	Exceedance
Residential Property to the South (NM1/NM2)	67.7	45.7 to 54.9	55/45	Exceedance
Residential Property to the West (R1/ST1)	71.0	61.2 to 64.3	55/45	Exceedance

Note: [1]Hourly Ambient Noise Levels for ST1, ST2, and ST3 are calculated based on the 24-hour ambient noise measurement at either NM1 or NM2.

Gas Station Noise (7PM to 7AM)

Only the gas station will operate during the hours of 7:00PM to 7:00AM. The hourly Leq from gas station operations is estimated to be as high as 42.0, 41.4, 38.7, and 33.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would be below the existing ambient noise levels and would comply with County's noise standards. Refer to Table 10 for a summary of the future Gas Station noise levels and impact assessments.

Table 10. Impact Assessment of Gas Station Operations Noise (7PM to 7AM) - Without Noise Control

Noise Sensitive Location	Future Operation Without Noise Control Peak Hour Leq, dBA (7PM to 7AM)	Ambient Noise Level, Leq, dBA (7PM to 7AM)[1]	Sutter County Noise Standard (7AM-10PM / 10PM-7AM)	Assessment
Residential Property to the North (ST2)	42.0	64.5 to 74.7	55/45	Compliance
Residential Property to the East (ST3)	41.4	67.4 to 77.6	55/45	Compliance
Residential Property to the South (NM1/NM2)	38.7	43.3 to 57.2	55/45	Compliance
Residential Property to the West (R1/ST1)	33.0	53.0 to 63.1	55/45	Compliance

Note: [1]Hourly Ambient Noise Levels for ST1, ST2, and ST3 are calculated based on the 24-hour ambient noise measurement at either NM1 or NM2.

Banquet Hall Indoor and Outdoor Noise (11AM to 10PM)

Both the indoor and outdoor areas of the Banquet Hall will operate during the hours of 11:00AM to 10:00PM. The hourly Leq from future indoor and outdoor banquet hall operations is estimated to be as high as 40.3, 37.6, 46.5, and 64.8 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels at the nearest residential receptors to the west and would not comply with County's noise standards. Noise control is necessary to comply with the County's standards. Refer to Table 11 for a summary of the future indoor and outdoor banquet hall noise level and impact assessment at the nearest noise sensitive receptors. Refer to Table 12 for a comparison of the future indoor and outdoor banquet hall noise level with the hourly ambient noise levels at the nearest residential receptor to the west.

Table 11. Impact Assessment of Banquet Hall Indoor and Outdoor Operations Noise (11AM to 10PM) - Without Noise Control

Noise Sensitive Location	Future Operation Without Noise Control Peak Hour Leq, dBA (11AM to 10PM)	Ambient Noise Level, Leq, dBA (11AM to 10PM)[1]	County Noise Standard (7AM-10PM / 10PM-7AM)	Assessment
Residential Property to the North (ST2)	40.3	71.8 to 74.7	55/45	Compliance
Residential Property to the East (ST3)	37.6	74.7 to 77.6	55/45	Compliance
Residential Property to the South (NM1)	46.5	53.6 to 56.5	55/45	Compliance
Residential Property to the West (R1/NM1)	64.8	53.6 to 56.5	55/45	Exceedance

Note: [1]Hourly Ambient Noise Levels for ST1, ST2, and ST3 are calculated based on the 24-hour ambient noise measurement at either NM1 or NM2.

Table 12. Impact Assessment of Banquet Hall Operations Noise at Nearest Western Residence (R1/NM1) - Without Noise Control

Hour Start Time	Operations Noise Level, Leq, dBA	Ambient Noise, Leq, dBA[1]	Sutter County Noise Standard	Assessment[1]
11:00:00 AM	64.8	55.3	55	Exceedance
12:00:00 PM	64.8	56.4	55	Exceedance
1:00:00 PM	64.8	56.5	55	Exceedance
2:00:00 PM	64.8	55.4	55	Exceedance
3:00:00 PM	64.8	54.8	55	Exceedance
4:00:00 PM	64.8	55.0	55	Exceedance
5:00:00 PM	64.8	55.1	55	Exceedance
6:00:00 PM	64.8	54.6	55	Exceedance
7:00:00 PM	64.8	56.5	55	Exceedance
8:00:00 PM	64.8	53.6	55	Exceedance
9:00:00 PM	64.8	53.8	55	Exceedance
10:00:00 PM	43.7	51.2	45	Compliance
11:00:00 PM	43.7	50.5	45	Compliance

Note: [1] Banquet hall outdoor operations will occur during the hours of 11AM to 10PM. Banquet hall indoor operations will occur during the hours of 11AM to12AM.
[2]The Recommended Noise Guideline is the ambient noise level.

Banquet Hall Indoor Noise (Monday through Thursday 11AM to 12AM, Friday through Sunday 11AM to 2AM)

Only the indoor of the banquet hall will operate on Monday through Thursday from 11AM to 12PM Midnight and on Friday to Sunday from 11AM to 2AM the Next Day. Outdoor operations will not be permitted after 10PM. The hourly Leq from indoor banquet hall operations is estimated to be as high as 31.2, 15.1, 24.7, and 43.7 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would be below the existing ambient noise levels and would comply with County's noise standards. Refer to Table 13 for a summary of the future indoor banquet hall noise level and impact assessment at the nearest noise sensitive receptors.

Table 13. Impact Assessment of Banquet Hall Indoor Operations Noise- Without Noise Control

Noise Sensitive Location	Future Operation Without Noise Control Peak Hour Leq, dBA (Mon - Thurs 11AM to 12AM, Fri - Sun 11AM to 2AM)	Ambient Noise Level, Leq, dBA (Mon – Thurs 11AM to 12AM / Fri - Sun 11AM to 2AM)[1]	Sutter County Noise Standard (7AM-10PM / 10PM-7AM)	Assessment
Residential Property to the North (ST2)	31.2	68.7 to 74.7 / 66.1 to 74.7	55/45	Compliance
Residential Property to the East (ST3)	15.1	71.6 to 77.6/ 68.9 to 77.6	55/45	Compliance
Residential Property to the South (NM1)	24.7	50.5 to 56.5/ 47.8 to 56.5	55/45	Compliance
Residential Property to the West (R1/NM1)	43.7	50.5 to 56.5/ 47.8 to 56.5	55/45	Compliance

Note: [1]Hourly Ambient Noise Levels for ST1, ST2, and ST3 are calculated based on the 24-hour ambient noise measurement at either NM1 or NM2.

Gas Station, Car Wash, and Banquet Hall Noise (11AM to 7PM)

The gas station, car wash, banquet hall indoor and outdoor areas can operate simultaneously during the hours of 11:00AM to 7:00PM,and would represent the worst-case noise condition with the highest noise produced during future operations. The hourly Leq from future gas station, car wash and banquet hall operations is estimated to be as high 71.5, 58.4, 67.7, and 72.3 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels and would not comply with County noise standards at

the nearest receptors to the East, South and West. At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards. Noise control is necessary to comply with the noise standards. Refer to Table 14 for a summary of the future Gas Station and Car Wash noise levels and impact assessments.

Table 14. Impact Assessment of Gas Station, Car Wash and Banquet Hall Operations Noise (7AM to 7PM) - Without Noise Control

Noise Sensitive Location	Future Operation Without Noise Control Peak Hour Leq, dBA (7AM to 7PM)	Ambient Noise Level, Leq, dBA (7AM to 7PM)[1]	Sutter County Noise Standard (7AM-10PM / 10PM-7AM)	Assessment
Residential Property to the North (ST2)	71.5	72.8 to 74.7	55/45	Compliance[2]
Residential Property to the East (ST3)	58.4	75.7 to 77.6	55/45	Exceedance
Residential Property to the South (NM1/NM2)	67.7	46.2 to 54.9	55/45	Exceedance
Residential Property to the West (R1/ST1)	72.3	61.2 to 63.2	55/45	Exceedance

Note: [1]Hourly Ambient Noise Levels for ST1, ST2, and ST3 are calculated based on the 24-hour ambient noise measurement at either NM1 or NM2.
[2]At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards.

8. NOISE CONTROL ANALYSIS

Noise control was evaluated for simultaneous Gas Station, Car Wash and Banquet Hall Operations to reduce the future operations noise to comply with the Noise Standards. Compliance during the worst-case noise condition would also provide compliance for individual Gas Station, Car Wash and Banquet Hall conditions. Because the ambient Lmax noise level is near or significantly above the Lmax noise standards, demonstrated compliance with the Leq noise level will result in compliance with the Lmax standards.

Gas Station, Car Wash, and Banquet Hall Noise (11AM to 7PM)

AGI evaluated the noise reduction for the simultaneous Gas Station, Car Wash and Banquet Hall operations with lower noise equipment such as Vacuums with VDF system, a quieter dryer system, such as the 40 HP Predator Quiet Dryer System, a 6-ft high noise barrier to protect the residences to the south, and an 8-ft high noise barrier along the western property line as per Figure 10. With engineering controls, the gas station, car wash, and banquet hall noise level would be reduced to 55.9, 42.7, 44.8, and 52.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively.

The operations peak hour noise levels would comply with the County's noise standards. Table 15 summarizes the Gas Station and Car Wash Noise Levels with Noise Control. Figure 11 illustrates the Gas Station and Car Wash Noise Contour Map with Noise Control.

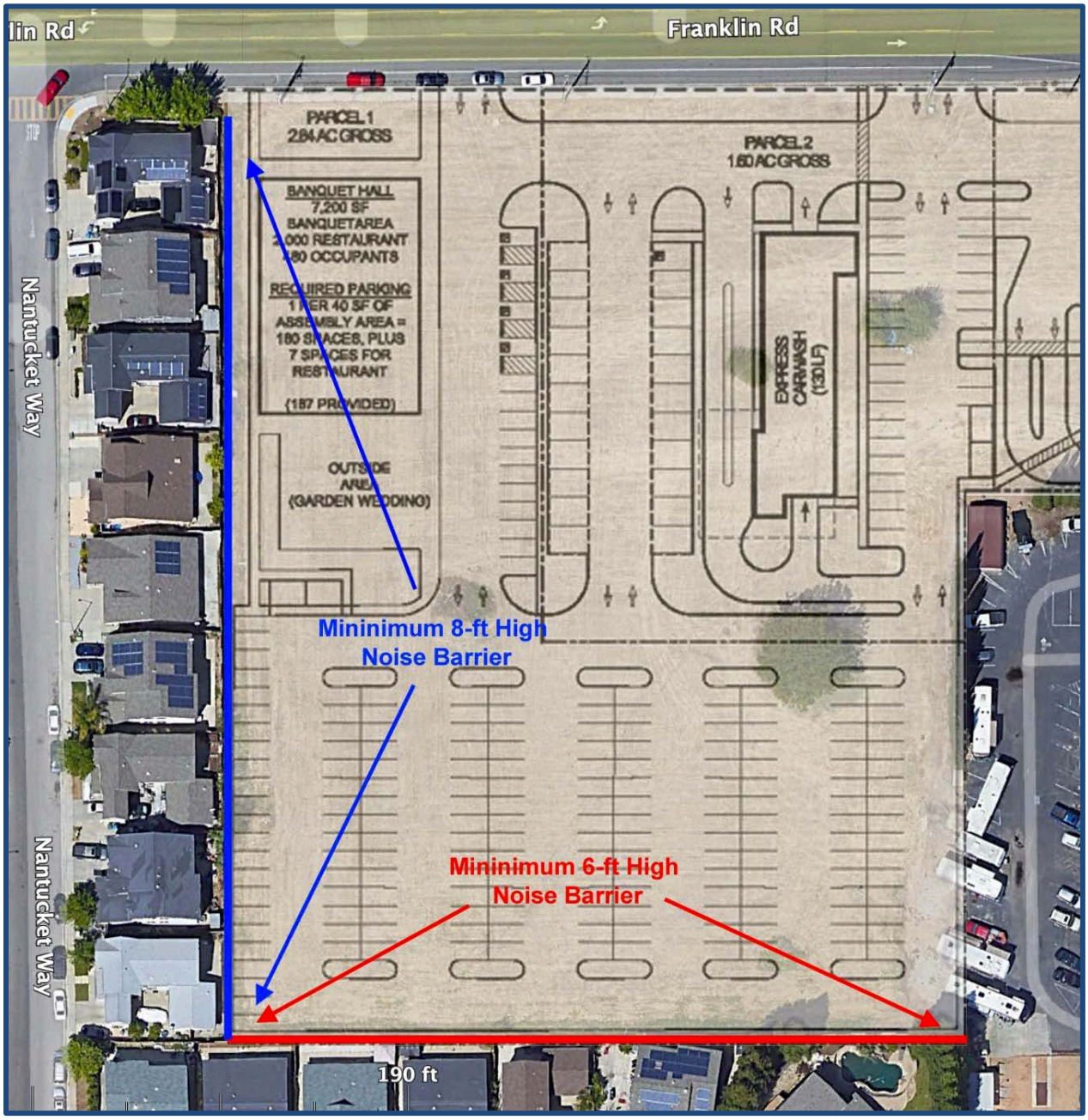


Figure 10. Location of the Recommended 6-ft and 8-ft High Noise Barriers

Table 15. Impact Assessment of Gas Station, Car Wash and Banquet Hall Operations Noise (7AM to 7PM) - with Noise Control

Noise Sensitive Location	Future Operation with Noise Control Peak Hour Leq, dBA (7AM to 7PM)	Ambient Noise Level, Leq, dBA (7AM to 7PM)[1]	County Noise Standard (7AM-10PM / 10PM-7AM)	Assessment
Residential Property to the North (ST2)	55.9	72.8 to 75.8	55/45	Compliance[2]
Residential Property to the East (ST3)	42.7	75.7 to 78.7	55/45	Compliance
Residential Property to the South (NM1/NM2)	44.8	45.7 to 54.9	55/45	Compliance
Residential Property to the West (R1/ST1)	52.0	61.2 to 64.3	55/45	Compliance

Note: [1]Hourly Ambient Noise Levels for ST1, ST2, and ST3 are calculated based on the 24-hour ambient noise measurement at either NM1 or NM2.
[2]At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards.

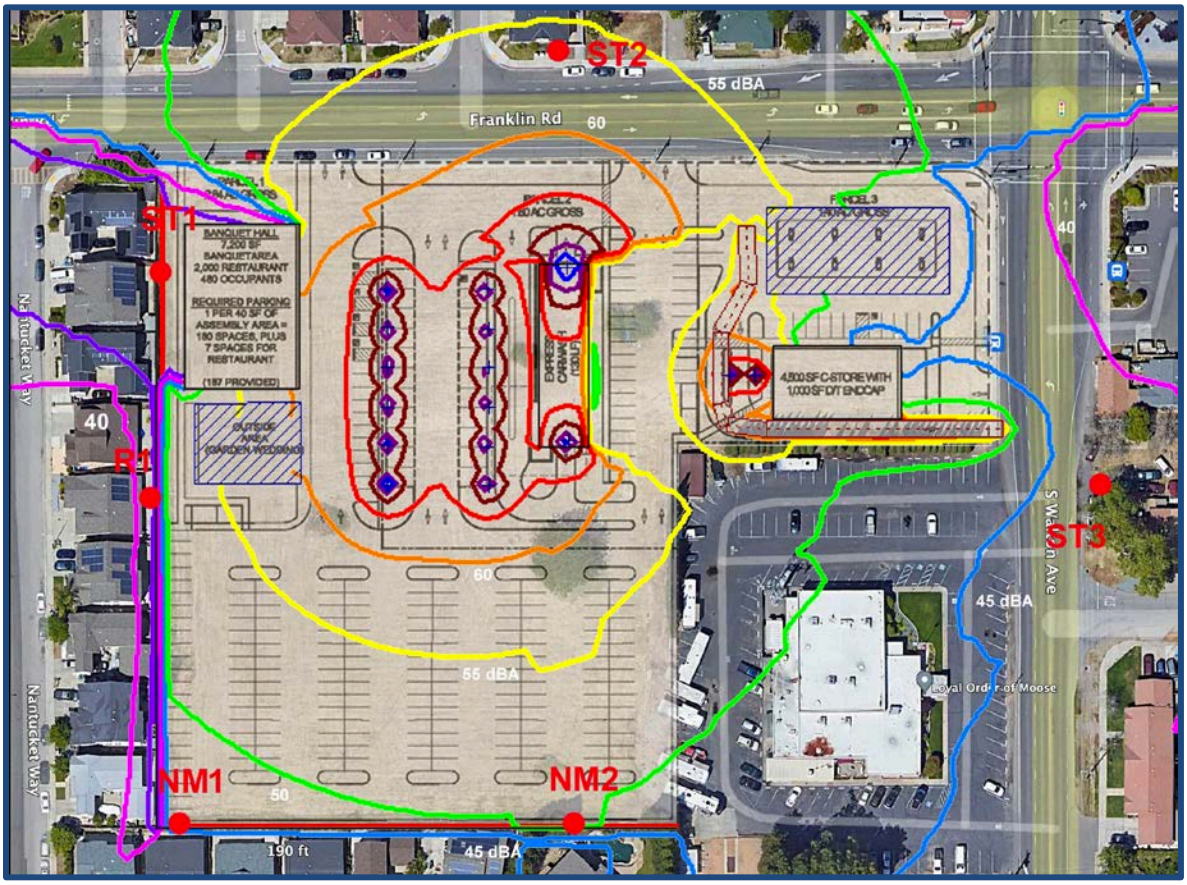


Figure 11. Predicted Gas Station, Car Wash and Banquet Hall Noise Contour Map – with Noise Control (VFD System, 40 HP Predator Quiet Dryer System, 6-ft High South Residential Noise Barrier, and 8-ft High West Residential Noise Barrier)

9. NOISE CONTROL RECOMMENDATIONS

The following noise control measures are recommended for compliance with the Noise Standards:

1. A minimum 6-ft noise barrier is required along the southern property line as per Figure 10. The barrier height is relative to the car wash pad elevation.
2. A minimum 8-ft high noise barrier is required along the western property line as per Figure 10. The barrier height is relative to the Banquet Hall Exterior pad elevation.
3. The noise barriers should be continuous structures without any gaps or openings and should be constructed from solid metal panel, plexi-glass, concrete masonry block, stucco on wood, or any combination of these materials.
4. The car wash equipment shall be selected based on the most current quiet technology and shall not exceed the following equipment noise source levels:

Noise Source	Distance, ft	Maximum Allowable Equipment Noise Level Leq, dBA
40 HP Predator Quiet Dryer System	5	76
Vacuum 40 HP with VFD	15	64
Drive-Thru PA System	3	75

Source: AutoVac Industrial Vacuum & Air Systems Equipment Decibel Certification, AGI Industry Database

5. Amplified music (live or DJ type) should not exceed 84.2 dBA at 3 feet from each noise source/speakers. The gain on the sub-woofers should be minimized to limit low frequency noise whenever possible.
6. All non-glass exterior doors should be solid core assemblies.
7. All doors should be fitted with airtight seals to minimize sound transmission.
8. The building shell design for the banquet hall has not been finalized and the final design should be reviewed by an acoustical engineer prior to construction to ensure compliance with the noise standards.
9. The final design should be reviewed by a licensed Mechanical Engineer to ensure compliance with all applicable mechanical, fire and safety codes.
10. Upon completion of the project, a noise verification study should be performed to verify compliance with the noise standards.

10. CONCLUSION

Acoustics Group, Inc., (AGI) was retained to conduct a noise study of the proposed Gas Station, Car Wash, and Banquet Hall at the southwest corner of Franklin and Walton in Yuba City, CA. AGI has reviewed the Yuba City Noise Standards, conducted noise measurements, analyzed the noise levels from future operations at the site, assessed the impact of the future noise to determine compliance with the Noise Standards, and recommended noise control measures. Based on the operations information provided by Franklin Petroleum, the following scenarios were evaluated:

- Gas Station and Car Wash operations 7AM to 7PM

The hourly Leq from future gas station and car wash operations is estimated to be as high as 71.5, 58.4, 67.7, and 71.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels and would not comply with County noise standards at the nearest receptors to the East, South and West. At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards. Noise control is necessary to comply with the County's standards.

- Gas Station operations from 7PM to 7AM

The hourly Leq from gas station operations is estimated to be as high as 42.0, 41.4, 38.7, and 33.0 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would be below the existing ambient noise levels and would comply with County's noise standards.

- Banquet Hall Indoor and Outdoor operations from 11AM to 10PM

The hourly Leq from future indoor and outdoor banquet hall operations is estimated to be as high as 40.3, 37.6, 46.5, and 64.8 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels at the nearest residential receptors to the west and would not comply with County's noise standards.

- Banquet Indoor operations on Monday through Thursday from 11AM to 12PM Midnight and on Friday to Sunday from 11AM to 2AM the Next Day

The hourly Leq from indoor banquet hall operations is estimated to be as high as 31.2, 15.1, 24.7, and 43.7 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would be below the existing ambient noise levels and would comply with County's noise standards.

- Gas Station, Car Wash, and Banquet operations from 11AM to 7PM

This scenario represents the worst-case condition with gas station, car wash and banquet hall operations all occurring simultaneously. The hourly Leq from simultaneous gas station, car wash and banquet hall operations is estimated to be as high as 71.5, 58.4, 67.7, and 72.3 dBA at the nearest noise sensitive receptors to the north, east, south and west, respectively. The operation's peak hour noise levels would exceed the existing ambient noise levels and would not comply with County noise standards at the nearest receptors to the East, South and West. At the nearest receptors to the North, the operations noise would be below ambient traffic noise levels, but exceed the County Noise Standards.

Noise control has been recommended to reduce operations' noise levels for compliance with the Noise Standards.

11. REFERENCES

1. Melville Branch and R. Beland, 1970. EPA/ONAC 550/9-74-004, March 1974.
2. Project Drawings.
3. City of Yuba Municipal Code.
4. AutoVac Industrial Vacuum & Air Systems Equipment Decibel Certification
5. Sonny's Enterprises Blower Assembly Sound Information

12. APPENDIX

FIELD DATA SHEETS & MEASUREMENT DATA

SUTTER COUNTY NOISE ORDINANCE

MODELING INPUT & OUTPUT

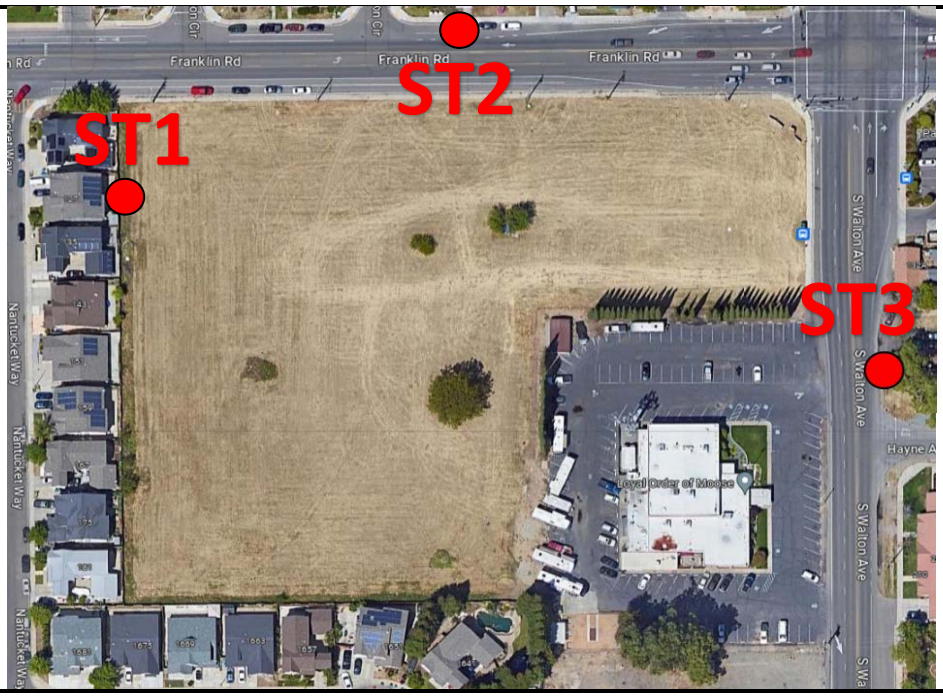
PROJECT DRAWINGS

FIELD DATA SHEETS & MEASUREMENT DATA

NOISE MONITORING FIELD DATA SHEET

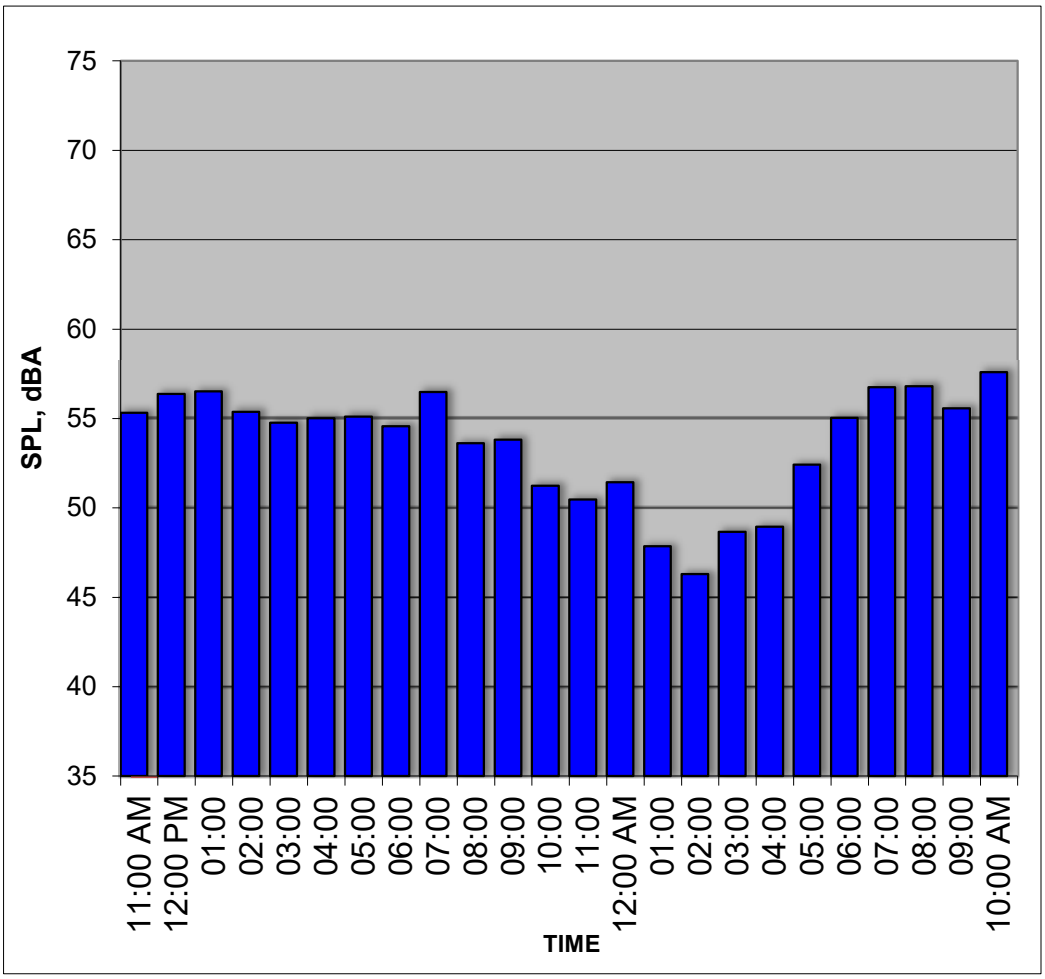
Project:	**Gas Station, Car Wash & Banquet Hall - Franklin Petroleum Inc.**	**Date:**	**10/2/2023**
Loc:	ST1 Northwest Property Line		
	ST2 434 Hetherington Cir, Yuba City, CA 95993		
	ST3 1593 Hayne Ave, Yuba City, CA 95993		
SLM:	**Brüel & Kjær 2270**	**SN:**	**3011341**
Mic:	**PCB 377B20**	**SN:**	**11074**
P/A:	**Brüel & Kjær ZC0032**	**SN:**	**25575**

Start	Duration	L2	L8	L25	L50	L90	L99	Lmax	Lmin	Leq	Notes
10/2/2023 10:50 AM	00:22:23	61.7	60.0	57.5	54.6	47.6	44.2	66.5	43.8	56.1	ST1 - Vehicular Traffic
10/2/2023 11:17 AM	00:20:01	74.2	71.7	69.0	65.0	53.3	47.4	86.0	46.7	67.9	ST2 - Vehicular Traffic
10/2/2023 11:43 AM	00:20:01	75.6	72.6	70.2	67.0	55.3	52.0	78.9	51.3	68.8	ST3 - Vehicular Traffic



MEASUREMENT DATA - HOURLY NOISE LEVELS

Project:	**Franklin Petroleum Inc.**		
Address:	**Franklin Rd & S Walton Ave., Yuba City, CA 95993**	**Date:**	**10/29/2023**
Location:	**Southwest Property Line**		**- 10/30/2023**
Noise		**Position:**	**NM1**
Sources:	**Vehicular Traffic**		



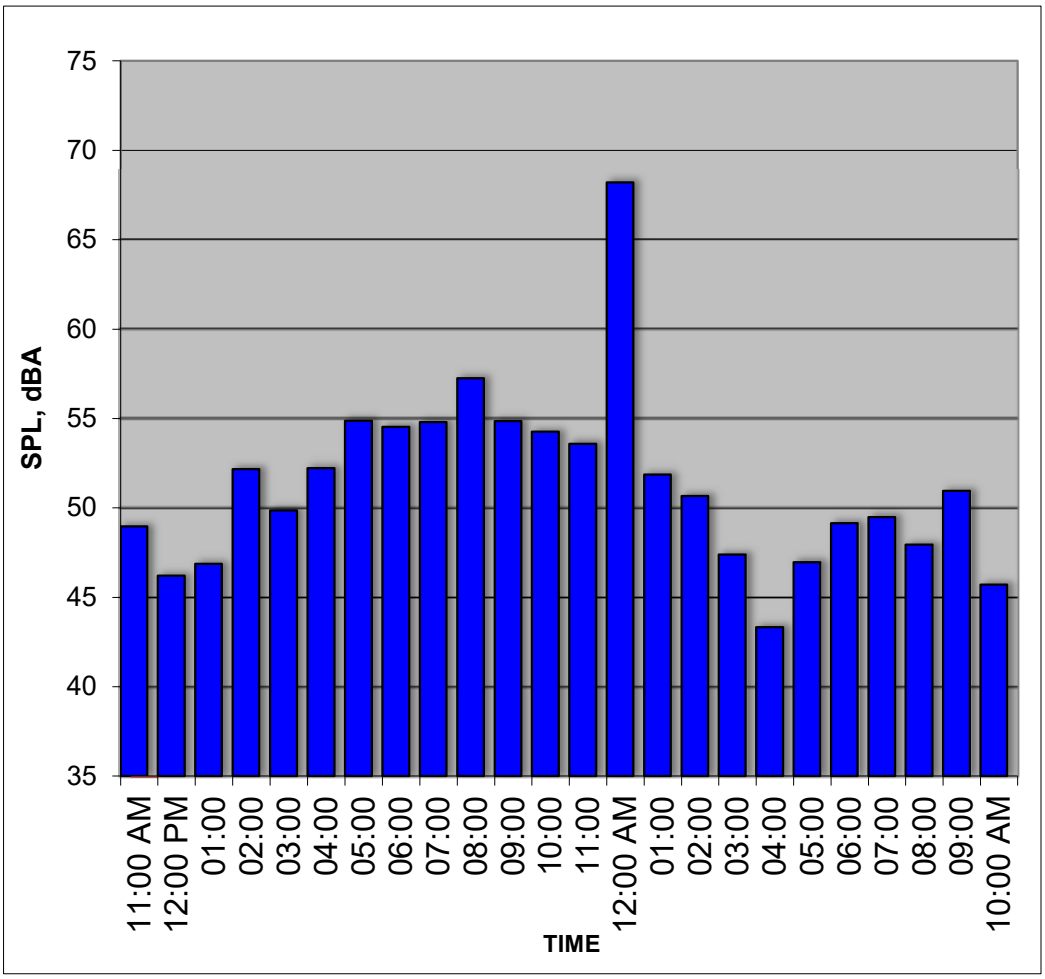
TIME	*HNL, dB(A)*
11:00 - 12:00 PM	*55.3*
12:00 - 01:00 PM	*56.4*
01:00 - 02:00 PM	*56.5*
02:00 - 03:00 PM	*55.4*
03:00 - 04:00 PM	*54.8*
04:00 - 05:00 PM	*55.0*
05:00 - 06:00 PM	*55.1*
06:00 - 07:00 PM	*54.6*
07:00 - 08:00 PM	*56.5*
08:00 - 09:00 PM	*53.6*
09:00 - 10:00 PM	*53.8*
10:00 - 11:00 PM	*51.2*
11:00 - 12:00 AM	*50.5*
12:00 - 01:00 AM	*51.4*
01:00 - 02:00 AM	*47.8*
02:00 - 03:00 AM	*46.3*
03:00 - 04:00 AM	*48.7*
04:00 - 05:00 AM	*49.0*
05:00 - 06:00 AM	*52.4*
06:00 - 07:00 AM	*55.0*
07:00 - 08:00 AM	*56.8*
08:00 - 09:00 AM	*56.8*
09:00 - 10:00 AM	*55.6*
10:00 - 11:00 AM	*57.6*
CNEL:	*59.0*

Notes:

Source: Acoustics Group, Inc.

MEASUREMENT DATA - HOURLY NOISE LEVELS

Project:	**Franklin Petroleum Inc.**		
Address:	**Franklin Rd & S Walton Ave., Yuba City, CA 95993**	**Date:**	**10/2/2023**
Location:	**Southeast Property Line**		**- 10/3/2023**
Noise		**Position:**	**NM2**
Sources:	**Vehicular Traffic, Car Idling, & Dog Barking**		



TIME	*HNL, dB(A)*
11:00 - 12:00 PM	*49.0*
12:00 - 01:00 PM	*46.2*
01:00 - 02:00 PM	*46.9*
02:00 - 03:00 PM	*52.2*
03:00 - 04:00 PM	*49.9*
04:00 - 05:00 PM	*52.2*
05:00 - 06:00 PM	*54.9*
06:00 - 07:00 PM	*54.5*
07:00 - 08:00 PM	*54.8*
08:00 - 09:00 PM	*57.2*
09:00 - 10:00 PM	*54.9*
10:00 - 11:00 PM	*54.3*
11:00 - 12:00 AM	*53.6*
12:00 - 01:00 AM	*68.2*
01:00 - 02:00 AM	*51.9*
02:00 - 03:00 AM	*50.7*
03:00 - 04:00 AM	*47.4*
04:00 - 05:00 AM	*43.3*
05:00 - 06:00 AM	*47.0*
06:00 - 07:00 AM	*49.2*
07:00 - 08:00 AM	*49.5*
08:00 - 09:00 AM	*47.9*
09:00 - 10:00 AM	*51.0*
10:00 - 11:00 AM	*45.7*
CNEL:	*65.3*

Notes:

Source: Acoustics Group, Inc.

SUTTER COUNTY NOISE ORDINANCE

Article 21.5 - Noise Control

Chapter - 1500-21.5

1500-21.5-010 - Purpose

This Article establishes standards and procedures to protect the health and safety of County residents from the harmful effects of exposure to excessive, unnecessary or offensive noise.

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-020 - Definitions

The words, phrases and terms as used in this Article shall have the following meanings:

A. *Ambient Noise Level.* All-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

B. *Decibel (dB).* A unit used to express the relative intensity of sound as it is heard by the human ear. The lowest volume a normal ear can detect under laboratory conditions is zero dB, the threshold of human hearing. Since the decibel is logarithmic, 10 decibels are 10 times more intense and 20 decibels are a 100 times more intense than 1 dB.

C. *Equivalent Sound Level (L_{eq}).* The average of sound energy occurring over a specified period. The L_{eq} is equivalent to the same average acoustical energy as the time-varying sound that actually occurs during a specified period.

D. *Impulsive Noise.* A noise characterized by sound pressures whose peak levels are very much greater than the ambient noise level resulting in instantaneous sharp sounds, such as might be produced by the impact of a pile driver, hammering, back-up alarm, or gunfire, typically with 1 second or less duration.

E. *Noise Level.* A-weighted sound pressure level in decibels obtained by using a sound level meter at slow response (1000 milliseconds up and down) with a reference pressure of 20 micropascals. A fast meter response (125 milliseconds up and down) shall be used for impulsive noise. The unit of measurement shall be designated as "dBA."

F. *Noise Sensitive Uses.* Land uses considered more sensitive to noise than others due to the amount of noise exposure and types of activities typically involved at the land use location such as residences, schools, motels and hotels, libraries, religious institutions, hospitals and nursing homes.

G. *Simple Tone Noise* or *Pure Tone Noise.* A noise characterized by the presence of a predominant frequency or frequencies such as might be produced by whistle, squeal, screech, or hum.

H. *Sound Level Meter.* An instrument meeting American National Standard Institute (ANSI) Standard S1.4-1971 for Type 2 sound level meters that is calibrated utilizing an acoustical calibrator meeting ANSI Type 2 standard, performed immediately prior to recording any sound data. Calibration equipment shall be certified annually.

I. *Sound Pressure Level.* A sound pressure level of a sound, in decibels, as defined in ANSI Standards 51.2-1962 and 51.13-1920. It is computed as 10 times the logarithm of the source sound pressure divided by a reference sound pressure.

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-030 - General Noise Regulations

Notwithstanding any other provisions of this Article, it is unlawful for any person to willfully make or continue or cause to be made or continued any excessive, unnecessary or offensive noise levels, which disturbs the peace and quiet of any noise sensitive use, or which causes discomfort or annoyance to any reasonable person of normal sensitivity.

The standards which shall be considered in determining whether a violation of the provisions of this section exists shall include, but not be limited to the following:

A. The sound level of the objectionable noise;

B. The proximity of the noise to residential or other noise sensitive uses;

C. The time of day or night the noise occurs;

D. The duration of the noise and its tonal informational or musical content;

E. Whether the noise is continuous, recurrent or intermittent; and

F. The level and intensity of ambient background noise, if any.

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-040 - Noise Level Measurement

A. *Noise Level Measurement.* Any noise level measurements made pursuant to the provisions of this Article shall be performed using a sound level meter as defined in Section 1500-21.5-020.

B. *Designated Exterior Noise Measurement Location.* The location selected for measuring exterior noise levels shall be within one foot or as close as is practicable inside the property line of the receiving property closest to the noise source or where the noise level is greatest. Where feasible, the microphone shall be at a height of five feet above ground level and shall be at least four feet from walls or similar reflecting surfaces.

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-050 - Exterior Noise Standards

The noise standards shown in Table 1500-21.5-1, unless otherwise specified in this Article, shall apply to all noise sensitive exterior areas within Sutter County.

Table 1500-21.5-1: EXTERIOR NOISE STANDARDS

Noise Level Descriptor	**Daytime (7:00 a.m. to 10:00 p.m.)**	**Nighttime (10:00 p.m. to 7:00 a.m.)**
Hourly L_{eq}, dBA	55	45
Maximum Level, dBA	70	65

A. *Exterior Noise Violation.* It is unlawful for any person at any location within the County to create any noise which causes the noise levels on a noise sensitive receiving property, when measured in the designated exterior noise measurement location, to exceed the noise standards specified in Table 1500-21.5-1.

B. *Impulsive, Simple and Pure Tone Noise.* Each of the noise limits specified in Table 1500-21.5-1 shall be reduced by 5 dBA for recurring impulsive noise, simple or pure tone noise, or for noises consisting of speech or music.

C. *Ambient Noise Level.* Noise level standards, which are up to five 5 dBA less than those specified in Table 1500-21.5-1 may be imposed, based upon determination of existing low ambient noise levels in the vicinity of the receiving property.

D. *Application.* The exterior noise level standard shall be applied to the property line of the receiving property (as measured no more than one foot or as close as practicable inside the property line).

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-060 - Unique Noise Standards

A. *Animals and Birds.* It is unlawful for any person to possess or harbor any animal or bird that howls, barks, meows, squawks, or makes other noises continuously and/or incessantly for an unreasonable period of time so as to create a noise disturbance across a real property line.

B. *Audio Equipment.* It is unlawful for any person to use or operate audio equipment on private property where said equipment is unreasonably audible beyond the property line. In addition, no person shall operate audio equipment in a vehicle on or within any public street, public park, public parking lot or other public place which is audible to a person of normal hearing sensitivity more than 50 feet from such vehicle.

C. *Schools, Hospitals and Churches.* It is unlawful for any person to create any noise on any public street, public sidewalk, public park, public parking lot or other public place adjacent to any school, institution of learning, hospital or church while the same is in use, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys the users of such institution.

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-070 - Exceptions to Noise Standards

The following activities shall be exempted from the provisions of this Article:

A. *Agricultural Activities.* Noise sources associated with agricultural activities in zones permitting agricultural uses, which are carried out in any manner consistent with the practice and within the standards of the agricultural industry. This includes without limitation all mechanical devices, apparatus or equipment utilized for the protection or salvage of agricultural crops during periods of adverse weather conditions or when the use of mobile sources is necessary for pest control.

B. *Construction.* Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property or public works project located within 1,000 feet of noise-sensitive uses (i.e., residential uses, daycares, schools, convalescent homes, and medical care facilities), provided such activities take place between:

1. 7:00 a.m. to 6:00 p.m. on weekdays
2. 8:00 a.m. to 5:00 p.m. on Saturdays

Construction is prohibited on Sundays and legal holidays unless permission has been applied for and granted by the County.

C. *Emergency Activities.* Any machinery, equipment, vehicle, manpower or other activity related to or connected with emergency activities or emergency work to protect, maintain, provide or restore safe conditions in the community or for citizenry, or work by private or public utilities when restoring utility service.

D. *Temporary Activities and Events.* Authorized outdoor or indoor events, gatherings, shows, bands, fairs, festivals, weddings, sporting events entertainment and similar events provided such activities take place between 7:00 am to 10:00 pm and do not exceed an L_{eq} of 65 dBA when measured at any point on the property line over any 30-minute period.

E. *Maintenance of Residential Property.* Noise sources associated with maintenance of residential property, provided such activities take place between 7:00 a.m. to sunset.

F. *Parks and Schools.* Activities conducted in public parks, public playgrounds and public or private school grounds provided such activities take place between:

1. 7 a.m. to sunset for unlighted facilities.
2. 7 a.m. to 10 p.m. for lighted facilities.

Such activities include but are not limited to athletic and entertainment events.

G.

Private Recreation. Private recreational activities provided such activities take place between 7:00 am to sunset and do not exceed an L_{eq} of 65 dBA when measured at any point on the property line over any 30-minute period. Such activities include, but are not limited to off-road vehicles, pleasure motor boats, and gunfire from target practice consistent with all State laws on private property.

H. *State and Federal Preemption.* Any activity to the extent regulation thereof has been preempted by state or federal law.

I. *Waste Disposal Activities.* Waste disposal collection activities provided such activities do not take place within 500 feet of any area zoned for residential use earlier than 5:30 a.m. or later than 8:00 p.m., except in an emergency or with the approval of the County.

J. *Legally Established Uses.*

1. Allowed activities generated by a legally established use (e.g. a commercial or employment use) impacting non-conforming uses (e.g. a residential use) that, if legally established, would be considered a noise sensitive use.
2. Any land use for which a valid land use approval, entitlement, or permit has been issued by the county prior to the effective date of the ordinance codified in this chapter.

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-080 - Noise Exception Requests

A. If the owner or operator of a noise source demonstrates to the satisfaction of the Director that immediate compliance with the requirements of this Article would be impractical or unreasonable, the Director may issue Zoning Clearance to allow an exception from the provisions thereof. Such Zoning Clearance shall be processed in accordance with Article 1500-25-030 of this Zoning Code.

1. A Zoning Clearance application for a noise exception shall set forth all actions taken to comply with this Article, the reasons why immediate compliance cannot be achieved, a proposed method for achieving compliance, and a proposed time schedule for its accomplishment.
2. Any Zoning Clearance for an exception shall be for an initial term as specified by the Director, not to exceed thirty days. Longer terms up to one hundred twenty days may be granted by the Planning Commission.
3. In reviewing a Zoning Clearance for a noise exception the approving authority shall consider:
   a. The level, intensity and duration of the noise;
   b. The magnitude of nuisance caused by the noise;
   c. The uses of property within the area affected by the noise;
   d. The time of day that the noise occurs;
   e. The design and cost of remedial work; and,
   f. The general public interest and welfare.
4. A Zoning Clearance for a noise exception may be subject to any terms, conditions and requirements that the approving authority may deem necessary to achieve maximum compliance with the provisions of this Article. Such terms, conditions and requirements may include, but shall not be limited to, limitations on noise levels and operating hours.
5. Prior to the Director issuing a Zoning Clearance for a noise exception, a Notice of Intent to Approve shall be issued pursuant to Section 1500-23-060 B.

(Ord. No. 1661 , § 17, 6-11-2019)

1500-21.5-090 - Violations

A. The violation of any provision contained in this Article shall constitute an infraction and a public nuisance.

B. It shall be the duty of the Director, County Sheriff and/or other assigned County officials to enforce the provisions of this Article.

C.

To determine whether there is a violation of this Article, the assigned County enforcement official will review a complaint in accordance with Sutter County Ordinance Code and may investigate and assess whether the alleged noise levels exceed the noise standards set forth in this Article.

D. If the assigned County enforcement official has reason to believe that any provision(s) of this Article has been violated, he/she shall cause written notice to be served upon the alleged violator. Such notice shall specify the provision(s) of this Article alleged to have been violated and the facts alleged to constitute a violation, including dBA readings noted and the time and place of their detection, and shall include an order that corrective action be taken within a specified time. If corrective action is not taken within such specified time or any extension thereof approved by the County enforcement official, he/she shall commence the enforcement process specified in Article 26.

E. In addition to the penalties for infraction offenses and the procedures for nuisance abatement as set forth in the Sutter County Ordinance Code, any noise level and its source in violation of any of the provisions of this Article may be summarily abated, which may include, but is not limited to, removal, dismantlement and taking into custody the source of such noise, and in this regard, the confiscation of any machine or device used to violate any of the provisions of this Article is hereby authorized to be held for use as evidence in any proceeding that may be brought for such violation.

F. It is unlawful for any person to refuse to cooperate with or to obstruct any governmental agent, officer or employee in determining the noise level or the ambient noise level. Such cooperation shall include, but is not limited to, the shutting off or quieting of any noise source so that an ambient noise level can be measured or alternatively the turning on or starting of any noise source that is alleged to exceed standards.

(Ord. No. 1661 , § 17, 6-11-2019)

CHAPTER 17. - NOISE REGULATIONS

Sec. 4-17.01. - Declaration of policy.

It is hereby declared to be the policy of the City of Yuba City that the peace, health, safety and welfare of its citizens require protection from loud and raucous noises from any and all sources in the community.

(§ 1, Ord. 14-91, eff. December 19, 1991)

Sec. 4-17.02. - Prohibited generally.

It shall be unlawful for any person to willfully or knowingly make, continue or cause to be made or continued any loud and raucous noise.

The term "loud and raucous noise" shall mean any sound which because of its volume level, duration or character annoys, disturbs, injures or endangers the comfort, health, peace or safety of a reasonable person of ordinary sensibility within the limits of the City of Yuba City.

The term "loud and raucous noise" specifically includes, but is not limited to, the kinds of noise generated by the activities enumerated in Section 4-17.10. The term "loud and raucous noise" specifically excludes the kinds of noise generated by the activities described in Section 4-17.20.

For any kind of noise not enumerated in Section 4-17.10, the factors which may be considered in determining whether a violation of the provisions of this section exists may include, but shall not be limited to, the following:

(a) The volume of the noise;

(b) Whether the nature of the noise is usual or unusual;

(c) Whether the origin of the noise is natural or unnatural;

(d) The volume and intensity of the background noise, if any;

(e) The proximity of the noise to residential sleeping facilities;

(f) The nature and zoning of the area within which the noise emanates;

(g) The density of the inhabitation of the area within which the noise emanates;

(h) The time of the day or night the noise occurs;

(i) The day of the week the noise occurs;

(j) The duration of the noise;

(k) Whether the noise is recurrent, intermittent, or constant; and

(l) Whether the noise is produced by a commercial or non-commercial activity.

(§ 1, Ord. 14-92, eff. December 19, 1991)

Secs. 4-17.03—4-17.09. - Reserved.

Sec. 4-17.10. - Enumeration.

The following specific acts, subject to the exemptions provided in Section 4-17.20, are declared to be public nuisances in violation of Sections 4-17.22 and 4-17.30, namely:

(a) The loud and raucous use or operation of any radio, amplifier, phonograph, stereo, compact disc or tape player, loudspeaker, bullhorn, megaphone or other device for the producing or reproducing of sound.

(b)

Loud and raucous yelling, shouting, talking, whistling or singing between the hours of 10:00 p.m. and 7:00 a.m. on any day.

(c) The owning, possessing, controlling, harboring or keeping of any dog, cat or other animal or fowl which by howling, yelping, whining, barking or otherwise causes a loud and raucous noise.

(d) The loud and raucous use of any drum, guitar, horn or other musical instrument or device.

(e) The loud and raucous operation or use of any of the following before 6:00 a.m. or after 9:00 p.m. daily except Sunday and State or Federal holidays when the prohibited time shall be before 8:00 a.m. and after 9:00 p.m.:

(1) A hammer or any other device or implement used to produce or strike an object.

(2) An impact wrench or other tool or equipment powered by compressed air.

(3) A hand powered saw.

(4) Any tool or piece of equipment powered by an internal combustion engine such as, but not limited to, chain saw, backpack blower and lawn mower. Except as included in paragraph (6) below, motor vehicles powered by an internal combustion engine and subject to the California Vehicle Code are excluded from this prohibition.

(5) Any electrically powered (whether by alternating current electricity or by direct current electricity) tool or piece of equipment used for cutting, drilling or shaping wood, plastic, metal or other materials or objects such as, but not limited to, a saw, drill, lathe or router.

(6) Any of the following: Heavy equipment (such as, but not limited to, bulldozer, road grader, back hoe), ground drilling and boring equipment (such as, but not limited to, derrick or dredge), crane and boom equipment, portable power generator or pump, pavement equipment (such as, but not limited to, pneumatic hammer, pavement breaker, tamper, compacting equipment), pile driving equipment, vibrating roller, sand blaster, gunite machine, trencher, concrete truck and hot kettle pump.

(7) Any construction, demolition, excavation, erection, alteration or repair activity.

In the case of urgent necessity and in the interest of public health and safety, the Chief Building Official may issue a permit for exemption from the requirements within subsection (e) of this section. Such period shall not exceed three working days in length while the emergency continues but may be renewed for successive periods of three days or less while the emergency continues. The Chief Building Official may limit such permit as to time of use and/or permitted action, depending upon the nature of the emergency and the type of action requested.

(§ 1, Ord. 14-91, eff. December 19, 1991)

Secs. 4-17.11—4-17.19. - Reserved.

Sec. 4-17.20. - Exemptions.

The term "loud and raucous noise" as used in this chapter does not include noise or sound generated by the following:

(a) Cries for emergency assistance and warning calls.

(b) Radios, sirens, horns and bells on police, fire and other emergency response vehicles.

(c) Parades, fireworks displays and other special events for which a permit has been obtained from the City are exempted provided there is compliance with all conditions which have been noted in writing on the permit. That loud and raucous noise produced as a result of noncompliance with any condition specified on the permit is not exempted from the requirements of this chapter.

(d) Activities on or in publicly owned property and facilities, or by public employees while in the authorized discharge of their responsibilities, are exempt provided that such activities have been authorized by the owner of such property or facilities or its agent or by the employing authority.

(e) Religious worship activities, including, but not limited to, bells, organs, singing and preaching.

(f) Locomotives and other railroad equipment and aircraft.

(g) The collection of solid waste by employees of a company engaged in the waste disposal business.

(h) Organized activities at the Yuba Sutter Fair.

(i) Organized sports events.

(j) The discharge of "safe and sane fireworks" during the times authorized in Section 4-11.02, and the discharge of fireworks for which a special permit has been issued per Section 5602 of Section 4-5.02 of this chapter or Section 4-11.02.

(§ 1, Ord. 14-91, eff. December 19, 1991; Ord. No. 006-23 , § 5, 5-2-2023)

Sec. 4-17.21. - Persons responsible.

Any person, owner, agent, manager or supervisor in charge of operating, ordering, directing or allowing the operation or maintenance of any device, object, machine or animal creating a noise as prohibited in this chapter shall be deemed guilty of violating this chapter.

(§ 1, Ord. 14-91, eff. December 19, 1991)

Sec. 4-17.22. - Violations—Infraction/misdemeanor.

Any person violating any of the provisions of this chapter shall be deemed guilty of an infraction and upon conviction thereof shall be fined in accordance to Section 1-2.02 of the Yuba City Municipal Code.

(§ 1, Ord. 14-91, eff. December 19, 1991)

Sec. 4-17.23. - Notice of violation.

A violation of any provision of this chapter shall be probable cause for a notice of violation to be issued by the Yuba City Police Department according to current procedures.

(§ 1, Ord. 14-91, eff. December 19, 1991)

Sec. 4-17.24. - Authorization to collect second response fee.

When a loud party or gathering occurs at a premises and a police officer at the scene determines that there is a threat to the public peace, health, safety or general welfare, the person in charge of the premises and the person responsible for the event or if either of those persons is a minor then the parents or guardians of that minor will be held jointly and severally liable for the cost of providing police personnel on special security assignment over and above the services normally provided by the Police Department. The warning to control the threat to the public peace, health, safety or general welfare shall be deemed to be on special security assignment over and above the services normally provided. The costs of such special security assignment may include personnel and equipment costs, damage to City property and injuries to City personnel.

(§ 1, Ord. 14-91, eff. December 19, 1991)

Secs. 4-17.25—4-17.29. - Reserved.

Sec. 4-17.30. - Violations—Additional remedies/injunctions.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provision of this chapter which operation or maintenance causes or creates sound levels or vibration exceeding the allowable limits as specified in this chapter shall be deemed and is hereby declared to be a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction. Additionally, no provision of this chapter shall be construed to impair any common law or statutory cause of action, or legal remedy therefrom, of any person for injury or damages arising from any violation of this ordinance or from other law.

(§ 1, Ord. 14-91, eff. December 19, 1991)

Sec. 4-17.31. - Severability.

If any provision, clause, sentence or paragraph of this chapter or the application thereof to any person or circumstances shall be held invalid, such invalidity shall not affect the other provisions or applications of the provisions of this chapter which can be given effect without the invalid provision or application and, to this end, the provisions of this chapter are hereby declared to be severable.

(§ 1, Ord. 14-91, eff. December 19, 1991)

MODELING INPUT & OUTPUT

CadnaA Input Output
Project: Franklin Petroleum
Case: Gas station and Car Wash 7AM-7PM

Receiver

Name	M.	ID	Level Lr Day (dBA)	Night (dBA)	Limit. Value Day (dBA)	Night (dBA)	Land Use Type	Auto	Noise Type	Height (m)		Coordinates X (m)	Y (m)	Z (m)
NM1			66.1	66.1	0	0	x		Total	1.5	r	137.01	114.05	1.5
NM2			67.7	67.7	0	0	x		Total	1.5	r	224.01	113.89	1.5
ST1			50.8	50.7	0	0	x		Total	1.5	r	133.11	234.74	1.5
ST2			71.5	71.2	0	0	x		Total	1.5	r	220.72	285	1.5
ST3			58.4	58.3	0	0	x		Total	1.5	r	340.41	188.11	1.5
N			71.5	71.2	0	0	x		Total	1.5	r	220.72	285	1.5
E			58.4	58.3	0	0	x		Total	1.5	r	340.41	188.11	1.5
S			67.7	67.7	0	0	x		Total	1.5	r	224.01	113.89	1.5
W			71	71	0	0	x		Total	1.5	r	132.56	197.06	1.5

Point Source

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Y (m)	Z (m)
Exit			113.4	112.4	112.4	Lw	CW2		1	0	0							0		(none)	2.44	r	222.45	236.44	2.44
Entrance			105.2	105.2	105.2	Lw	CW1		0	0	0							0		(none)	2.44	r	222.53	198.31	2.44
V1			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	204.76	231.68	1.22
V2			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	205	222.98	1.22
V3			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	205.12	214.39	1.22
V4			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	205	205.93	1.22
V5			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	204.88	196.98	1.22
V6			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	205.12	188.51	1.22
V7			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	182.87	188.64	1.22
V8			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	182.87	197.22	1.22
V9			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	182.87	205.81	1.22
V10			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	182.87	214.51	1.22
V11			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	182.87	223.1	1.22
V12			109.9	109.9	109.9	Lw	V1		0	0	0							0		(none)	1.22	r	182.63	231.68	1.22
PA			93	93	93	Lw	P1		0	0	0							0		(none)	1.22	r	258.15	212.68	1.22
PA			93	93	93	Lw	P1		0	0	0							0		(none)	1.22	r	263.42	212.68	1.22

Area Source

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Result. PWL'' Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Evening	Night
Gas Station			100.8	-8.2	-8.2	72	-37	-37	PWL-Pt	CDS01		0	0	0				5	0	0	0		(none)	8	0	0
Gas Station			95.1	-14	-14	66.3	-42.8	-42.8	PWL-Pt	CS		0	0	0				5	0	0	0		(none)	8	0	0

Sound Levels

Name	ID	Type	Oktave Spectrum (dB) Weight.	31.5	63	125	250	500	1000	2000	4000	8000	Source A	lin
Car Wash Entrance	CW1	Lw		104.6	103.3	102	103.2	103.3	98.3	98.7	92.7	88.3	105.2	111
Car Wash Exit	CW2	Lw		105.6	108.3	110.6	108.2	112.4	105.1	103.8	99.2	94.6	112.4	117.2
Steath Entrance	S1	Lw		73.5	73.8	78.9	90.4	98.8	97	95.2	91	83.9	101.7	102.7
Stealth Exit	S2	Lw		75.8	76.1	81.2	92.7	101.1	99.3	97.5	93.3	86.2	104	105
Predator Entrance	P1	Lw		67.5	67.5	76	88.8	91.2	87.8	86	79.8	69	93	95.1
Predator Exit	P2	Lw		69.8	69.8	78.3	91.1	93.5	90.1	88.3	82.1	71.3	95.3	97.4
Vacuum 40 HP No VFD	V1	Lw		96.9	97.4	99.3	96.5	93.2	98.3	104.1	105.1	102.6	109.9	110.4
Vacuum 40 HP with VFD	V2	Lw		77.9	78.4	80.3	77.5	74.2	79.3	85.1	86.1	83.6	90.9	91.4
Drive Through PA System	P1	Lw		81	76.5	71.1	70.3	77.7	80	82.6	68.8	40.3	85.8	87.3
Car Door Slam	CDS01	Lw		104	102	96	94	89	85	80	80	80	91.8	106.9
Car Start	CS	Lw		99.3	90.4	83.9	83.2	81.8	81.4	78.8	75.5	69.6	86	100.2

Result Table

Receiver Name	ID	Land Use	Limiting Value Day dB(A)	Night dB(A)	rel. Axis Station m	Distance m	Height m	Lr w/o Noise Control Day dB(A)	Night dB(A)	dL req. Day dB(A)	Night dB(A)	Lr w/ Noise Control Day dB(A)	Night dB(A)	Exceeding Day dB(A)	Night dB(A)	passive NC dB(A)
NM1			0	0	45	148.99	1.5	66.1	66.1	66.1	66.1	0	0	-	-	-
NM2			0	0	45	94.12	1.5	67.7	67.7	67.7	67.7	0	0	-	-	-
ST1			0	0	25	123.54	1.5	50.8	50.7	50.8	50.7	0	0	-	-	-
ST2			0	0	0	56.88	1.5	71.5	71.2	71.5	71.2	0	0	-	-	-
ST3			0	0	106	26.15	1.5	58.4	58.3	58.4	58.3	0	0	-	-	-
N			0	0	0	56.88	1.5	71.5	71.2	71.5	71.2	0	0	-	-	-
E			0	0	106	26.15	1.5	58.4	58.3	58.4	58.3	0	0	-	-	-
S			0	0	45	94.12	1.5	67.7	67.7	67.7	67.7	0	0	-	-	-
W			0	0	41	123.82	1.5	71	71	71	71	0	0	-	-	-

CadnaA Input Output
Project: Franklin Petroleum
Case: Gas Station 7PM-7AM

Receiver

Name	M.	ID	Level Lr Day (dBA)	Night (dBA)	Limit. Value Day (dBA)	Night (dBA)	Land Use Type	Auto	Noise Type	Height (m)		Coordinates X (m)	Y (m)	Z (m)
NM1			33.7	31.7	0	0	x		Total	1.5	r	137.01	114.05	1.5
NM2			38	35.7	0	0	x		Total	1.5	r	224.01	113.89	1.5
ST1			15.4	12.9	0	0	x		Total	1.5	r	133.11	234.74	1.5
ST2			40	38	0	0	x		Total	1.5	r	220.72	285	1.5
ST3			39.7	21.9	0	0	x		Total	1.5	r	340.41	188.11	1.5
N			40	38	0	0	x		Total	1.5	r	220.72	285	1.5
E			39.7	21.9	0	0	x		Total	1.5	r	340.41	188.11	1.5
S			38	35.7	0	0	x		Total	1.5	r	224.01	113.89	1.5
W			19.8	17	0	0	x		Total	1.5	r	132.56	197.06	1.5

Point Source

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Y (m)	Z (m)
PA			85.8	85.8	85.8	Lw	P1		0	0	0							0		(none)	1.22	r	258.15	212.68	1.22
PA			85.8	85.8	85.8	Lw	P1		0	0	0							0		(none)	1.22	r	263.42	212.68	1.22

Area Source

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Result. PWL'' Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Evening	Night
Gas Station			100.8	-8.2	-8.2	72	-37	-37	PWL-Pt	CDS01		0	0	0				5	0	0	0	(none)		8	0	0
Gas Station			95.1	-14	-14	66.3	-42.8	-42.8	PWL-Pt	CS		0	0	0				5	0	0	0	(none)		8	0	0

Sound Levels

Name	ID	Type	Oktave Spectrum (dB) Weight.	31.5	63	125	250	500	1000	2000	4000	8000	Source A	lin
Car Wash Entrance	CW1	Lw		104.6	103.3	102	103.2	103.3	98.3	98.7	92.7	88.3	105.2	111
Car Wash Exit	CW2	Lw		105.6	108.3	110.6	108.2	112.4	105.1	103.8	99.2	94.6	112.4	117.2
Steath Entrance	S1	Lw		73.5	73.8	78.9	90.4	98.8	97	95.2	91	83.9	101.7	102.7
Stealth Exit	S2	Lw		75.8	76.1	81.2	92.7	101.1	99.3	97.5	93.3	86.2	104	105
Predator Entrance	P1	Lw		67.5	67.5	76	88.8	91.2	87.8	86	79.8	69	93	95.1
Predator Exit	P2	Lw		69.8	69.8	78.3	91.1	93.5	90.1	88.3	82.1	71.3	95.3	97.4
Vacuum 40 HP No VFD	V1	Lw		96.9	97.4	99.3	96.5	93.2	98.3	104.1	105.1	102.6	109.9	110.4
Vacuum 40 HP with VFD	V2	Lw		77.9	78.4	80.3	77.5	74.2	79.3	85.1	86.1	83.6	90.9	91.4
Drive Through PA System	P1	Lw		81	76.5	71.1	70.3	77.7	80	82.6	68.8	40.3	85.8	87.3
Car Door Slam	CDS01	Lw		104	102	96	94	89	85	80	80	80	91.8	106.9
Car Start	CS	Lw		99.3	90.4	83.9	83.2	81.8	81.4	78.8	75.5	69.6	86	100.2

Result Table

Receiver Name	ID	Land Use	Limiting Value Day dB(A)	Night dB(A)	rel. Axis Station m	Distance m	Height m	Lr w/o Noise Control Day dB(A)	Night dB(A)	dL req. Day dB(A)	Night dB(A)	Lr w/ Noise Control Day dB(A)	Night dB(A)	Exceeding Day dB(A)	Night dB(A)	passive NC dB(A)
NM1			0	0	45	148.99	1.5	33.7	31.7	33.7	31.7	0	0	-	-	-
NM2			0	0	45	94.12	1.5	38	35.7	38	35.7	0	0	-	-	-
ST1			0	0	25	123.54	1.5	15.4	12.9	15.4	12.9	0	0	-	-	-
ST2			0	0	0	56.88	1.5	40	38	40	38	0	0	-	-	-
ST3			0	0	106	26.15	1.5	39.7	21.9	39.7	21.9	0	0	-	-	-
N			0	0	0	56.88	1.5	40	38	40	38	0	0	-	-	-
E			0	0	106	26.15	1.5	39.7	21.9	39.7	21.9	0	0	-	-	-
S			0	0	45	94.12	1.5	38	35.7	38	35.7	0	0	-	-	-
W			0	0	41	123.82	1.5	19.8	17	19.8	17	0	0	-	-	-

CadnaA Input Output
Project: Franklin Petroleum
Case: Banquet Indoor and Outdoor 11AM-10PM

Receiver

Name	M.	ID	Level Lr Day (dBA)	Level Lr Night (dBA)	Limit. Value Day (dBA)	Limit. Value Night (dBA)	Land Use Type	Land Use Auto	Noise Type	Height (m)		Coordinates X (m)	Coordinates Y (m)	Coordinates Z (m)
NM1			46.5	46.4	0	0	x		Total	1.5	r	137.01	114.05	1.5
NM2			43.6	43.4	0	0	x		Total	1.5	r	224.01	113.89	1.5
ST1			49.3	49.3	0	0	x		Total	1.5	r	133.11	234.74	1.5
ST2			40.3	40.1	0	0	x		Total	1.5	r	220.72	285	1.5
ST3			37.6	37.4	0	0	x		Total	1.5	r	340.41	188.11	1.5
N			40.3	40.1	0	0	x		Total	1.5	r	220.72	285	1.5
E			37.6	37.4	0	0	x		Total	1.5	r	340.41	188.11	1.5
S			43.6	43.4	0	0	x		Total	1.5	r	224.01	113.89	1.5
W			61.3	61.1	0	0	x		Total	1.5	r	132.56	197.06	1.5

Point Source

Name	M.	ID	Result. PWL Day (dBA)	Result. PWL Evening (dBA)	Result. PWL Night (dBA)	Lw / Li Type	Lw / Li Value	Lw / Li norm. dB(A)	Correction Day dB(A)	Correction Evening dB(A)	Correction Night dB(A)	Sound Reduction R	Sound Reduction Area (m²)	Attenuation	Operating Time Day (min)	Operating Time Special (min)	Operating Time Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Coordinates Y (m)	Coordinates Z (m)
Amplifed Music			94.3	94.3	94.3	Lw	AM		0	0	0								0	(none)	1.22	r	140.06	186.98	1.22
Amplified Music			94.3	94.3	94.3	Lw	AM		0	0	0								0	(none)	1.22	r	164.12	186.98	1.22

Area Source

Name	M.	ID	Result. PWL Day (dBA)	Result. PWL Evening (dBA)	Result. PWL Night (dBA)	Result. PWL'' Day (dBA)	Result. PWL'' Evening (dBA)	Result. PWL'' Night (dBA)	Lw / Li Type	Lw / Li Value	Lw / Li norm. dB(A)	Correction Day dB(A)	Correction Evening dB(A)	Correction Night dB(A)	Sound Reduction R	Sound Reduction Area (m²)	Attenuation	Operating Time Day (min)	Operating Time Special (min)	Operating Time Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Moving Pt. Src Number Evening	Moving Pt. Src Number Night
People			85.7	-41.1	-41.1	59.4	-67.4	-67.4	PWL-Pt	P		0	0	0							0		(none)	480	0	0
Cheers			95.7	95.7	95.7	69.5	69.5	69.5	Lw	Ch		0	0	0				2	0	0	0		(none)			
Ceiling			55.6	55.6	55.6	26.1	26.1	26.1	Lw"	C		0	0	0							0	500	(none)			

Sound Levels

Name	ID	Type	Oktave Spectrum (dB) Weight.	31.5	63	125	250	500	1000	2000	4000	8000	Source A	Source lin
Car Door Slam	CDS01	Lw		104	102	96	94	89	85	80	80	80	91.8	106.9
Car Start	CS	Lw		99.3	90.4	83.9	83.2	81.8	81.4	78.8	75.5	69.6	86	100.2
Person	P	Lw		56.2	57.3	59.9	56.5	56.5	54.3	51.1	43	37	58.9	65.1
Amplified Music	AM	Lw		85	104.2	95.8	87.8	90.5	88.7	87.2	83.6	84.3	94.3	105.3
Background Music	BM	Lw		81.6	82.3	87.4	80	80.4	78.1	73.7	69.9	66.8	82.8	90.7
Cheering	Ch	Lw		84.7	83.6	79.6	82.2	91.9	93	87.9	81.3	69.4	95.7	97.1
Ceiling	C	Lw		66.8	85.1	55.6	37.4	29.3	21.3	19.9	11.7	5.3	59	85.2
W1	W1	Lw		58.2	76.5	52.8	45.6	47.6	41	29.3	19	15.7	52	76.6
W2	W2	Lw		59.8	78.1	54.4	47.2	49.2	42.6	30.9	20.6	17.3	53.6	78.2
W3	W3	Lw		58.2	76.5	52.8	45.6	47.6	41	29.3	19	15.7	52	76.6
W4	W4	Lw		59.8	78.1	48.6	30.4	22.3	14.3	12.9	4.7	4.7	52	78.2

Result Table

Receiver Name	ID	Land Use	Limiting Value Day dB(A)	Limiting Value Night dB(A)	rel. Axis Station m	Distance m	Height m	Lr w/o Noise Control Day dB(A)	Lr w/o Noise Control Night dB(A)	dL req. Day dB(A)	dL req. Night dB(A)	Lr w/ Noise Control Day dB(A)	Lr w/ Noise Control Night dB(A)	Exceeding Day dB(A)	Exceeding Night dB(A)	passive NC dB(A)
NM1			0	0				46.5	46.4	46.5	46.4	0	0	-	-	-
NM2			0	0				43.6	43.4	43.6	43.4	0	0	-	-	-
ST1			0	0				49.3	49.3	49.3	49.3	0	0	-	-	-
ST2			0	0				40.3	40.1	40.3	40.1	0	0	-	-	-
ST3			0	0				37.6	37.4	37.6	37.4	0	0	-	-	-
N			0	0				40.3	40.1	40.3	40.1	0	0	-	-	-
E			0	0				37.6	37.4	37.6	37.4	0	0	-	-	-
S			0	0				43.6	43.4	43.6	43.4	0	0	-	-	-
W			0	0				61.3	61.1	61.3	61.1	0	0	-	-	-

CadnaA Input Output
Project: Franklin Petroleum
Case: Banquet Indoor and Outdoor 11AM-10PM

Receiver

Name	M.	ID	Level Lr Day (dBA)	Night (dBA)	Limit. Value Day (dBA)	Night (dBA)	Land Use Type	Auto	Noise Type	Height (m)		Coordinates X (m)	Y (m)	Z (m)
NM1			24.7	24.7	0	0	x		Total	1.5	r	137.01	114.05	1.5
NM2			23	23	0	0	x		Total	1.5	r	224.01	113.89	1.5
ST1			43.7	43.7	0	0	x		Total	1.5	r	133.11	234.74	1.5
ST2			26.8	26.8	0	0	x		Total	1.5	r	220.72	285	1.5
ST3			15.1	15.1	0	0	x		Total	1.5	r	340.41	188.11	1.5
N			26.8	26.8	0	0	x		Total	1.5	r	220.72	285	1.5
E			15.1	15.1	0	0	x		Total	1.5	r	340.41	188.11	1.5
S			23	23	0	0	x		Total	1.5	r	224.01	113.89	1.5
W			41.9	41.9	0	0	x		Total	1.5	r	132.16	199.12	1.5

Point Source

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Y (m)	Z (m)
Amplifed Music			0	0	0	Lw			0	0	0								0	(none)	1.22	r	140.06	186.98	1.22
Amplified Music			0	0	0	Lw			0	0	0								0	(none)	1.22	r	164.12	186.98	1.22

Walls

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Result. PWL'' Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Evening	Night
W1			66	66	66	52	52	52	Lw''	W1		0	0	0							3	(none)		0	0
W2			69.2	69.2	69.2	53.6	53.6	53.6	Lw''	W2		0	0	0							3	(none)			
W3			66	66	66	52	52	52	Lw''	W3		0	0	0							3	(none)			
W4			67.5	67.5	67.5	52	52	52	Lw''	W4		0	0	0							3	(none)			

Sound Levels

Name	ID	Type	Oktave Spectrum (dB) Weight.	31.5	63	125	250	500	1000	2000	4000	8000	Source A	lin
Car Door Slam	CDS01	Lw		104	102	96	94	89	85	80	80	80	91.8	106.9
Car Start	CS	Lw		99.3	90.4	83.9	83.2	81.8	81.4	78.8	75.5	69.6	86	100.2
Person	P	Lw		56.2	57.3	59.9	56.5	56.5	54.3	51.1	43	37	58.9	65.1
Amplified Music	AM	Lw		85	104.2	95.8	87.8	90.5	88.7	87.2	83.6	84.3	94.3	105.3
Background Music	BM	Lw		81.6	82.3	87.4	80	80.4	78.1	73.7	69.9	66.8	82.8	90.7
Cheering	Ch	Lw		84.7	83.6	79.6	82.2	91.9	93	87.9	81.3	69.4	95.7	97.1
Ceiling	C	Lw		66.8	85.1	55.6	37.4	29.3	21.3	19.9	11.7	5.3	59	85.2
W1	W1	Lw		58.2	76.5	52.8	45.6	47.6	41	29.3	19	15.7	52	76.6
W2	W2	Lw		59.8	78.1	54.4	47.2	49.2	42.6	30.9	20.6	17.3	53.6	78.2
W3	W3	Lw		58.2	76.5	52.8	45.6	47.6	41	29.3	19	15.7	52	76.6
W4	W4	Lw		59.8	78.1	48.6	30.4	22.3	14.3	12.9	4.7	4.7	52	78.2

Result Table

Receiver Name	ID	Land Use	Limiting Value Day dB(A)	Night dB(A)	rel. Axis Station m	Distance m	Height m	Lr w/o Noise Control Day dB(A)	Night dB(A)	dL req. Day dB(A)	Night dB(A)	Lr w/ Noise Control Day dB(A)	Night dB(A)	Exceeding Day dB(A)	Night dB(A)	passive NC dB(A)
NM1			0	0	45	148.99	1.5	24.7	24.7	24.7	24.7	0	0	-	-	-
NM2			0	0	45	94.12	1.5	23	23	23	23	0	0	-	-	-
ST1			0	0	25	123.54	1.5	43.7	43.7	43.7	43.7	0	0	-	-	-
ST2			0	0	0	56.88	1.5	26.8	26.8	26.8	26.8	0	0	-	-	-
ST3			0	0	106	26.15	1.5	15.1	15.1	15.1	15.1	0	0	-	-	-
N			0	0	0	56.88	1.5	26.8	26.8	26.8	26.8	0	0	-	-	-
E			0	0	106	26.15	1.5	15.1	15.1	15.1	15.1	0	0	-	-	-
S			0	0	45	94.12	1.5	23	23	23	23	0	0	-	-	-
W			0	0	41	124.08	1.5	41.9	41.9	41.9	41.9	0	0	-	-	-

PROJECT DRAWINGS

Memorandum

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

To: Ashley Potocnik, Development Liaison
Ben Moody, Director of Public Works and Development Services
City of Yuba City

From: Mario Tambellini, PE, TE
Nicole Scappaticci, PE

Date: April 16, 2024

Subject: **Franklin Road Commercial Traffic Impact Analysis**

INTRODUCTION

This memorandum has been prepared to present the results of a Traffic Impact Analysis (TIA) for the proposed Franklin Road Commercial Project (Project) located in the Yuba City (City). The Project would develop a gas station, convenience store with quick service restaurant endcap, and an express carwash.

The purpose of this TIA is to address the Project's impacts under the California Environmental Quality Act (CEQA) and evaluate the Project's potential off-site and on-site traffic operations. The CEQA analysis will consider the Project's effects on regional VMT, and the local access operations study will evaluate the Project's potential off-site traffic operational effects and confirm the adequacy of site access and circulation. This TIA includes the following sections:

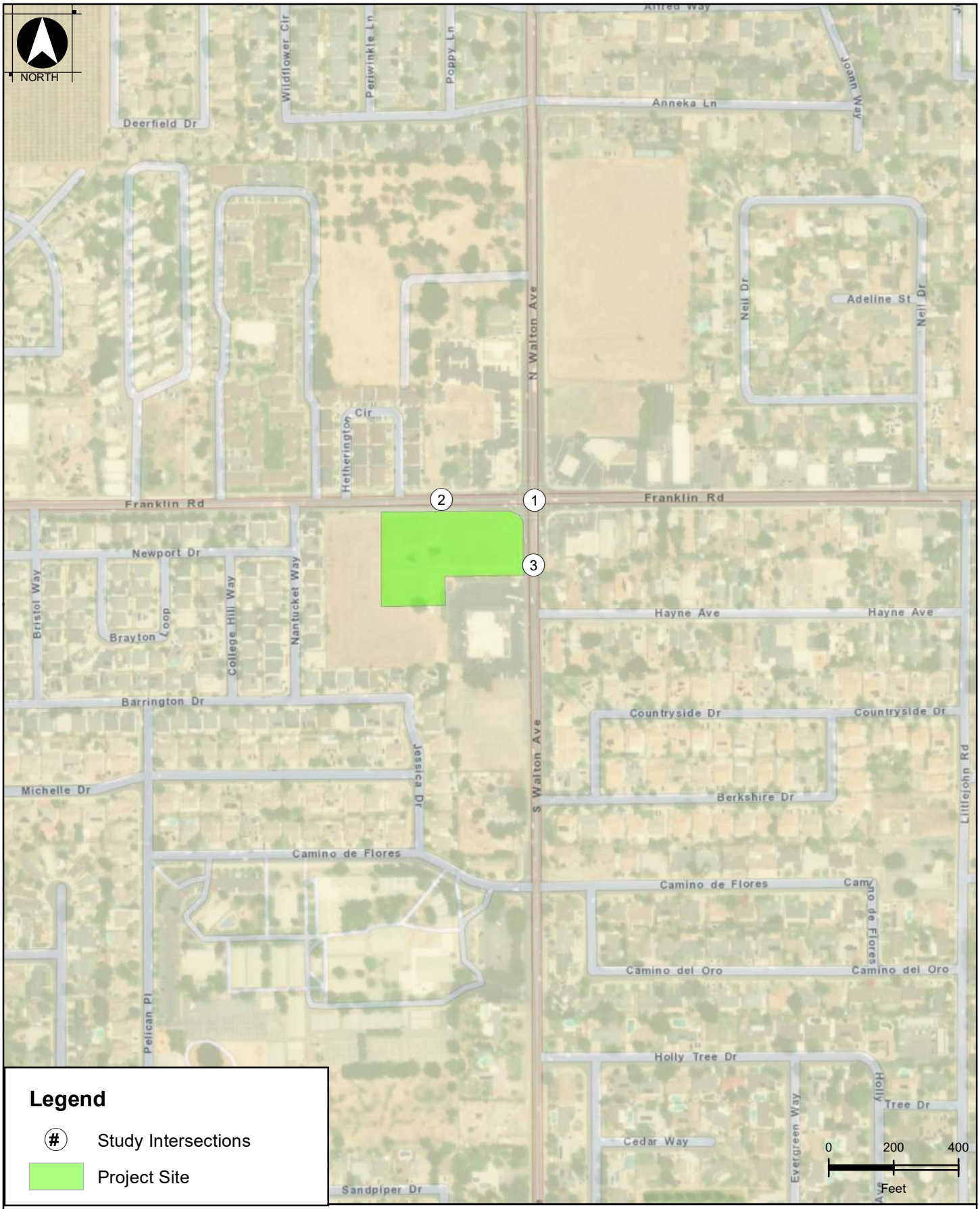
- Project Description
- Study Facilities and Analysis Scenarios
- Analysis Methodology
- Intersection Operations
- Operational Deficiencies
- Site Access and Internal Circulation
- On-Site Drive-Through Queueing Evaluation
- Project Impacts on Multimodal Facilities
- Vehicle Miles Traveled (VMT) Screening Analysis
- Conclusion

This TIA has been prepared consistent with policies in the *Yuba City General Plan* (adopted April 8, 2004).

PROJECT DESCRIPTION

The Project site is located on two existing lots, totaling approximately 3 acres, that sits on the southwest quadrant of the Walton Avenue & Franklin Road intersection. The Project site is currently vacant. The Project would develop a gas station with 16 fueling positions, a 4,500 square foot convenience store with 1,000 square foot drive-through quick service restaurant endcap, and a 130 linear foot express carwash.

The Project would gain access to the surrounding roadway network via one new driveway on Franklin Road and one new driveway on Walton Avenue. The Project site is currently designated Community Commercial in the Yuba City General Plan. The Project location is included in **Figure 1** and the Project site plan is shown in **Figure 2**.



Project Location and Study Facilities

Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 1

WOOD RODGERS

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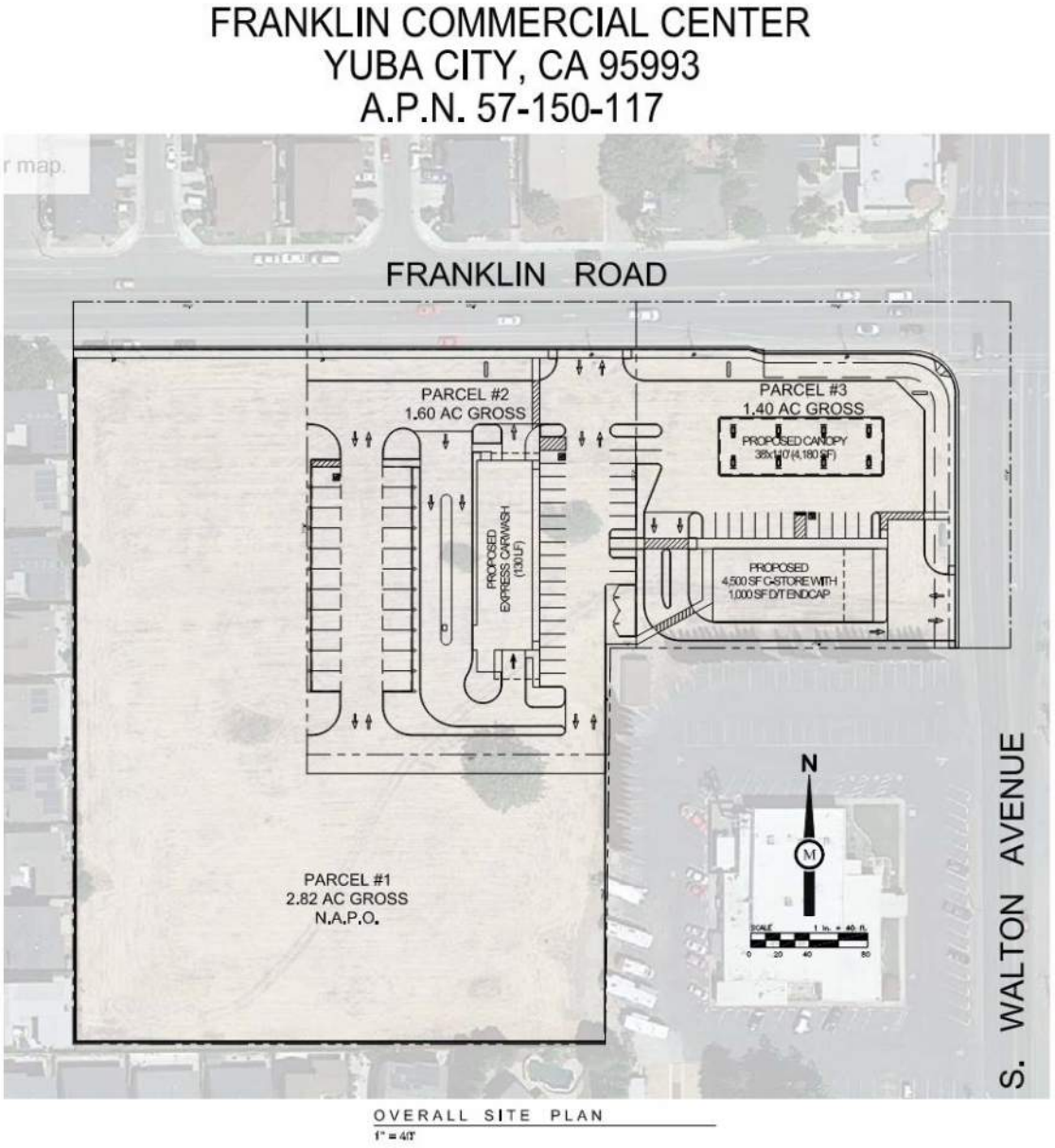
Figure 2. Project Site Plan



STUDY FACILITIES AND ANALYSIS SCENARIOS

Traffic operations analyses were performed under the following scenarios:

- Typical Weekday Scenarios (AM and PM Peak Hour):
    - "Existing" Conditions
    - "Existing Plus Project" Conditions
    - "Cumulative" Conditions
    - "Cumulative Plus Project" Conditions

The following four (4) intersections were included in this analysis:

1. Walton Avenue & Franklin Road
2. Project Driveway 1 & Franklin Road
3. Walton Avenue & Project Driveway 2

The locations of the above study intersection are shown in **Figure 1**.

ANALYSIS METHODOLOGY

LEVEL OF SERVICE METHODOLOGY

Synchro 11 software and Highway Capacity Manual, 6th Edition (HCM 6th Edition) methodology were used to determine intersection delay and level of service (LOS) operations under all study conditions.

For signalized intersections, the intersection delays and LOS reported are the average values for the whole intersection. For one-way stop-controlled (OWSC) and two-way stop-controlled (TWSC) intersections, the worst approach/movement delay and LOS is reported. The delay-based HCM 6th Edition LOS criteria for different types of intersection controls are outlined in **Table 1**.

Table 1. HCM 6th Edition Intersection LOS Thresholds

Level of Service	Description	Intersection Control Delay (seconds/vehicle)	
		Unsignalized	Signalized
A	Free-flow conditions with negligible to minimal delays.	delay ≤ 10.0	delay ≤ 10.0
B	Good progression with slight delays.	10.0 < delay ≤ 15.0	10.0 < delay ≤ 20.0
C	Relatively higher delays.	15.0 < delay ≤ 25.0	20.0 < delay ≤ 35.0
D	Somewhat congested conditions with longer but tolerable delays.	25.0 < delay ≤ 35.0	35.0 < delay ≤ 55.0
E	Congested conditions with significant delays.	35.0 < delay ≤ 50.0	55.0 < delay ≤ 80.0
F	Jammed or grid-lock type operating conditions.	delay > 50.0	delay > 80.0
Source: HCM 6th Edition Exhibit 19-8 and 20-2.			

HCM 6th Edition reports were generated to determine the delay and LOS at the study intersections in *Synchro 11* software. Existing signal timings for the Walton Avenue & Franklin Road intersection were obtained from the City and utilized in the analysis.

LEVEL OF SERVICE CRITERIA

The City's General Plan Transportation Policy 5.2-I-12 states that Yuba City aims to have all intersections achieve at least LOS "D". Based on City General Plan requirements, the minimum acceptable LOS for the study intersections is considered to be LOS "D".

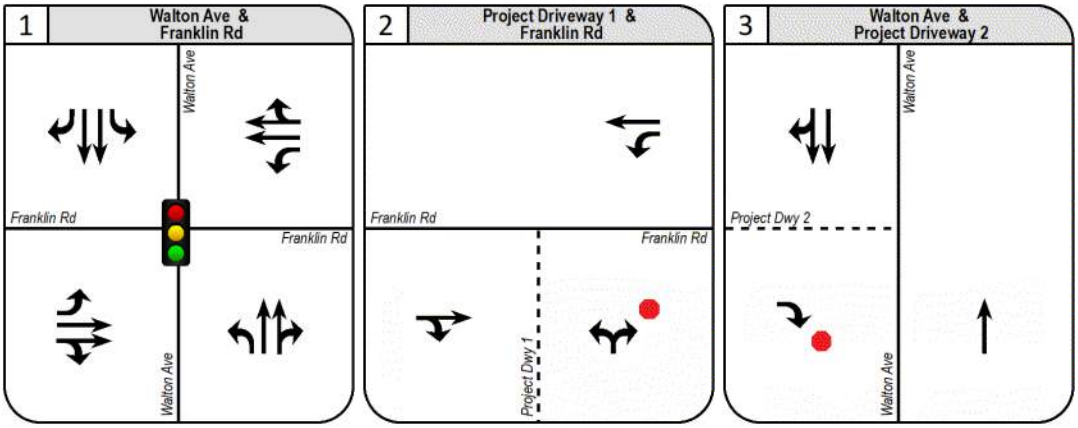
INTERSECTION OPERATIONS

EXISTING CONDITIONS

Existing Traffic Counts

Weekday AM and PM peak hour turning movement counts were collected on Thursday, November 30, 2023 between 7:00 AM to 9:00 AM and between 4:00 PM to 6:00 PM. Traffic data count sheets are included in **Attachment A**.

Existing conditions Lane geometrics and control are presented in **Figure 3** and Existing conditions traffic volumes are shown in **Figure 4**.



Existing Conditions Lane Geometrics and Control
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 3

WOOD RODGERS

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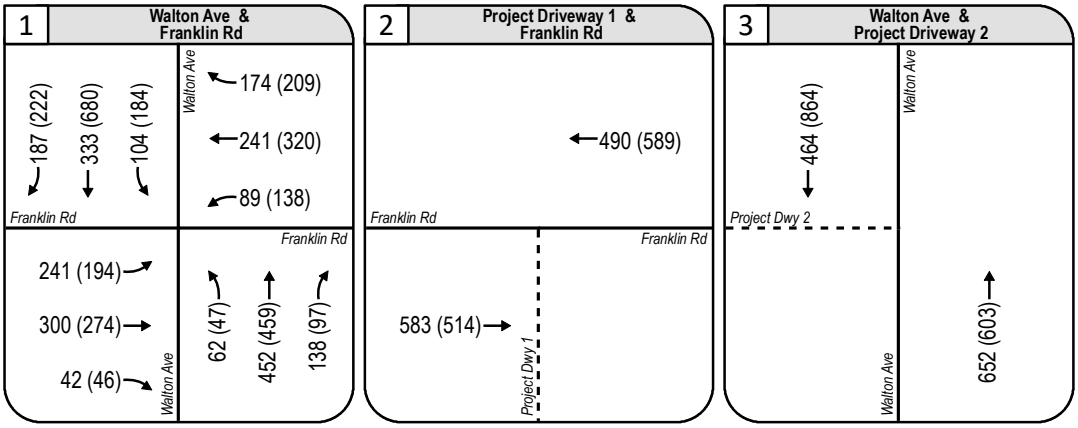


Existing Conditions Traffic Volumes
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 4

WOOD RODGERS

Existing Intersection Level of Service

Table 2 presents a summary of the intersection LOS operations under weekday AM and PM peak hour Existing conditions.

Table 2. Existing Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing	
					Delay (sec/veh)[2]	LOS
1	Walton Ave & Franklin Rd	Signal	D	AM	40.0	D
				PM	39.3	D
2	Project Driveway 1 & Franklin Rd	OWSC	D	AM	-	-
				PM	-	-
3	Walton Ave & Project Driveway 2	OWSC	D	AM	-	-
				PM	-	-

*Notes: **Bold** values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled
[2] For OWSC, the worst approach/movement delay and LOS is reported. For signalized intersection, average delay and LOS is reported.

As shown in **Table 2**, the Walton Avenue & Franklin Road intersection is currently operating at acceptable LOS D under all peak hour conditions. Synchro software HCM 6th Edition intersection LOS output reports are included in **Attachment B**.

EXISTING PLUS PROJECT CONDITIONS

Project Trip Generation

The trip generation data contained in the *ITE Trip Generation Manual, 11th Edition,* was used to approximate the number of trips generated by the Project. The ITE land use category of Fast-Food Restaurant With Drive-Through Window and No Indoor Seating (ITE Code 935) was used to represent the quick-serve drive-through restaurant attached to the convenience store, Convenience Store/Gas Station (GFA 4-5.5k) (ITE Code 945) was used to represent the gas station/convenience store, and Automated Car Wash (ITE Code 948) was used to represent the express car wash. **Table 3** shows the Project trip generation estimate.

As illustrated in **Table 3**, the proposed Project is anticipated to generate a total of 1,372 weekday daily primary trips; 131 AM peak hour primary trips (64 inbound, 67 outbound) and 122 PM peak hour primary trips (61 inbound, 61 outbound) under typical weekday traffic conditions.

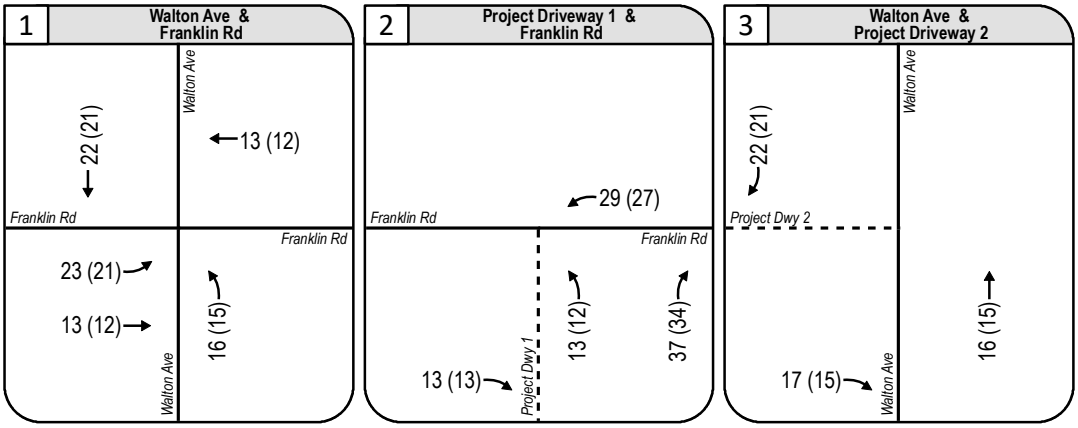
Project trips would access the site via one new full-access driveway on Franklin Road and one new right-in/right-out only driveway on Walton Avenue. Primary Project trips and pass-by trips were assigned to the surrounding roadway network based on Project characteristics, existing travel patterns, and knowledge of the area. Pass-by trips are considered vehicle trips currently on the existing adjacent roadway network that would utilize the new Project driveways to visit the Project site.

Primary Project trip distribution and assignment are shown in **Figure 5** and pass-by Project trip distribution and assignment are shown in **Figure 6.** Primary project trips and pass-by trips are added to Existing volumes to obtain Existing Plus Project peak hour volumes, which are shown in **Figure 7**.

Table 3. Project Trip Generation

Land Use	ITE Code	Quantity	Units	Daily[1]	AM Peak Hour[1]			PM Peak Hour[1]		
					In	Out	Total	In	Out	Total
Fast-Food Restaurant With Drive-Through Window and No Indoor Seating[6]	935	1	Drive-Thru Lanes	600	20	23	43	31	29	60
Internal Capture With Gas Station/Car Wash[5]				*-196*	*-10*	*-3*	*-13*	*-9*	*-12*	*-21*
Fast-Food Pass-By Trips (Daily/AM/PM/SAT: 31%)[4]				*125*	*4*	*5*	*9*	*6*	*6*	*12*
Fast-Food Restaurant With Drive-Through Window and No Indoor Seating Primary Trips				**279**	**6**	**15**	**21**	**16**	**11**	**27**
Convenience Store/Gas Station (GFA 4-5.5k)	945	16	FP[3]	4,114	217	216	433	182	182	364
Automated Car Wash[7]	948	1	Car Wash Tunnels	876	39	39	78	39	39	78
Internal Capture between Gas Station and Car Wash (50% of Car Wash Trips)[8]				*-438*	*-20*	*-19*	*-39*	*-20*	*-19*	*-39*
Internal Capture With Fast-Food[5]				*-181*	*-3*	*-10*	*-13*	*-12*	*-9*	*-21*
Gas Station Pass-By Trips (Daily/PM/SAT: 75%, AM: 76%)[4]				*3,278*	*175*	*174*	*349*	*144*	*143*	*287*
Automated Car Wash and Convenience Store/Gas Station Primary Trips				**1,093**	**58**	**52**	**110**	**45**	**50**	**95**
Total Primary Trips				**1,372**	**64**	**67**	**131**	**61**	**61**	**122**

Notes:
[1]Trip rates are calculated based on ITE Trip Generation (11th Edition) fitted curve equations or average rates.
[2]KSF = 1,000 square feet
[3]FP = Fueling Position
[4]Source: ITE Trip Generation (11th Edition) Pass-By Tables Appendices. Note that for ITE Codes 932 and 935, no AM pass-by percentage is provided. Therefore, Daily and AM pass-by was assumed to be the same as PM pass-by percentage.
[5]Internal Capture based on ITE NCHRP Report 684 estimator tool.
[6]ITE does not provide a Daily rate for Code 935. Therefore, the PM total trip generation was assumed to be 10% of the Daily trip generation.
[7]Daily and AM peak hour trip rates are not provided for Automated Car Wash use. The daily trip rate was estimated by dividing the PM peak hour Automated Car Wash rate by the ratio of the average rates for Daily and PM peak hour trip generation for Convenience Store/Gas Station (ITE 945) use (calculated to be ~0.088). The AM peak hour rate is assumed to be the same as the PM peak hour rate for Automated Car Wash.
[8]As ITE does not proved an internal capture rate between gas stations and car washes, it was assumed that 50% of vehicles utilizing the express car wash would also utilize the gas station in the same trip, as these land uses are typically complimentary.



Primary Project Trip Assignment and Distribution
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 5

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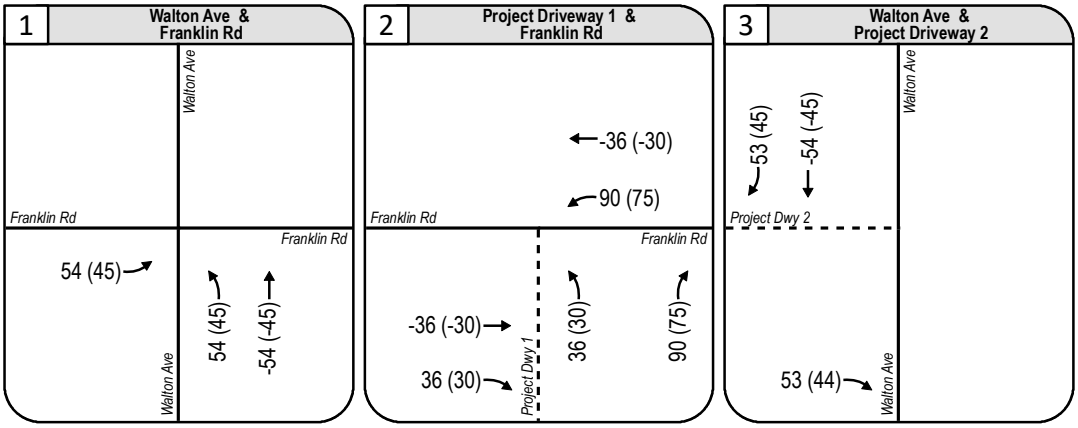

Pass-By Project Trip Assignment and Distribution
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 6

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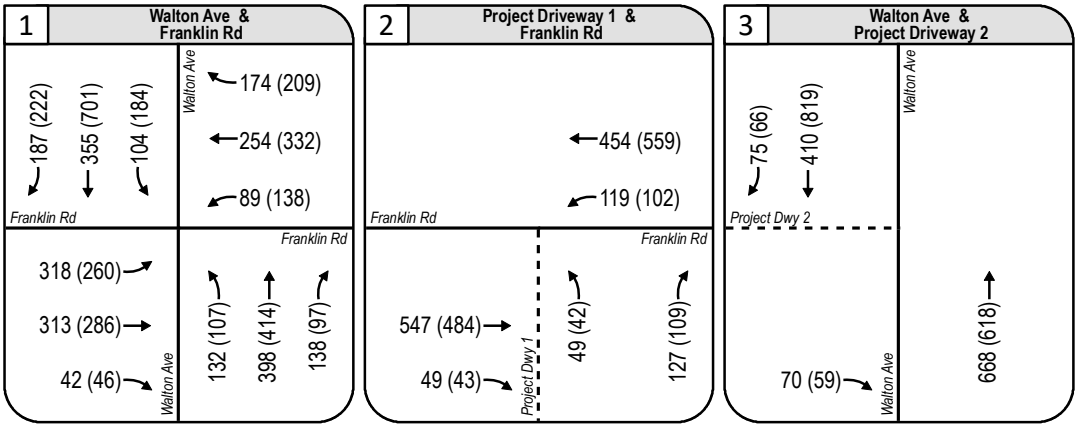

Existing Plus Project Traffic Volumes
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 7

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Existing Plus Project Intersection Level of Service

Table 4 presents a summary of the intersection LOS operations under weekday AM and PM peak hour Existing and Existing Plus Project conditions.

Table 4. Existing Plus Project Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing		Existing Plus Project	
					Delay (sec/veh)[2]	LOS	Delay (sec/veh)	LOS
1	Walton Ave & Franklin Rd	Signal	D	AM	40.0	D	45.8	D
				PM	39.3	D	44.5	D
2	Project Driveway 1 & Franklin Rd	OWSC	D	AM	-	-	19.9	C
				PM	-	-	17.4	C
3	Walton Ave & Project Driveway 2	OWSC	D	AM	-	-	10.5	B
				PM	-	-	12.7	B

*Notes: **Bold** values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two-Way Stop-Controlled
[2] For OWSC and TWSC, the worst approach/movement delay and LOS is reported. For signalized intersection, average delay and LOS is reported.

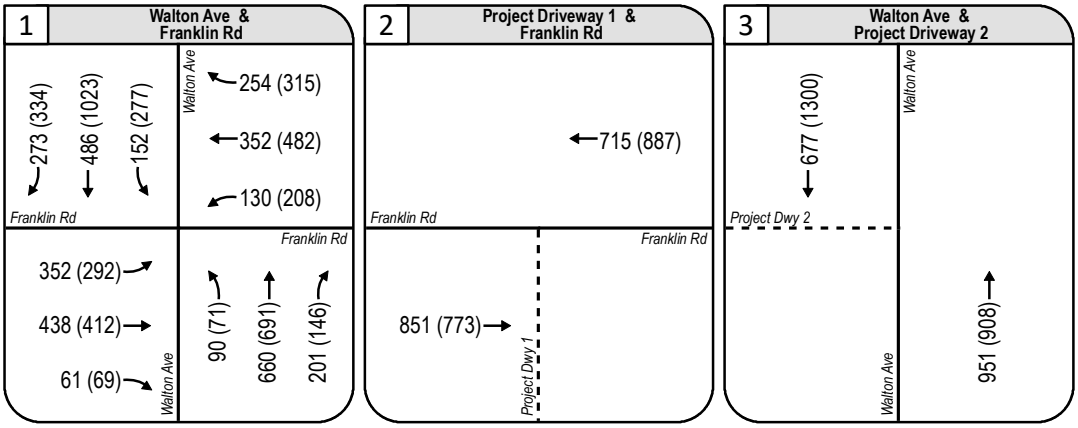
As shown in **Table 4**, all intersections are projected to continue operating at acceptable LOS under Existing Plus Project conditions. Synchro software HCM 6th Edition intersection LOS output reports are included in **Attachment B**.

Cumulative Conditions

Cumulative Conditions Volumes and Roadway Network

Cumulative (Year 2035) conditions were analyzed based on traffic forecasts developed using data from the Yuba City Travel Demand Model (TDM) 2020 Base Year and 2035 Market Scenario. Growth rates of 3.2% per year for the AM peak hour and 3.5% per year for the PM peak hour were calculated based on model volumes. The growth rates were applied to AM and PM peak hour Existing 2023 volumes to obtain Cumulative (2035) conditions traffic volumes, shown in **Figure 8**.

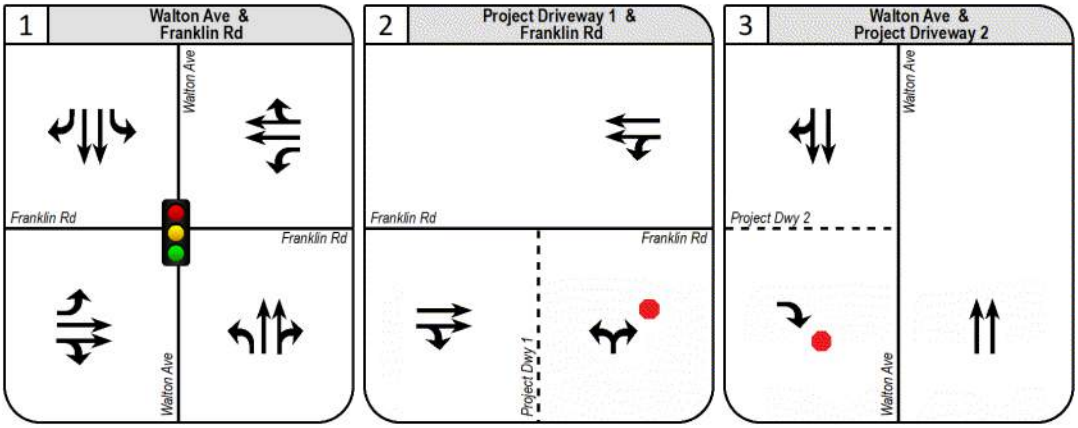
The *Yuba City General Plan* Transportation element states that Franklin Road between Township Road and Plumas Boulevard and Walton Avenue between Bogue Road and SR 20 are planned to be upgraded to 4-lane arterials. Therefore, Cumulative roadway conditions assume Franklin Road west of Walton Avenue and Walton Avenue south of Franklin Road have been widened to four lanes. This analysis assumes that the existing two-way left-turn lane on Franklin Road west of Walton Avenue would be removed with the widening. The *Yuba City General Plan* Transportation element did not specify if any intersection improvements would be made at the Walton Avenue and Franklin Road intersection (additional turn pockets, etc.). Since two through lanes currently exist on all four approaches of the Walton Avenue and Franklin Road intersection, geometries at the Walton Avenue and Franklin Road intersection were assumed to stay the same as existing. Cumulative conditions lane geometrics and control are shown in **Figure 9**.



Cumulative Conditions Traffic Volumes
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 8

WOOD RODGERS



Cumulative Conditions Lane Geometrics and Control
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 9

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Cumulative Intersection Level of Service

Table 5 presents a summary of the intersection LOS operations under weekday AM and PM peak hour Cumulative conditions.

Table 5. Cumulative Intersection Operations

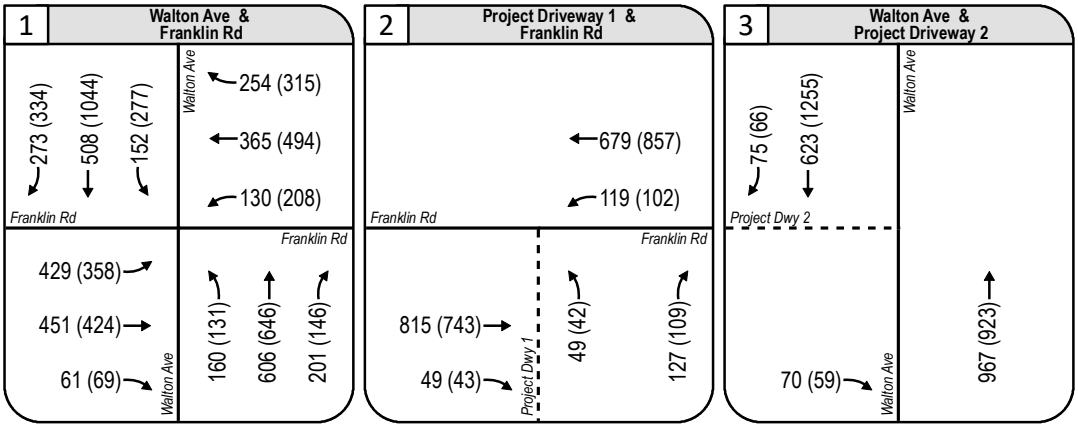
#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative	
					Delay (sec/veh)[2]	LOS
1	Walton Ave & Franklin Rd	Signal	D	AM	**62.5**	**E**
				PM	**77.9**	**E**
2	Project Driveway 1 & Franklin Rd	OWSC	D	AM	-	-
				PM	-	-
3	Walton Ave & Project Driveway 3	OWSC	D	AM	-	-
				PM	-	-

*Notes: **Bold** values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled
[2] For OWSC, the worst approach/movement delay and LOS is reported. For signalized intersection, average delay and LOS is reported.

As shown in **Table 5**, the Walton Avenue & Franklin Road intersection is projected to operate at unacceptable LOS E under AM and PM peak hour Cumulative conditions. Synchro software HCM 6th Edition intersection LOS output reports are included in **Attachment B**.

CUMULATIVE PLUS PROJECT CONDITIONS

Project primary trips and pass-by trips were added to Cumulative conditions volumes to obtain Cumulative Plus Project volumes, shown in **Figure 10**.



Cumulative Plus Project Traffic Volumes
Franklin Road Commercial TIA
Yuba City, CA
April 2024

Figure 10

WOOD RODGERS

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Cumulative Plus Project Intersection Level of Service

Table 6 presents a summary of the intersection LOS operations under weekday AM and PM peak hour Cumulative and Cumulative Plus Project conditions.

Table 6. Cumulative Plus Project Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative		Cumulative Plus Project	
					Delay (sec/veh)[2]	LOS	Delay (sec/veh)	LOS
1	Walton Ave & Franklin Rd	Signal	D	AM	**62.5**	**E**	**70.7**	**E**
				PM	**77.9**	**E**	**90.4**	**F**
2	Project Driveway 1 & Franklin Rd	OWSC	D	AM	-	-	**108.0**	**F**
				PM	-	-	**69.0**	**F**
3	Walton Ave & Project Driveway 2	OWSC	D	AM	-	-	11.6	B
				PM	-	-	16.7	C

*Notes: **Bold** values indicate unacceptable LOS.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two-Way Stop-Controlled
[2] For OWSC and TWSC, the worst approach/movement delay and LOS is reported. For signalized intersection, average delay and LOS is reported.

As shown in **Table 6**, the Walton Avenue & Franklin Road intersection is projected to continue to operate at unacceptable LOS E/F under AM and PM peak hour Cumulative Plus Project conditions. In addition, the Project Driveway 1 intersection with Franklin Road is projected to operate at LOS F during the AM and PM peak hours. Synchro software HCM 6th Edition intersection LOS output reports are included in **Attachment B**.

Intersection Queueing Analysis

Vehicle queuing was analyzed at the study intersections for all stop-controlled movements and movements with turn pockets that the Project would add trips to. **Table 7** shows the available storage lengths and 95th percentile queues under all analysis scenarios.

As shown in **Table 7**, the following queues are projected to exceed available storage:

- Walton Avenue & Franklin Road:
  - Northbound Left - Existing Plus Project: AM and PM; Cumulative Plus Project: AM and PM
  - Eastbound Left – Existing: AM and PM; Existing Plus Project: AM and PM; Cumulative: AM and PM; Cumulative Plus Project: AM and PM
- Project Driveway 1 & Franklin Road:
  - Northbound: Existing Plus Project: AM; Cumulative Plus Project: AM and PM

95th percentile queueing results are included in the Synchro reports contained in **Attachment B**.

Table 7. Queueing Analysis Results

#	Intersection	Movement	Available Storage (ft)[1]	Peak Hour	95th Percentile Queue (ft)			
					Existing	Existing Plus Project	Cumulative	Cumulative Plus Project
1	Walton Ave & Franklin Rd	NBL	150	AM	85	**202**	130	**269**
				PM	70	**179**	128	**253**
		SBR	175	AM	44	44	64	64
				PM	50	50	126	131
		EBL	160	AM	**240**	**366**	**460**	**607**
				PM	**202**	**317**	**423**	**543**
2	Project Driveway 1 & Franklin Rd	NB	25	AM	-	**44**	-	**164**
				PM	-	32	-	**114**
		WBL	50	AM	-	10	-	12
				PM	-	8	-	10
3	Walton Ave& Project Driveway 2	EBR	25	AM	-	6	-	8
				PM	-	8	-	12

Notes: One queued vehicle length is considered to be 20 feet long. ***Bold*** *values indicate that queue exceeds storage length.*
[1] For stop-controlled and uncontrolled movements, available storage represents the distance to the nearest major cross-street, driveway, or parking aisle.

OPERATIONAL DEFICIENCIES

INTERSECTION LOS

Existing and Existing Plus Project Conditions

All study intersections were shown to operate at acceptable LOS under Existing and Existing Plus Project conditions for AM and PM peak hour conditions.

Cumulative and Cumulative Plus Project Conditions

The following intersections were shown to experience unacceptable LOS under the Cumulative and Cumulative Plus Project scenarios:

Walton Avenue & Franklin Road: This intersection is projected to operate at LOS E under Cumulative AM and PM peak hour conditions and would operate at LOS E during the AM peak hour and LOS F during the PM peak hour with the addition of Project trips. A potential improvement measure for this intersection would be to construct dual eastbound left turn lanes.

A typical capacity for a single left-turn lane is 300 vehicles per hour. Cumulative conditions forecasts estimate the eastbound left-turn lane would experience over 300 vehicles per hour and the Project would add trips to this movement. Dual eastbound left-turn lanes would help accommodate this movement's high demand and could be incorporated into the eventual widening of Franklin Road. The Project could provide a fair share contribution toward this future improvement and may need to provide right-of-way to accommodate the addition of an eastbound left turn lane. The Project's fair share contribution toward the dual eastbound left-turn lanes may take the form of a typical traffic impact fee collected by the City which would go towards planned improvements such as the Franklin Road widening project listed in the General Plan.

Project Driveway 1 & Franklin Road: This intersection is projected to operate at LOS F during the AM and PM peak hours under Cumulative Plus Project conditions. A potential improvement at this intersection would be to provide a two-way left-turn lane on Franklin Road under Cumulative conditions. This improvement could be incorporated into the eventual widening of Franklin Road and could also be utilized by traffic

accessing the existing commercial and residential driveways on Franklin Road. The Project could provide a fair share contribution toward this future improvement and may need to provide right-of-way to accommodate the addition of a two-way left-turn lane. The Project's fair share contribution toward the two-way left-turn lane may take the form of a typical traffic impact fee collected by the City which would go towards planned improvements such as the Franklin Road widening project listed in the General Plan.

Table 8 shows intersection operations of Walton Avenue & Franklin Road and Project Driveway 1 & Franklin Road with the recommended improvement in place. Synchro software HCM 6th Edition intersection LOS output reports for improved conditions are included in **Attachment C**.

Table 8. Cumulative Plus Project Intersection Operations – With Improvements

#	Intersection	Potential Improvement	Peak Hour	Cumulative		Cumulative Plus Project		Cumulative Plus Project – with Improvements	
				Delay (sec/veh)[1]	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1	Walton Ave & Franklin Rd	Dual Eastbound Left-Turn Lanes	AM	**62.5**	**E**	**70.7**	**E**	48.8	D
			PM	**77.9**	**E**	**90.4**	**F**	52.8	D
2	Project Driveway 1 & Franklin Rd	Two-Way Left-Turn Lane on Franklin Rd	AM	-	-	**108.0**	**F**	20.6	C
			PM	-	-	**69.0**	**F**	17.8	C

*Notes: **Bold** values indicate unacceptable LOS.*
[1] For signalized intersection, average delay and LOS is reported.

Table 9 provides a Project fair share percentage contribution towards the above improvements.

Table 9. Project Fair Share Contribution Percentage

#	Intersection	Potential Improvement	Cumulative Plus Project Volume	Project Trips Added	Project Fair Share Percentage[1]
1	Walton Ave & Franklin Rd	Dual Eastbound Left-Turn Lanes	3,590	87	2.4%
2	Project Driveway 1 & Franklin Rd	Two-Way Left-Turn Lane on Franklin Rd	1,838	92	5.0%

*Notes: **Bold** values indicate unacceptable LOS.*
[1] Project Fair Share Percentage is calculated as: Fair Share % = Project Added Volumes / Cumulative Plus Project Volumes. AM peak hour volumes were used as the Project would add a higher number of primary trips to the intersection during the AM peak hour.

As shown in **Table 9**, the Project fair share percentage toward the future construction of dual eastbound left-turn lanes would be 2.4% and Project fair share percentage toward the future construction of the two-way left-turn lane would be 5.0%.

QUEUEING DEFICIENCIES

Existing and Existing Plus Project Conditions

Walton Avenue & Franklin Road: The addition of Project trips is projected to cause the northbound left-turn queue to exceed available storage under Existing Plus Project AM and PM conditions. Eastbound left-turn queues at this intersection currently exceed storage during the AM and PM peak hours and would worsen under Existing Plus Project conditions.

A potential improvement at this intersection to shorten northbound left-turn queues under Existing Plus Project conditions would be to optimize signal timing splits to provide more green time to the northbound left-turn phase. Although these signal timing improvements would not shorten eastbound left-turn queues enough to fit within the striped eastbound left-turn storage lane, eastbound left-turning vehicles would be

able to queue within the existing two-way left-turn median lane without spilling back beyond Heatherington Circle.

Table 10 provides 95th percentile queue lengths with under Existing Plus Project conditions with the recommended signal timing improvement in place. 95th percentile queueing results under improved conditions are included in the Synchro reports contained in **Attachment C**.

Table 10. Queueing Analysis Results – Existing Plus Project – With Signal Timing Improvements

#	Intersection	Movement	Available Storage (ft)	Peak Hour	95th Percentile Queue (ft)		
					Existing	Existing Plus Project	Existing Plus Project With Improvements
1	Walton Ave & Franklin Rd	NBL	150	AM	85	**202**	147
				PM	70	**179**	142
		SBR	175	AM	44	44	48
				PM	50	50	56
		EBL	160	AM	**240**	**366**	**297**
				PM	**202**	**317**	**260**

*Notes: One queued vehicle length is considered to be 20 feet long. **Bold** values indicate that queue exceeds storage length.*

Project Driveway 1 & Franklin Road: The northbound queues at Project Driveway 1 are projected to be 44 feet, which would exceed available driveway throat depth by approximately 19 feet (approximately 1 vehicle length). However, any additional egress vehicles could queue within the drive aisles to the east or south of the driveway. Appropriate signing and/or striping should be used to prevent queued vehicles from blocking the on-site drive-aisle intersection and entrance and exit of the express car wash within the site.

Cumulative and Cumulative Plus Project Conditions

Walton Avenue & Franklin Road: The addition of Project trips is projected to cause the northbound left-turn queue to exceed available storage under Cumulative Plus Project AM and PM conditions. Under Cumulative conditions, eastbound left-turn queues at this intersection are projected to exceed storage during the AM and PM peak hours and would worsen under Cumulative Plus Project conditions.

As the northbound and eastbound approach of the Walton Avenue & Franklin Road intersection are planned to be widened under Cumulative conditions, there would be an opportunity to lengthen the northbound and eastbound left-turn lanes to accommodate future queues. Additionally, construction of dual eastbound left-turn lanes as described in the previous section would help shorten northbound and eastbound left-turn queues.

It is recommended that the northbound and eastbound left-turn pockets at the Walton Avenue & Franklin Road intersection be lengthened to accommodate the above 95th percentile queue lengths under Cumulative Plus Project With Improvements conditions as part of the Walton Avenue and Franklin Road widening projects identified in the General Plan.

Table 11 provides 95th percentile queue lengths under Cumulative Plus Project conditions with the dual eastbound left-turn lane, signal timing, and two-way left-turn lane improvements in place. 95th percentile queueing results under improved conditions are included in the Synchro reports contained in **Attachment C**.

Project Driveway 1 & Franklin Road: Northbound queues at Project Driveway 1 are projected to be up to 164 feet, or about 8 vehicles long, under Cumulative Plus Project conditions. Installation of a two-way left-turn lane on Franklin Road under Cumulative conditions, alongside the planned widening, would help lower northbound queues. As shown in **Table 11**, northbound queues at Project Driveway 1 would still exceed driveway throat depth by approximately one vehicle length with the two-way left-turn lane improvement in place. However, any additional egress vehicles could queue within the drive aisles to the

east or south of the driveway. Appropriate signing and/or striping should be used to prevent queued vehicles from blocking drive aisle circulation within the site, especially at the primary drive aisle intersection south of Project Driveway 1.

Table 11. Queueing Analysis Results – Cumulative Plus Project – With Dual Eastbound Left-Turn Lane and Two-Way Left-Turn Lane Improvements

#	Intersection	Movement	Available Storage (ft)	Peak Hour	95th Percentile Queue (ft)		
					Cumulative	Cumulative Plus Project	Cumulative Plus Project With Improvements
1	Walton Ave & Franklin Rd	NBL	150	AM	130	130	**185**
				PM	128	128	**202**
		SBR	175	AM	64	64	58
				PM	126	126	121
		EBL	160	AM	**460**	**460**	**212**
				PM	**423**	**423**	**213**
2	Project Driveway 1 & Franklin Rd	NB	25	AM	-	**164**	**46**
				PM	-	**114**	**34**
		WBL	50	AM	-	12	12
				PM	-	10	10

Notes: One queued vehicle length is considered to be 20 feet long. ***Bold*** *values indicate that queue exceeds storage length.*

PROJECT EFFECTS AT STATE ROUTE 99

Project trips are projected to access State Route 99 (SR 99) via Franklin Road. Based on the Project trip distribution shown in **Figure 11**, up to 20% of primary Project tips are projected to travel through the SR 99 & Franklin Road intersection, which translates to up to 26 AM/PM weekday peak hour trips. Based on the Project trip distribution shown in **Figures 12** and **13**, up to 7.5% of primary Project tips are projected to travel through the SR 99 & Bridge Street and SR 99 & Richland Road intersections (which would all be through trips on the highway), which translates to up to 10 AM/PM weekday peak hour trips.

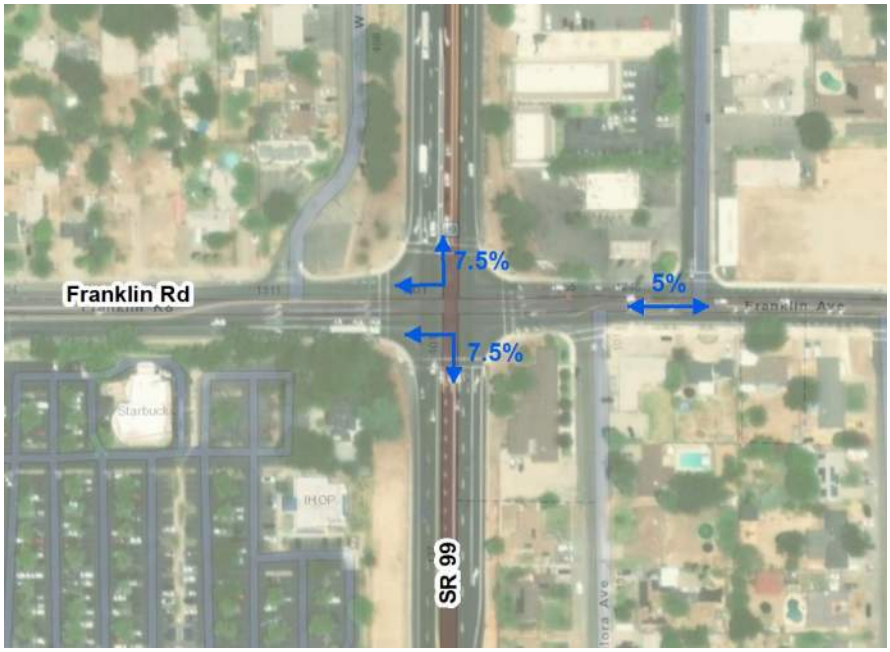


Figure 11. Primary Project Trip Distribution at SR 99 & Franklin Rd

Figure 12. Primary Project Trip Distribution at SR 99 & Bridge St

Figure 13. Primary Project Trip Distribution at SR 99 & Richland Rd

Figure 14 shows the Project trip assignment at SR 99 & Franklin Road under AM and PM peak hour conditions. Project trip assignment at SR 99 & Bridge Street and SR 99 & Richland Road are not provided due to the small number of Project through trips projected at those intersections in **Figures 12** and **13**.

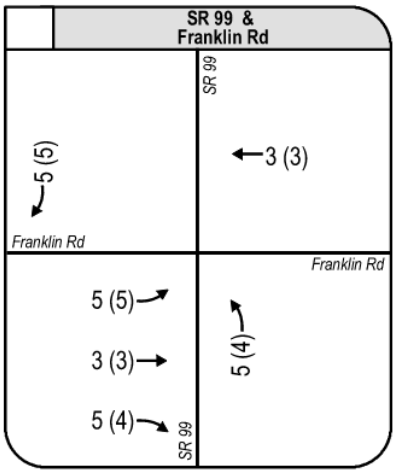


Figure 14. AM(PM) Peak Hour Project Trip Assignment at SR 99 & Franklin Rd

As shown in **Figure 14**, the SR 99 & Franklin Road intersection would experience minimal Project trips during the AM and PM peak hours. Therefore, the Project trips are not anticipated to adversely affect operations and queues of the SR 99 intersections with Bridge Street, Franklin Road, and Richland Road.

SITE ACCESS AND INTERNAL CIRCULATION

Access to the Project site would be provide via the following proposed driveways:

Project Driveway 1 would be located on Franklin Road and provide a main access for the proposed gas station, car wash, and drive-through restaurant. This driveway is assumed to be full access, with vehicles utilizing the two-way left-turn lane on Franklin Road. As shown in **Table 7**, maximum left-turn ingress queueing is projected to be 12 feet, which would fit within available storage. As shown in **Table 11,** maximum egress queuing at this intersection is projected to be 46 feet (approximately two vehicles) under Cumulative Plus Project With Improvements conditions. The Project site plan shows a throat depth of approximately 25 feet, which would accommodate about one queued vehicle. Throat depth of this driveway could be lengthened to accommodate a second queued vehicle, or a second egress vehicles could queue within an interior drive aisle.

Project Driveway 2 would be located on Walton Avenue and primarily provide access for the proposed gas station, car wash, and drive-through restaurant. Due to the proximity to the Walton Avenue & Franklin Road intersection and northbound left-turn pocket, this driveway is recommended and assumed to be right-in/right-out only. Maximum egress queuing at this driveway intersection is projected to be 12 feet, which would fit within available storage.

Internal circulation within the site would be provided via internal drive aisles. Parking for the convenience store, car wash, and restaurant are located adjacent to each individual use.

Emergency access to the Project would be provided by both driveways and is anticipated to be adequate for the site.

DRIVEWAY CORNER SIGHT DISTANCE

City Standard Detail ST22 indicates that on streets where the speed limit is greater than 25 mph, the Caltrans Highway Design Manual (HDM) corner sigh distance requirements should be used. Therefore, corner sight distance (CSD) for left-turn and right-turn egress vehicles at Project Driveway 1 and CSD for right-turn egress vehicles at Project Driveway 2 were evaluated based on Chapter 400 of the HDM. Based on the posted speed limit of 35 mph on Franklin Road and Walton Avenue, a design speed of 45 mph was assumed when calculating CSD. The minimum required CSD for left-turns from Driveway 1 was determined to be 497 feet and the minimum required CSD for right-turns from Driveways 1 and 2 was determined to be 430 feet.

Corner sight distances for the Project Driveways are illustrated in **Appendix D** and are summarized in **Table 12**. Note that the CSD included in **Table 12** for vehicles making an egress left-turn at Project Driveway 1 is considered to be conservative, as vehicles making a left-turn egress movement would be able to utilize the two-way left-turn lane on Franklin Road to make a two-stage left turn out of the driveway.

As shown in **Table 12**, sight distance at all Project Driveways is projected to meet or exceed City and Caltrans requirements.

Table 12. Project Driveways Corner Sight Distance

Movement	Design Speed of Major Road[1]	Required Sight Distance[2]	Available Sight Distance	Sight Distance Met?
Left-Turn Egress (Project Driveway 1)	45 mph	497'	497'+	Yes
Right-Turn Egress (Project Driveways 1 and 2)	45 mph	430'	430'+	Yes

Notes:
[1]Design speed was assumed to be 10 mph over the posted speed limit.
[2] Required sight distance based on Chapter 400 of the Caltrans HDM for a design speed of 45 mph.

FUEL TRUCK TURNS AND ACCESS

Truck turn analysis was performed for gas station ingress and egress movements using an approximately 50-foot fuel truck design vehicle. Fuel trucks would utilize Project Driveways 1 and 2 to access the gas station. Full inbound and outbound access was assumed for Project Driveway 1 and right-turn out only access was assumed for Project Driveway 2. The Project driveways and internal circulation were shown to accommodate the above movements. Turn templates are shown in **Attachment E**.

ON-SITE DRIVE-THROUGH QUEUEING EVALUATION

A car wash queuing analysis was performed for the proposed express car wash on the Project site based on data collected at two other area express car wash locations. Car wash queuing data over five-minute intervals was collected on Thursday, November 30, 2023, between 7 AM to 9 AM and 4 PM to 6 PM, at the following locations:

- Surf Thru Express Car Wash, 1501 Colusa Highway, Yuba City, CA
- Hwy 99 Car Wash, 1265 Hunn Road, Yuba City, CA

The Surf Thru Express Car Wash is located approximately 1.3 miles from the Project site and the Hwy 99 Car Wash is located approximately 0.8 miles from the Project site.

A summary of the car wash queue data is included in **Table 13**.

As shown in **Table 13**, the Surf Thru Express location experienced the highest maximum peak period queue of 8 vehicles total, with 4 vehicles (approximately 80 feet) queued between the queue entrance and pay area and 4 vehicles (approximately 80 feet) between the pay area and tunnel entrance during the peak observed queue periods.

As shown in **Figure 2**, the Project site plan would provide a total of approximately 300 feet (about 150 feet per lane) of storage between the queue entrance and pay area and approximately 130 feet of storage between the pay area and the tunnel entrance, and is therefore anticipated to accommodate the maximum peak hour car wash queue in each queueing segment without overflow. Projected maximum queues would not block the internal circulation to the sit-down restaurant, fuel pumps, and convenience store stalls.

Table 13. Maximum Drive-Through Queueing at Express Car Washes

Location	Queueing Segment	Available Queue Storage (ft)[1]	Max Observed Queue (veh (ft))[1]	
			AM	PM
Surf Thru Express Car Wash, 1501 Colusa Highway, Yuba City	Queue entrance to pay area	550	4(80')	4(80')
	Pay area to tunnel entrance	170	4(80')	4(80')
Hwy 99 Car Wash, 1265 Hunn Road, Yuba City	Queue entrance to pay area	100	2(40')	1(20')
	Pay area to tunnel entrance	50	1(20')	1(20')

Notes: One queued vehicle length is assumed to be 20 feet.
[1] Available Queue Storage and Max Observed Queue for the queuing segment between the queue entrance to the pay area is the total of all lanes.

A drive-through queuing analysis was also performed for the proposed end-cap quick service restaurant that would be attached to the convenience store. As the drive-through restaurant is only 1,000 square feet and attached to the convenience store, it was determined that drive-through queueing at traditional fast-food restaurants with indoor seating may not align with the Project characteristics. Therefore, data was collected at the FreeTime Java drive-through, which is connected to the Circle K convenience store/76 gas station located at 1466 Colusa Highway in Yuba City, approximately 1.4 miles from the Project site. Drive-through queuing data over five-minute intervals was collected on Thursday, November 30, 2023, between 7 AM to 9 AM and 4 PM to 6 PM.

A summary of the drive-through restaurant queue data is included in **Table 14**.

Table 14. Maximum Drive-Through Queueing

Location	Available Queue Storage (ft)[1]	Max Observed Queue (veh (ft))	
		AM	PM
FreeTime Java at Circle K/76 Gas Station, 1466 Colusa Highway, Yuba City	120	3 (60')	3 (60')

Notes: One queued vehicle length is assumed to be 20 feet.
[1] Available queuing storage is measured from the drive-through entrance to the order pick-up window.

As shown in **Table 14**, the FreeTime Java experienced the highest maximum peak period queue of 3 vehicles (approximately 60 feet) during both peak hours.

As shown in **Figure 2**, the Project site plan would provide approximately 280 total feet of quick-serve restaurant drive-through storage, or room for approximately 14 vehicles, and is therefore anticipated to accommodate the maximum peak hour quick-serve restaurant queue without overflow. Projected maximum queues would not block the internal circulation to the sit-down restaurant, fuel pumps, and convenience store stalls.

Car wash and fast-food drive-through queuing data is included in **Attachment F**.

PROJECT IMPACTS ON MULTIMODAL FACILITIES

EXISTING MULTIMODAL FACILITIES

Yuba City is served by Yuba-Sutter Transit, which operates five local routes between Yuba City, Marysville, Linda, and Olivehurst as well as services from select rural communities and Dial-A-Ride services. The closest transit stops to the Project site are located on Walton Avenue just south of Franklin Road and serve Route 5, which provides connectivity within southwest Yuba City. Route 5 operates Monday through Friday between 6:30 AM and 6:30 PM at 1-hour headways and Saturday between 8:30 AM and 5:30 PM at 1-hour headways.

Within the Project vicinity, pedestrian sidewalks currently exist along both sides of Franklin Road and Walton Avenue. The Walton Avenue & Franklin Road intersection contains four crosswalks with pedestrian curb ramps.

Within the Project vicinity, Class II bicycle lanes currently exist in both directions of Franklin Road and Walton Avenue.

PROPOSED MULTIMODAL FACILITIES

There are currently no proposed transit, pedestrian, or bicycle facilities within the vicinity of the Project site.

MULTIMODAL IMPACTS

The Project is not anticipated to cause a significant increase in pedestrian, bicycle, or transit demand in the study area that would put existing facilities over capacity or adversely affect existing or proposed pedestrian, bicycle, or transit facilities in a way that would discourage their use. The Project would not result in unsafe conditions for bicyclists or pedestrians or result in unsafe bicycle/pedestrian/motor vehicle conflicts.

The Project's on-site marked pedestrian walkways should provide access to / align with the existing transit stop on Walton Avenue.

VEHICLE MILES TRAVELED (VMT) SCREENING ANALYSIS

Senate Bill 743 (SB 743), signed in 2013, required changes to CEQA guidelines on the measurement and identification of transportation impacts due to new projects in California. Revised CEQA Guidelines were adopted in 2018 which identified VMT as the most appropriate metric to evaluate transportation impacts. Statewide implementation of assessment of VMT as a metric of transportation impact occurred for all jurisdictions on July 1, 2020. The Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) (December 2018), contains technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The City has not currently adopted official VMT guidelines or thresholds. Therefore, this memorandum utilizes recommended thresholds outlined in the OPR Technical Advisory for residential uses.

OPR guidance states the following:

> By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact…Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

In general, gas stations/convenience stores, car washes, and fast-food restaurants may be considered local serving. As the total Project square footage is under 50,000, the Project can be considered to have a less-than-significant VMT Impact.

CONCLUSION

Project Trip Generation

The proposed Project is anticipated to generate a total of 1,372 weekday daily trips; 131 AM peak hour primary trips (64 inbound, 67 outbound) and 122 PM peak hour trips (61 inbound, 61 outbound) under typical weekday traffic conditions.

Intersection Operations Deficiencies and Improvements

All study intersections were shown to operate at acceptable LOS under Existing and Existing Plus Project conditions for AM and PM peak hour conditions.

The following intersections were shown to experience unacceptable LOS under the Cumulative and Cumulative Plus Project scenarios:

Walton Avenue & Franklin Road: This intersection is projected to operate at unacceptable LOS E under Cumulative AM and PM peak hour conditions and would continue to operate at LOS E/F with the addition of Project trips. A potential improvement measure for this intersection would be to construct dual eastbound left turn lanes.

Dual eastbound left-turn lanes would help accommodate this movement's high demand and could be incorporated into the eventual widening of Franklin Road. The Project could provide a fair share contribution of 2.4% toward this future improvement and may need to provide right-of-way to accommodate the addition of an eastbound left turn lane. The Project's fair share contribution toward the dual eastbound left-turn lanes may take the form of a typical traffic impact fee collected by the City which would go towards planned improvements such as the Franklin Road widening project listed in the General Plan.

Project Driveway 1 & Franklin Road: This intersection is projected to operate at LOS F during the AM and PM peak hours under Cumulative Plus Project conditions. A potential improvement at this intersection would be to provide a two-way left-turn lane on Franklin Road.

This improvement could be incorporated into the eventual widening of Franklin Road and could also be utilized by traffic accessing the existing commercial and residential driveways on Franklin Road. The Project could provide a fair share contribution of 5.0% toward this future improvement and may need to provide right-of-way to accommodate the addition of two-way left-turn lane. The Project's fair share contribution toward the two-way left-turn lane may take the form of a typical traffic impact fee collected by the City which would go towards planned improvements such as the Franklin Road widening project listed in the General Plan.

Intersection Queueing Deficiencies and Improvements

Walton Avenue & Franklin Road: The addition of Project trips is projected to cause the northbound left-turn queue to exceed available storage under Existing Plus Project AM and PM peak hour conditions. Eastbound left-turn queues at this intersection currently exceed storage during the AM and PM peak hours and would worsen under Existing Plus Project conditions.

A potential improvement at this intersection to shorten northbound left-turn queues under Existing Plus Project conditions would be to optimize signal timing splits to provide more green time to the northbound left-turn phase. Although these signal timing improvements would not shorten eastbound left-turn queues enough to fit within the striped eastbound left-turn storage lane, eastbound left-turning vehicles would be able to queue within the two-way left-turn median lane without spilling back beyond Heatherington Circle.

The addition of Project trips is projected to cause the northbound left-turn queue to exceed available storage under Cumulative Plus Project AM and PM conditions. Under Cumulative conditions, eastbound left-turn queues at this intersection are projected to exceed storage during the AM and PM peak hours and would worsen under Cumulative Plus Project conditions.

As the northbound and eastbound approach of the Walton Avenue & Franklin Road intersection are planned to be widened under Cumulative conditions, there would be an opportunity to lengthen the northbound and eastbound left-turn lanes to accommodate future queues. Additionally, construction of dual eastbound left-turn lanes as described in the previous section would help shorten northbound and eastbound left-turn queues.

It is recommended that the northbound and eastbound left-turn pockets at the Walton Avenue & Franklin Road intersection be lengthened to accommodate the 95th percentile queue lengths under Cumulative Plus

Project With Impromvents conditions (shown in **Table 11**) as part of the Walton Avenue and Franklin Road widening projects identified in the General Plan.

Project Driveway 1 & Franklin Road: Under Existing Plus Project conditions, the northbound queues at Project Driveway 1 are projected to be 44 feet, which would exceed available driveway throat depth by approximately 19 feet (approximately 1 vehicle length). Additionally, under Cumulative Plus Project With Improvement conditions, northbound queues at Project Driveway 1 would still exceed driveway throat depth by approximately one vehicle length with the two-way left-turn lane improvement in place. However, any additional egress vehicles could queue within the drive aisles to the east or south of the driveway. Appropriate signing and/or striping should be used to prevent queued vehicles from blocking drive aisle circulation within the site, especially at the primary drive aisle intersection south of Project Driveway 1.

Project Effects at SR 99

Up to 20% of primary Project tips are projected to travel through the SR 99 & Franklin Road intersection, which translates to up to 26 AM/PM weekday peak hour trips. Up to 7.5% of primary Project tips are projected to travel through the SR 99 & Bridge Street and SR 99 & Richland Road intersections (which would all be through trips on the highway), which translates to up to 10 AM/PM weekday peak hour trips.

The SR 99 & Franklin Road intersection would experience minimal Project trips during the AM and PM peak hours. Therefore, the Project trips are not anticipated to adversely affect operations and queues of the SR 99 intersections with Bridge Street, Franklin Road, and Richland Road.

Site Access and Internal Circulation

Access to the Project site would be provide via one new driveway on Franklin Road and one new driveway on Walton Avenue.

Maximum egress queue at Project Driveway 1 is projected to be approximately two vehicles under Cumulative Plus Project With Improvements conditions. The Project site plan shows a throat depth of approximately 25 feet, which would accommodate about one queued vehicle. Throat depth of the driveways could be lengthened to accommodate a second queued vehicle, or a second egress vehicle could queue within an interior drive aisle.

Project Driveway 2 is assumed to be right-in/right-out only. Maximum egress queuing at this intersection would fit within available storage.

Emergency access to the Project would be provided by both driveways and is anticipated to be adequate for the site.

Corner sight distance at all Project Driveways is projected to meet or exceed City and Caltrans requirements.

Fuel trucks would utilize Project Driveways 1 and 2 to access the gas station. Full inbound and outbound access was assumed for Project Driveway 1 and right-turn out only access was assumed for Project Driveway 2. The Project driveways and internal circulation were shown to accommodate the above movements based on truck turn analysis.

On-Site Drive-Through Queueing Evaluation

Based on data collected at similar facilities, the proposed express car wash and quick-serve drive-through restaurant were shown to provide enough drive-through stacking space to accommodate maximum peak hour drive-through queues.

Project Impact on Multimodal Facilities

The Project is not anticipated to cause a significant increase in pedestrian, bicycle, or transit demand in the study area that would put existing facilities over capacity. The Project would not adversely affect existing or proposed pedestrian, bicycle, or transit facilities in a way that would discourage their use. The Project's on-site marked pedestrian walkways should provide access to / align with the existing transit stop on Walton Avenue.

VMT Screening Analysis

Based on OPR guidance, local-serving retail uses under 50,000 square feet may be considered to have a less-than significant VMT impact. In general, gas stations/convenience stores, car washes, and fast-food restaurants may be considered local serving. As the total Project square footage is under 50,000, the Project can be considered to have a less-than-significant VMT Impact.

ATTACHMENT A

TRAFFIC COUNTS

Prepared by National Data & Surveying Services

Walton Ave & Franklin Rd

Peak Hour Turning Movement Count

ID: 23-070239-001
City: Yuba City

Day: Thursday
Date: 11/30/2023

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Walton Ave)

AM	187	333	104	0	867	AM
NOON	0	0	0	0	0	NOON
PM	222	680	184	0	862	PM
	1	2	1	0		

EASTBOUND (Franklin Rd)

AM	NOON	PM	
490	0	589	
0	0	0	0
241	0	194	1
300	0	274	1.5
42	0	46	0.5

WESTBOUND (Franklin Rd)

	PM	NOON	AM
0.5	209	0	174
1.5	320	0	241
1	138	0	89
0	0	0	0
	555	0	542

CONTROL

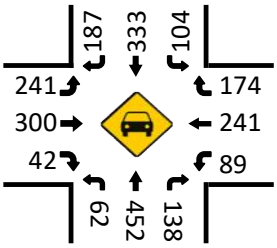
Signalized

TEV	2363 AM	0 NOON	2870 PM
PHF	0.86		0.93

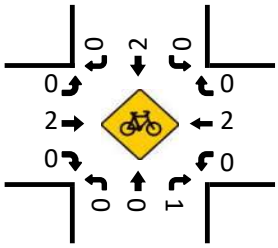
NORTHBOUND (Walton Ave)

PM	864	0	47	459	97	PM
NOON	0	0	0	0	0	NOON
AM	464	0	62	452	138	AM
		0	1	1.5	0.5	

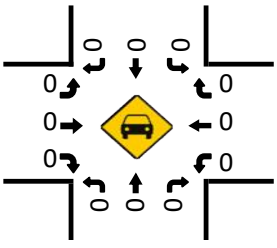
Totals (AM)



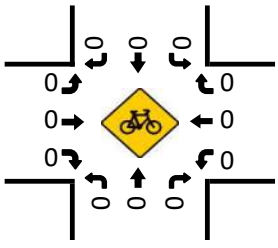
Total Bikes (AM)



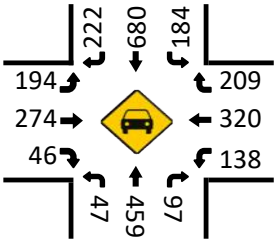
Totals (NOON)



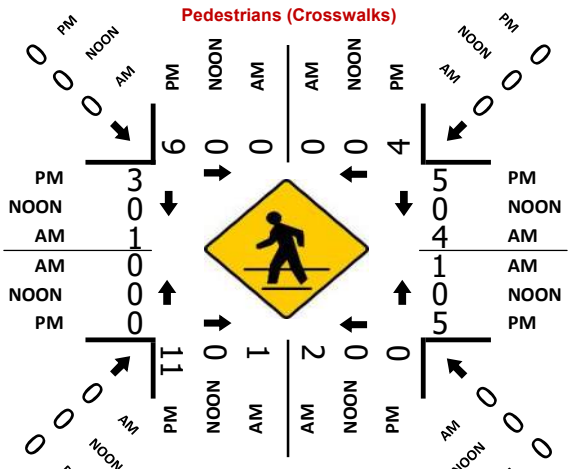
Total Bikes (NOON)



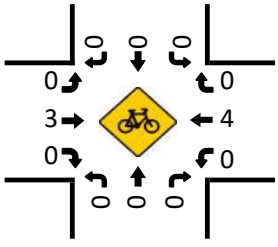
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)

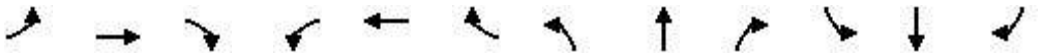


ATTACHMENT B

SYNCHRO HCM 6TH EDITION LOS REPORTS AND QUEUEING REPORTS

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	280	398	103	482	72	686	121	387	217
v/c Ratio	0.79	0.39	0.56	0.69	0.48	0.60	0.65	0.30	0.30
Control Delay	54.3	29.1	53.7	31.8	54.2	30.3	59.3	25.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	29.1	53.7	31.8	54.2	30.3	59.3	25.3	4.9
Queue Length 50th (ft)	169	101	63	99	44	195	74	101	0
Queue Length 95th (ft)	240	141	110	150	85	240	128	134	44
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	416	1018	222	710	171	1158	205	1317	716
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.39	0.46	0.68	0.42	0.59	0.59	0.29	0.30

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	241	300	42	89	241	174	62	452	138	104	333	187
Future Volume (veh/h)	241	300	42	89	241	174	62	452	138	104	333	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	349	49	103	280	202	72	526	160	121	387	217
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	317	839	117	131	326	227	93	1017	308	150	1461	643
Arrive On Green	0.18	0.27	0.27	0.07	0.16	0.16	0.05	0.38	0.38	0.08	0.41	0.41
Sat Flow, veh/h	1781	3125	435	1781	1987	1386	1781	2684	813	1781	3554	1563
Grp Volume(v), veh/h	280	197	201	103	249	233	72	347	339	121	387	217
Grp Sat Flow(s),veh/h/ln	1781	1777	1783	1781	1777	1596	1781	1777	1720	1781	1777	1563
Q Serve(g_s), s	15.3	9.1	9.3	5.7	13.6	14.3	4.0	15.1	15.2	6.7	7.2	9.5
Cycle Q Clear(g_c), s	15.3	9.1	9.3	5.7	13.6	14.3	4.0	15.1	15.2	6.7	7.2	9.5
Prop In Lane	1.00		0.24	1.00		0.87	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	317	477	479	131	291	262	93	673	652	150	1461	643
V/C Ratio(X)	0.88	0.41	0.42	0.79	0.86	0.89	0.78	0.52	0.52	0.80	0.26	0.34
Avail Cap(c_a), veh/h	419	489	490	223	293	263	173	673	652	205	1461	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	30.1	30.2	45.6	40.7	40.9	46.8	24.0	24.0	45.0	19.5	20.1
Incr Delay (d2), s/veh	16.0	2.1	2.1	10.1	24.8	31.9	12.8	2.8	2.9	15.1	0.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	4.1	4.2	2.9	7.9	7.9	2.1	6.7	6.6	3.6	3.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.1	32.2	32.3	55.6	65.5	72.8	59.6	26.8	27.0	60.1	19.9	21.5
LnGrp LOS	E	C	C	E	E	E	E	C	C	E	B	C
Approach Vol, veh/h		678			585			758			725	
Approach Delay, s/veh		42.1			66.7			30.0			27.1	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	42.9	11.8	32.3	9.7	46.1	22.3	21.9
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	11.5	29.0	12.5	27.5	9.7	30.8	23.5	16.5
Max Q Clear Time (g_c+I1), s	8.7	17.2	7.7	11.3	6.0	11.5	17.3	16.3
Green Ext Time (p_c), s	0.1	3.4	0.1	4.6	0.0	3.2	0.4	0.1

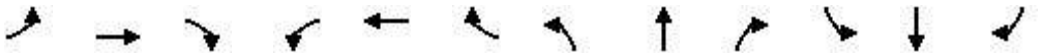
Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	209	344	148	569	51	598	198	731	239
v/c Ratio	0.75	0.43	0.64	0.73	0.42	0.58	0.74	0.52	0.31
Control Delay	56.6	33.0	53.9	34.5	55.3	33.0	57.2	26.3	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	33.0	53.9	34.5	55.3	33.0	57.2	26.3	4.3
Queue Length 50th (ft)	127	88	90	131	32	177	120	206	0
Queue Length 95th (ft)	202	138	151	201	70	235	194	258	50
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	327	826	283	792	129	1033	309	1418	768
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.42	0.52	0.72	0.40	0.58	0.64	0.52	0.31

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	274	46	138	320	209	47	459	97	184	680	222
Future Volume (veh/h)	194	274	46	138	320	209	47	459	97	184	680	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	209	295	49	148	344	225	51	494	104	198	731	239
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	694	114	181	395	253	67	1007	211	232	1555	692
Arrive On Green	0.14	0.23	0.23	0.10	0.19	0.19	0.04	0.34	0.34	0.13	0.44	0.44
Sat Flow, veh/h	1781	3042	498	1781	2050	1310	1781	2920	611	1781	3554	1582
Grp Volume(v), veh/h	209	171	173	148	297	272	51	300	298	198	731	239
Grp Sat Flow(s),veh/h/ln	1781	1777	1763	1781	1777	1584	1781	1777	1754	1781	1777	1582
Q Serve(g_s), s	11.5	8.2	8.4	8.1	16.2	16.7	2.8	13.3	13.4	10.9	14.6	10.0
Cycle Q Clear(g_c), s	11.5	8.2	8.4	8.1	16.2	16.7	2.8	13.3	13.4	10.9	14.6	10.0
Prop In Lane	1.00		0.28	1.00		0.83	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	244	405	402	181	342	305	67	613	605	232	1555	692
V/C Ratio(X)	0.86	0.42	0.43	0.82	0.87	0.89	0.76	0.49	0.49	0.85	0.47	0.35
Avail Cap(c_a), veh/h	330	405	402	285	346	309	130	613	605	312	1555	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	33.0	33.0	44.0	39.1	39.3	47.6	25.8	25.9	42.5	19.9	18.6
Incr Delay (d2), s/veh	15.3	2.5	2.6	9.9	23.2	28.8	15.6	2.8	2.9	15.5	1.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	3.8	3.9	4.1	9.2	8.9	1.5	6.0	6.0	5.7	6.1	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	35.5	35.7	53.9	62.3	68.1	63.3	28.6	28.7	58.1	20.9	20.0
LnGrp LOS	E	D	D	D	E	E	E	C	C	E	C	C
Approach Vol, veh/h		553			717			649			1168	
Approach Delay, s/veh		43.9			62.8			31.4			27.0	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	39.5	14.6	28.3	8.3	48.8	18.2	24.8
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	17.5	25.0	16.0	22.0	7.3	35.2	18.5	19.5
Max Q Clear Time (g_c+I1), s	12.9	15.4	10.1	10.4	4.8	16.6	13.5	18.7
Green Ext Time (p_c), s	0.2	2.6	0.2	3.2	0.0	5.8	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

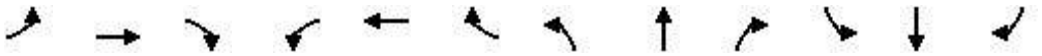
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	370	413	103	497	153	623	121	413	217
v/c Ratio	0.86	0.36	0.56	0.73	0.81	0.62	0.66	0.41	0.36
Control Delay	56.3	26.5	53.7	34.8	75.0	32.2	60.1	30.7	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	26.5	53.7	34.8	75.0	32.2	60.1	30.7	5.6
Queue Length 50th (ft)	215	97	63	111	98	181	74	117	0
Queue Length 95th (ft)	#366	146	110	160	#202	211	128	143	44
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	444	1156	222	689	190	1078	203	1119	641
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.36	0.46	0.72	0.81	0.58	0.60	0.37	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	318	313	42	89	254	174	132	398	138	104	355	187
Future Volume (veh/h)	318	313	42	89	254	174	132	398	138	104	355	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	364	49	103	295	202	153	463	160	121	413	217
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	401	995	133	131	335	223	173	858	294	150	1131	497
Arrive On Green	0.22	0.32	0.32	0.07	0.17	0.17	0.10	0.33	0.33	0.08	0.32	0.32
Sat Flow, veh/h	1781	3144	420	1781	2031	1349	1781	2593	889	1781	3554	1562
Grp Volume(v), veh/h	370	204	209	103	257	240	153	316	307	121	413	217
Grp Sat Flow(s),veh/h/ln	1781	1777	1787	1781	1777	1604	1781	1777	1706	1781	1777	1562
Q Serve(g_s), s	20.3	8.9	9.0	5.7	14.1	14.7	8.5	14.5	14.7	6.7	9.0	11.0
Cycle Q Clear(g_c), s	20.3	8.9	9.0	5.7	14.1	14.7	8.5	14.5	14.7	6.7	9.0	11.0
Prop In Lane	1.00		0.23	1.00		0.84	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	401	562	566	131	293	265	173	588	564	150	1131	497
V/C Ratio(X)	0.92	0.36	0.37	0.79	0.88	0.91	0.89	0.54	0.54	0.80	0.37	0.44
Avail Cap(c_a), veh/h	419	562	566	223	293	265	173	588	564	205	1131	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	26.4	26.4	45.6	40.8	41.0	44.6	27.2	27.3	45.0	26.3	27.0
Incr Delay (d2), s/veh	25.5	1.4	1.5	10.1	27.6	34.8	38.0	3.5	3.7	15.1	0.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	3.9	4.0	2.9	8.3	8.3	5.5	6.6	6.5	3.6	3.9	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.5	27.8	27.9	55.6	68.3	75.8	82.6	30.7	31.0	60.1	27.2	29.8
LnGrp LOS	E	C	C	E	E	E	F	C	C	E	C	C
Approach Vol, veh/h		783			600			776			751	
Approach Delay, s/veh		44.7			69.1			41.1			33.2	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	38.1	11.8	37.2	14.2	36.8	27.0	22.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	11.5	29.0	12.5	27.5	9.7	30.8	23.5	16.5
Max Q Clear Time (g_c+I1), s	8.7	16.7	7.7	11.0	10.5	13.0	22.3	16.7
Green Ext Time (p_c), s	0.1	3.1	0.1	4.8	0.0	3.3	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	547	49	119	454	49	127
Future Vol, veh/h	547	49	119	454	49	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	595	53	129	493	53	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	648	0	1373	622
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	751	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	938	-	161	487
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	466	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	938	-	139	487
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	402	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	19.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	430	-	-	938	-
HCM Lane V/C Ratio	0.445	-	-	0.138	-
HCM Control Delay (s)	19.9	-	-	9.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.2	-	-	0.5	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	70	0	668	410	75
Future Vol, veh/h	0	70	0	668	410	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	76	0	726	446	82

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	264	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	735	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	735	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	735	-	-
HCM Lane V/C Ratio	-	0.104	-	-
HCM Control Delay (s)	-	10.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	280	357	148	582	115	549	198	754	239
v/c Ratio	0.83	0.39	0.64	0.78	0.79	0.59	0.74	0.64	0.35
Control Delay	59.8	31.2	53.9	37.8	81.7	34.4	57.2	31.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	31.2	53.9	37.8	81.7	34.4	57.2	31.3	4.7
Queue Length 50th (ft)	165	91	90	147	74	162	120	219	0
Queue Length 95th (ft)	#317	144	151	211	#179	213	194	268	50
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	350	904	283	762	146	958	309	1266	711
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.39	0.52	0.76	0.79	0.57	0.64	0.60	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	286	46	138	332	209	107	414	97	184	701	222
Future Volume (veh/h)	260	286	46	138	332	209	107	414	97	184	701	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	308	49	148	357	225	115	445	104	198	754	239
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	819	129	181	404	249	130	874	203	232	1291	574
Arrive On Green	0.17	0.27	0.27	0.10	0.19	0.19	0.07	0.31	0.31	0.13	0.36	0.36
Sat Flow, veh/h	1781	3064	481	1781	2082	1285	1781	2858	663	1781	3554	1581
Grp Volume(v), veh/h	280	177	180	148	304	278	115	275	274	198	754	239
Grp Sat Flow(s),veh/h/ln	1781	1777	1768	1781	1777	1590	1781	1777	1743	1781	1777	1581
Q Serve(g_s), s	15.4	8.1	8.3	8.1	16.6	17.1	6.4	12.7	12.9	10.9	17.1	11.3
Cycle Q Clear(g_c), s	15.4	8.1	8.3	8.1	16.6	17.1	6.4	12.7	12.9	10.9	17.1	11.3
Prop In Lane	1.00		0.27	1.00		0.81	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	311	475	473	181	345	308	130	543	533	232	1291	574
V/C Ratio(X)	0.90	0.37	0.38	0.82	0.88	0.90	0.88	0.51	0.51	0.85	0.58	0.42
Avail Cap(c_a), veh/h	330	475	473	285	346	310	130	543	533	312	1291	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	29.8	29.9	44.0	39.2	39.4	45.9	28.5	28.6	42.5	25.7	23.9
Incr Delay (d2), s/veh	25.3	1.8	1.8	9.9	25.0	30.6	46.0	3.4	3.5	15.5	1.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	3.7	3.7	4.1	9.5	9.2	4.5	5.9	5.8	5.7	7.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	31.6	31.7	53.9	64.2	70.0	91.9	31.9	32.1	58.1	27.7	26.1
LnGrp LOS	E	C	C	D	E	E	F	C	C	E	C	C
Approach Vol, veh/h		637			730			664			1191	
Approach Delay, s/veh		46.6			64.3			42.4			32.4	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	35.6	14.6	32.2	11.8	41.3	22.0	24.9
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	17.5	25.0	16.0	22.0	7.3	35.2	18.5	19.5
Max Q Clear Time (g_c+I1), s	12.9	14.9	10.1	10.3	8.4	19.1	17.4	19.1
Green Ext Time (p_c), s	0.2	2.4	0.2	3.3	0.0	5.6	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	484	43	102	559	42	109
Future Vol, veh/h	484	43	102	559	42	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	526	47	111	608	46	118

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	573	0	1380	550
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	830	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1000	-	159	535
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1000	-	141	535
Mov Cap-2 Maneuver	-	-	-	-	324	-
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	380	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	453	-	-	1000	-
HCM Lane V/C Ratio	0.362	-	-	0.111	-
HCM Control Delay (s)	17.4	-	-	9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.6	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	59	0	618	819	66
Future Vol, veh/h	0	59	0	618	819	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	0	672	890	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	481	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	-	-
Pot Cap-1 Maneuver	0	532	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	532	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

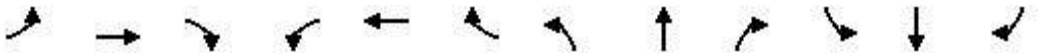
Approach	EB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	532	-	-
HCM Lane V/C Ratio	-	0.121	-	-
HCM Control Delay (s)	-	12.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	383	542	141	659	98	935	165	528	297
v/c Ratio	0.92	0.51	0.67	0.91	0.60	0.88	0.85	0.46	0.42
Control Delay	72.6	36.2	66.0	56.8	67.2	48.9	88.0	34.5	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.6	36.2	66.0	56.8	67.2	48.9	88.0	34.5	5.5
Queue Length 50th (ft)	287	177	106	218	74	353	127	173	0
Queue Length 95th (ft)	#460	243	171	#336	130	#472	#247	231	64
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	435	1059	261	721	194	1065	199	1142	704
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.51	0.54	0.91	0.51	0.88	0.83	0.46	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	352	438	61	130	352	254	90	660	201	152	486	273
Future Volume (veh/h)	352	438	61	130	352	254	90	660	201	152	486	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	476	66	141	383	276	98	717	218	165	528	297
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	983	136	169	353	251	123	860	261	192	1277	562
Arrive On Green	0.23	0.31	0.31	0.10	0.18	0.18	0.07	0.32	0.32	0.11	0.36	0.36
Sat Flow, veh/h	1781	3129	432	1781	1971	1400	1781	2681	815	1781	3554	1563
Grp Volume(v), veh/h	383	269	273	141	345	314	98	475	460	165	528	297
Grp Sat Flow(s),veh/h/ln	1781	1777	1784	1781	1777	1594	1781	1777	1719	1781	1777	1563
Q Serve(g_s), s	25.3	14.7	14.9	9.3	21.5	21.5	6.5	29.8	29.8	10.9	13.4	18.0
Cycle Q Clear(g_c), s	25.3	14.7	14.9	9.3	21.5	21.5	6.5	29.8	29.8	10.9	13.4	18.0
Prop In Lane	1.00		0.24	1.00		0.88	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	410	558	561	169	318	286	123	570	551	192	1277	562
V/C Ratio(X)	0.93	0.48	0.49	0.83	1.08	1.10	0.80	0.83	0.83	0.86	0.41	0.53
Avail Cap(c_a), veh/h	438	558	561	263	318	286	196	570	551	200	1277	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	33.3	33.3	53.4	49.2	49.3	55.1	37.8	37.8	52.7	28.9	30.4
Incr Delay (d2), s/veh	26.5	2.3	2.4	12.5	74.4	82.7	11.3	13.4	13.8	28.9	1.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	6.7	6.8	4.8	16.1	15.1	3.3	14.9	14.5	6.4	5.9	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	35.6	35.7	65.8	123.7	132.0	66.3	51.2	51.6	81.5	29.9	33.9
LnGrp LOS	E	D	D	E	F	F	E	D	D	F	C	C
Approach Vol, veh/h		925			800			1033			990	
Approach Delay, s/veh		50.6			116.8			52.8			39.7	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	43.5	15.9	43.2	12.8	48.1	32.1	27.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	13.5	36.0	17.7	33.3	13.2	36.3	29.5	21.5
Max Q Clear Time (g_c+I1), s	12.9	31.8	11.3	16.9	8.5	20.0	27.3	23.5
Green Ext Time (p_c), s	0.0	2.3	0.2	6.4	0.1	4.3	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.5
HCM 6th LOS	E

Notes

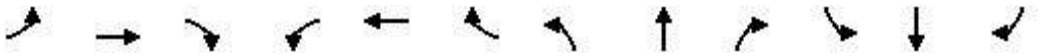
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	317	523	226	866	77	910	301	1112	363
v/c Ratio	1.05	0.66	0.82	1.10	0.68	0.93	1.06	0.79	0.47
Control Delay	108.9	42.7	68.7	97.1	80.1	54.2	115.1	34.8	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.9	42.7	68.7	97.1	80.1	54.2	115.1	34.8	9.4
Queue Length 50th (ft)	~247	176	154	~326	54	321	~234	369	47
Queue Length 95th (ft)	#423	236	#267	#455	#128	#445	#406	458	126
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	303	791	297	790	114	987	284	1407	778
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.66	0.76	1.10	0.68	0.92	1.06	0.79	0.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	292	412	69	208	482	315	71	691	146	277	1023	334
Future Volume (veh/h)	292	412	69	208	482	315	71	691	146	277	1023	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	317	448	75	226	524	342	77	751	159	301	1112	363
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	713	119	257	427	278	98	823	174	287	1381	614
Arrive On Green	0.17	0.24	0.24	0.14	0.21	0.21	0.06	0.28	0.28	0.16	0.39	0.39
Sat Flow, veh/h	1781	3035	504	1781	2034	1326	1781	2912	616	1781	3554	1581
Grp Volume(v), veh/h	317	261	262	226	458	408	77	458	452	301	1112	363
Grp Sat Flow(s),veh/h/ln	1781	1777	1762	1781	1777	1583	1781	1777	1752	1781	1777	1581
Q Serve(g_s), s	18.6	14.5	14.7	13.7	23.1	23.1	4.7	27.4	27.4	17.7	30.6	20.0
Cycle Q Clear(g_c), s	18.6	14.5	14.7	13.7	23.1	23.1	4.7	27.4	27.4	17.7	30.6	20.0
Prop In Lane	1.00		0.29	1.00		0.84	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	301	418	414	257	373	332	98	502	495	287	1381	614
V/C Ratio(X)	1.05	0.62	0.63	0.88	1.23	1.23	0.78	0.91	0.91	1.05	0.81	0.59
Avail Cap(c_a), veh/h	301	418	414	300	373	332	115	502	495	287	1381	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	37.7	37.8	46.2	43.5	43.5	51.3	38.1	38.1	46.2	29.9	26.7
Incr Delay (d2), s/veh	66.3	5.8	6.1	22.5	123.4	126.5	25.4	23.4	23.6	66.9	5.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	6.9	7.0	7.6	22.8	20.6	2.8	15.0	14.8	13.1	13.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	112.0	43.5	43.9	68.6	166.8	170.0	76.8	61.5	61.8	113.1	35.0	30.8
LnGrp LOS	F	D	D	E	F	F	E	E	E	F	D	C
Approach Vol, veh/h		840			1092			987			1776	
Approach Delay, s/veh		69.5			147.7			62.8			47.4	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	36.1	20.3	31.4	10.6	47.7	23.1	28.6
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	17.7	31.1	18.5	23.2	7.1	41.7	18.6	23.1
Max Q Clear Time (g_c+I1), s	19.7	29.4	15.7	16.7	6.7	32.6	20.6	25.1
Green Ext Time (p_c), s	0.0	1.0	0.2	3.1	0.0	5.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	77.9
HCM 6th LOS	E

Notes

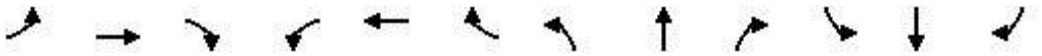
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	466	556	141	673	174	877	165	552	297
v/c Ratio	1.02	0.50	0.67	0.97	0.90	0.87	0.85	0.54	0.45
Control Delay	91.0	35.3	66.0	66.8	95.5	48.9	88.0	37.9	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.0	35.3	66.0	66.8	95.5	48.9	88.0	37.9	5.8
Queue Length 50th (ft)	~400	184	106	227	135	321	127	185	0
Queue Length 95th (ft)	#607	249	171	#352	#269	404	#247	242	64
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	458	1116	261	696	194	1044	199	1070	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.50	0.54	0.97	0.90	0.84	0.83	0.52	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	451	61	130	365	254	160	606	201	152	508	273
Future Volume (veh/h)	429	451	61	130	365	254	160	606	201	152	508	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	466	490	66	141	397	276	174	659	218	165	552	297
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	1037	139	169	359	246	196	799	264	192	1075	473
Arrive On Green	0.25	0.33	0.33	0.10	0.18	0.18	0.11	0.30	0.30	0.11	0.30	0.30
Sat Flow, veh/h	1781	3142	421	1781	2002	1374	1781	2620	866	1781	3554	1562
Grp Volume(v), veh/h	466	276	280	141	352	321	174	447	430	165	552	297
Grp Sat Flow(s),veh/h/ln	1781	1777	1786	1781	1777	1599	1781	1777	1709	1781	1777	1562
Q Serve(g_s), s	29.5	14.8	14.9	9.3	21.5	21.5	11.6	28.0	28.0	10.9	15.4	19.6
Cycle Q Clear(g_c), s	29.5	14.8	14.9	9.3	21.5	21.5	11.6	28.0	28.0	10.9	15.4	19.6
Prop In Lane	1.00		0.24	1.00		0.86	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	438	586	589	169	318	287	196	542	521	192	1075	473
V/C Ratio(X)	1.06	0.47	0.47	0.83	1.11	1.12	0.89	0.82	0.83	0.86	0.51	0.63
Avail Cap(c_a), veh/h	438	586	589	263	318	287	196	542	521	200	1075	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	31.9	31.9	53.4	49.3	49.3	52.7	38.7	38.7	52.7	34.6	36.0
Incr Delay (d2), s/veh	61.1	2.1	2.2	12.5	81.8	89.7	35.3	13.4	13.9	28.9	1.8	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.3	6.7	6.8	4.8	16.7	15.7	7.1	14.1	13.7	6.4	6.9	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.3	34.0	34.1	65.8	131.0	138.9	88.0	52.1	52.6	81.5	36.3	42.3
LnGrp LOS	F	C	C	E	F	F	F	D	D	F	D	D
Approach Vol, veh/h		1022			814			1051			1014	
Approach Delay, s/veh		67.0			122.9			58.2			45.4	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	41.6	15.9	45.1	17.7	41.3	34.0	27.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	13.5	36.0	17.7	33.3	13.2	36.3	29.5	21.5
Max Q Clear Time (g_c+I1), s	12.9	30.0	11.3	16.9	13.6	21.6	31.5	23.5
Green Ext Time (p_c), s	0.0	2.8	0.2	6.6	0.0	4.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	70.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	11.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	815	49	119	679	49	127
Future Vol, veh/h	815	49	119	679	49	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	886	53	129	738	53	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	939	0	1540	470
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	627	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	726	-	106	540
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	495	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	726	-	74	540
Mov Cap-2 Maneuver	-	-	-	-	74	-
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	346	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	108
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	196	-	-	726	-
HCM Lane V/C Ratio	0.976	-	-	0.178	-
HCM Control Delay (s)	108	-	-	11	1.2
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	8.2	-	-	0.6	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	70	0	967	623	75
Future Vol, veh/h	0	70	0	967	623	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	76	0	1051	677	82

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	380	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	618	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	618	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

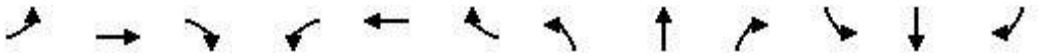
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	618	-	-
HCM Lane V/C Ratio	-	0.123	-	-
HCM Control Delay (s)	-	11.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	389	536	226	879	142	861	301	1135	363
v/c Ratio	1.25	0.67	0.82	1.12	1.25	0.89	1.06	0.86	0.49
Control Delay	176.9	42.8	68.7	105.7	207.5	49.8	115.1	39.7	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	176.9	42.8	68.7	105.7	207.5	49.8	115.1	39.7	10.0
Queue Length 50th (ft)	~353	182	154	~341	~125	296	~234	380	50
Queue Length 95th (ft)	#543	243	#267	#470	#253	#404	#406	471	131
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	310	804	297	785	114	986	284	1341	750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.25	0.67	0.76	1.12	1.25	0.87	1.06	0.85	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	358	424	69	208	494	315	131	646	146	277	1044	334
Future Volume (veh/h)	358	424	69	208	494	315	131	646	146	277	1044	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	389	461	75	226	537	342	142	702	159	301	1135	363
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	717	116	257	432	275	115	812	184	287	1347	599
Arrive On Green	0.17	0.24	0.24	0.14	0.21	0.21	0.06	0.28	0.28	0.16	0.38	0.38
Sat Flow, veh/h	1781	3049	493	1781	2056	1308	1781	2872	650	1781	3554	1581
Grp Volume(v), veh/h	389	267	269	226	464	415	142	434	427	301	1135	363
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1587	1781	1777	1745	1781	1777	1581
Q Serve(g_s), s	18.6	14.9	15.1	13.7	23.1	23.1	7.1	25.5	25.5	17.7	32.1	20.4
Cycle Q Clear(g_c), s	18.6	14.9	15.1	13.7	23.1	23.1	7.1	25.5	25.5	17.7	32.1	20.4
Prop In Lane	1.00		0.28	1.00		0.82	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	301	418	415	257	373	333	115	502	493	287	1347	599
V/C Ratio(X)	1.29	0.64	0.65	0.88	1.24	1.25	1.24	0.86	0.87	1.05	0.84	0.61
Avail Cap(c_a), veh/h	301	418	415	300	373	333	115	502	493	287	1347	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	37.9	38.0	46.2	43.5	43.5	51.5	37.4	37.5	46.2	31.2	27.5
Incr Delay (d2), s/veh	153.8	6.2	6.5	22.5	130.3	133.1	160.1	17.7	18.0	66.9	6.5	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.0	7.2	7.2	7.6	23.5	21.3	8.3	13.4	13.2	13.1	14.6	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.5	44.1	44.5	68.6	173.7	176.6	211.6	55.1	55.5	113.1	37.7	32.0
LnGrp LOS	F	D	D	E	F	F	F	E	E	F	D	C
Approach Vol, veh/h		925			1105			1003			1799	
Approach Delay, s/veh		109.6			153.3			77.4			49.2	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	36.1	20.3	31.4	11.6	46.7	23.1	28.6
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	17.7	31.1	18.5	23.2	7.1	41.7	18.6	23.1
Max Q Clear Time (g_c+I1), s	19.7	27.5	15.7	17.1	9.1	34.1	20.6	25.1
Green Ext Time (p_c), s	0.0	1.8	0.2	3.0	0.0	5.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	743	43	102	857	42	109
Future Vol, veh/h	743	43	102	857	42	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	808	47	111	932	46	118

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	855	0	1520	428
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	688	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	781	-	109	575
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	460	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	781	-	77	575
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	324	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	69
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	781	-
HCM Lane V/C Ratio	0.801	-	-	0.142	-
HCM Control Delay (s)	69	-	-	10.4	1.2
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	5.7	-	-	0.5	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	59	0	923	1255	66
Future Vol, veh/h	0	59	0	923	1255	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	0	1003	1364	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	718	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	371	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	371	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0	0
HCM LOS	C		

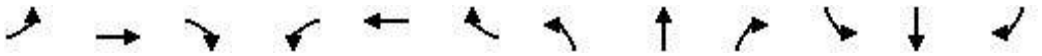
Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	371	-	-
HCM Lane V/C Ratio	-	0.173	-	-
HCM Control Delay (s)	-	16.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.6	-	-

ATTACHMENT C

SYNCHRO HCM 6TH EDITION LOS REPORTS AND QUEUEING REPORTS – IMPROVED CONDITIONS

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	370	413	103	497	153	623	121	413	217
v/c Ratio	0.84	0.35	0.54	0.73	0.65	0.64	0.66	0.47	0.39
Control Delay	52.0	25.4	52.6	34.9	53.7	34.0	60.1	35.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	25.4	52.6	34.9	53.7	34.0	60.1	35.8	6.7
Queue Length 50th (ft)	221	97	63	108	93	182	74	125	0
Queue Length 95th (ft)	297	137	109	163	147	229	128	170	48
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	522	1177	238	685	292	984	203	886	558
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.35	0.43	0.73	0.52	0.63	0.60	0.47	0.39

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	318	313	42	89	254	174	132	398	138	104	355	187
Future Volume (veh/h)	318	313	42	89	254	174	132	398	138	104	355	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	364	49	103	295	202	153	463	160	121	413	217
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	977	130	131	315	209	186	872	299	150	1124	494
Arrive On Green	0.23	0.31	0.31	0.07	0.16	0.16	0.10	0.34	0.34	0.08	0.32	0.32
Sat Flow, veh/h	1781	3144	420	1781	2031	1349	1781	2593	889	1781	3554	1562
Grp Volume(v), veh/h	370	204	209	103	257	240	153	316	307	121	413	217
Grp Sat Flow(s),veh/h/ln	1781	1777	1787	1781	1777	1603	1781	1777	1706	1781	1777	1562
Q Serve(g_s), s	20.2	9.0	9.1	5.7	14.3	14.9	8.4	14.4	14.6	6.7	9.0	11.0
Cycle Q Clear(g_c), s	20.2	9.0	9.1	5.7	14.3	14.9	8.4	14.4	14.6	6.7	9.0	11.0
Prop In Lane	1.00		0.23	1.00		0.84	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	408	552	555	131	275	249	186	598	574	150	1124	494
V/C Ratio(X)	0.91	0.37	0.38	0.79	0.93	0.97	0.82	0.53	0.53	0.80	0.37	0.44
Avail Cap(c_a), veh/h	525	560	563	240	275	249	294	598	574	205	1124	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	26.8	26.9	45.6	41.7	42.0	43.9	26.8	26.9	45.0	26.4	27.1
Incr Delay (d2), s/veh	16.4	1.5	1.5	10.0	38.7	48.6	9.9	3.3	3.5	15.1	0.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	4.0	4.1	2.9	9.1	9.2	4.2	6.5	6.4	3.6	3.9	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	28.3	28.4	55.5	80.4	90.5	53.7	30.1	30.4	60.1	27.4	30.0
LnGrp LOS	D	C	C	E	F	F	D	C	C	E	C	C
Approach Vol, veh/h		783			600			776			751	
Approach Delay, s/veh		40.4			80.2			34.9			33.4	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	38.6	11.8	36.6	15.0	36.6	27.4	21.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	11.5	24.0	13.5	31.5	16.5	19.0	29.5	15.5
Max Q Clear Time (g_c+I1), s	8.7	16.6	7.7	11.1	10.4	13.0	22.2	16.9
Green Ext Time (p_c), s	0.1	2.3	0.1	5.4	0.2	1.8	0.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

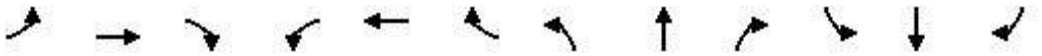
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	280	357	148	582	115	549	198	754	239
v/c Ratio	0.81	0.39	0.64	0.78	0.66	0.59	0.76	0.68	0.36
Control Delay	56.3	30.4	54.0	38.6	62.5	34.7	59.1	34.3	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	30.4	54.0	38.6	62.5	34.7	59.1	34.3	5.4
Queue Length 50th (ft)	169	92	90	147	71	161	120	227	0
Queue Length 95th (ft)	#260	137	151	#232	#142	220	#209	296	56
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	398	926	281	747	185	927	292	1116	655
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.39	0.53	0.78	0.62	0.59	0.68	0.68	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	286	46	138	332	209	107	414	97	184	701	222
Future Volume (veh/h)	260	286	46	138	332	209	107	414	97	184	701	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	308	49	148	357	225	115	445	104	198	754	239
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	799	126	181	385	238	143	894	207	232	1287	573
Arrive On Green	0.18	0.26	0.26	0.10	0.19	0.19	0.08	0.31	0.31	0.13	0.36	0.36
Sat Flow, veh/h	1781	3064	481	1781	2081	1284	1781	2858	663	1781	3554	1581
Grp Volume(v), veh/h	280	177	180	148	304	278	115	275	274	198	754	239
Grp Sat Flow(s),veh/h/ln	1781	1777	1768	1781	1777	1588	1781	1777	1744	1781	1777	1581
Q Serve(g_s), s	15.3	8.2	8.4	8.1	16.8	17.3	6.3	12.6	12.8	10.9	17.2	11.4
Cycle Q Clear(g_c), s	15.3	8.2	8.4	8.1	16.8	17.3	6.3	12.6	12.8	10.9	17.2	11.4
Prop In Lane	1.00		0.27	1.00		0.81	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	316	463	461	181	329	294	143	556	545	232	1287	573
V/C Ratio(X)	0.89	0.38	0.39	0.82	0.92	0.95	0.80	0.50	0.50	0.85	0.59	0.42
Avail Cap(c_a), veh/h	401	463	461	283	329	294	187	556	545	294	1287	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	30.3	30.4	44.0	40.1	40.3	45.2	28.0	28.0	42.6	25.8	24.0
Incr Delay (d2), s/veh	17.5	1.9	2.0	10.1	32.9	40.0	16.9	3.1	3.3	17.6	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	3.7	3.8	4.1	10.2	9.9	3.5	5.8	5.8	5.9	7.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	32.2	32.4	54.1	72.9	80.3	62.1	31.1	31.3	60.2	27.8	26.2
LnGrp LOS	E	C	C	D	E	F	E	C	C	E	C	C
Approach Vol, veh/h		637			730			664			1191	
Approach Delay, s/veh		43.5			71.9			36.5			32.8	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	36.3	14.6	31.6	12.6	41.2	22.2	24.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	16.5	23.0	15.9	25.1	10.5	29.0	22.5	18.5
Max Q Clear Time (g_c+I1), s	12.9	14.8	10.1	10.4	8.3	19.2	17.3	19.3
Green Ext Time (p_c), s	0.2	2.1	0.2	3.9	0.0	4.2	0.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	466	556	141	673	174	877	165	552	297
v/c Ratio	0.86	0.65	0.70	0.85	0.74	0.82	0.76	0.53	0.44
Control Delay	53.4	34.4	57.3	37.8	57.7	35.0	61.6	29.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	34.4	57.3	37.8	57.7	35.0	61.6	29.0	5.5
Queue Length 50th (ft)	134	147	78	147	96	230	92	138	0
Queue Length 95th (ft)	#212	204	#158	#243	#185	#313	#186	191	58
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	553	849	214	790	249	1070	226	1042	669
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.65	0.66	0.85	0.70	0.82	0.73	0.53	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	429	451	61	130	365	254	160	606	201	152	508	273
Future Volume (veh/h)	429	451	61	130	365	254	160	606	201	152	508	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	466	490	66	141	397	276	174	659	218	165	552	297
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	537	793	106	174	389	267	209	843	279	199	1124	494
Arrive On Green	0.16	0.25	0.25	0.10	0.19	0.19	0.12	0.32	0.32	0.11	0.32	0.32
Sat Flow, veh/h	3456	3142	421	1781	2002	1375	1781	2620	866	1781	3554	1562
Grp Volume(v), veh/h	466	276	280	141	352	321	174	447	430	165	552	297
Grp Sat Flow(s),veh/h/ln	1728	1777	1786	1781	1777	1599	1781	1777	1710	1781	1777	1562
Q Serve(g_s), s	11.8	12.4	12.5	7.0	17.5	17.5	8.6	20.5	20.5	8.2	11.3	14.4
Cycle Q Clear(g_c), s	11.8	12.4	12.5	7.0	17.5	17.5	8.6	20.5	20.5	8.2	11.3	14.4
Prop In Lane	1.00		0.24	1.00		0.86	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	537	448	451	174	345	311	209	572	550	199	1124	494
V/C Ratio(X)	0.87	0.62	0.62	0.81	1.02	1.03	0.83	0.78	0.78	0.83	0.49	0.60
Avail Cap(c_a), veh/h	557	448	451	216	345	311	251	572	550	228	1124	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	29.8	29.8	39.8	36.2	36.3	38.9	27.7	27.7	39.1	24.9	26.0
Incr Delay (d2), s/veh	13.4	5.2	5.3	17.0	53.2	59.7	17.9	10.2	10.6	19.9	1.5	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	5.8	5.9	3.8	12.5	11.8	4.7	10.0	9.7	4.6	4.9	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	35.0	35.1	56.8	89.4	96.0	56.8	37.9	38.3	59.0	26.4	31.3
LnGrp LOS	D	D	D	E	F	F	E	D	D	E	C	C
Approach Vol, veh/h		1022			814			1051			1014	
Approach Delay, s/veh		42.1			86.4			41.2			33.2	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	34.0	13.3	28.2	15.1	33.5	18.5	23.0
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	4.5	5.5
Max Green Setting (Gmax), s	11.5	27.0	10.9	21.1	12.7	25.8	14.5	17.5
Max Q Clear Time (g_c+I1), s	10.2	22.5	9.0	14.5	10.6	16.4	13.8	19.5
Green Ext Time (p_c), s	0.1	2.2	0.1	3.3	0.1	3.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	815	49	119	679	49	127
Future Vol, veh/h	815	49	119	679	49	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	886	53	129	738	53	138

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	939	0	1540	470
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	627	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	726	-	106	540
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	495	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	726	-	87	540
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	407	-

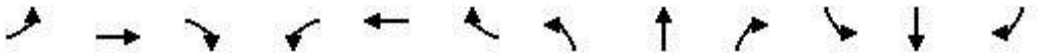
Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	20.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	419	-	-	726	-
HCM Lane V/C Ratio	0.457	-	-	0.178	-
HCM Control Delay (s)	20.6	-	-	11	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	2.3	-	-	0.6	-

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	389	536	226	879	142	861	301	1135	363
v/c Ratio	0.91	0.74	0.82	0.99	0.87	0.96	0.93	0.92	0.51
Control Delay	69.6	43.2	64.4	60.1	88.4	57.4	76.0	44.7	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	43.2	64.4	60.1	88.4	57.4	76.0	44.7	9.6
Queue Length 50th (ft)	127	166	139	256	91	278	190	361	41
Queue Length 95th (ft)	#213	227	#252	#393	#202	#407	#349	#495	121
Internal Link Dist (ft)		244		846		168		527	
Turn Bay Length (ft)	160		150		150		220		175
Base Capacity (vph)	429	729	295	891	164	901	327	1231	718
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.74	0.77	0.99	0.87	0.96	0.92	0.92	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	358	424	69	208	494	315	131	646	146	277	1044	334
Future Volume (veh/h)	358	424	69	208	494	315	131	646	146	277	1044	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	389	461	75	226	537	342	142	702	159	301	1135	363
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	697	113	259	492	313	166	1001	227	330	1565	697
Arrive On Green	0.13	0.23	0.23	0.15	0.24	0.24	0.09	0.35	0.35	0.19	0.44	0.44
Sat Flow, veh/h	3456	3049	493	1781	2058	1309	1781	2873	650	1781	3554	1582
Grp Volume(v), veh/h	389	267	269	226	464	415	142	434	427	301	1135	363
Grp Sat Flow(s),veh/h/ln	1728	1777	1764	1781	1777	1590	1781	1777	1747	1781	1777	1582
Q Serve(g_s), s	11.1	13.7	13.9	12.4	23.9	23.9	7.9	21.1	21.1	16.6	26.3	12.9
Cycle Q Clear(g_c), s	11.1	13.7	13.9	12.4	23.9	23.9	7.9	21.1	21.1	16.6	26.3	12.9
Prop In Lane	1.00		0.28	1.00		0.82	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	432	406	403	259	425	380	166	619	609	330	1565	697
V/C Ratio(X)	0.90	0.66	0.67	0.87	1.09	1.09	0.86	0.70	0.70	0.91	0.73	0.52
Avail Cap(c_a), veh/h	432	406	403	297	425	380	166	619	609	330	1565	697
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	35.0	35.1	41.8	38.0	38.1	44.7	28.1	28.1	40.0	23.0	12.1
Incr Delay (d2), s/veh	21.5	7.0	7.3	21.6	70.7	73.6	33.3	6.5	6.6	28.7	3.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	6.6	6.7	7.0	18.5	16.9	5.0	9.9	9.7	9.8	11.2	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	42.0	42.4	63.4	108.7	111.6	78.0	34.6	34.7	68.6	26.0	14.9
LnGrp LOS	E	D	D	E	F	F	E	C	C	E	C	B
Approach Vol, veh/h		925			1105			1003			1799	
Approach Delay, s/veh		51.6			100.5			40.8			30.9	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	39.9	19.0	28.4	13.8	49.1	18.0	29.4
Change Period (Y+Rc), s	4.5	5.0	4.5	5.5	4.5	5.0	5.5	* 5.5
Max Green Setting (Gmax), s	18.5	25.6	16.7	19.7	9.3	34.8	12.5	* 24
Max Q Clear Time (g_c+I1), s	18.6	23.1	14.4	15.9	9.9	28.3	13.1	25.9
Green Ext Time (p_c), s	0.0	1.3	0.1	2.0	0.0	4.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	743	43	102	857	42	109
Future Vol, veh/h	743	43	102	857	42	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	808	47	111	932	46	118

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	855	0	1520	428
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	688	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	781	-	109	575
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	460	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	781	-	94	575
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	395	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	17.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	443	-	-	781	-
HCM Lane V/C Ratio	0.37	-	-	0.142	-
HCM Control Delay (s)	17.8	-	-	10.4	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1.7	-	-	0.5	-

ATTACHMENT D

PROJECT DRIVEWAY CORNER SIGHT DISTANCE EXHIBITS

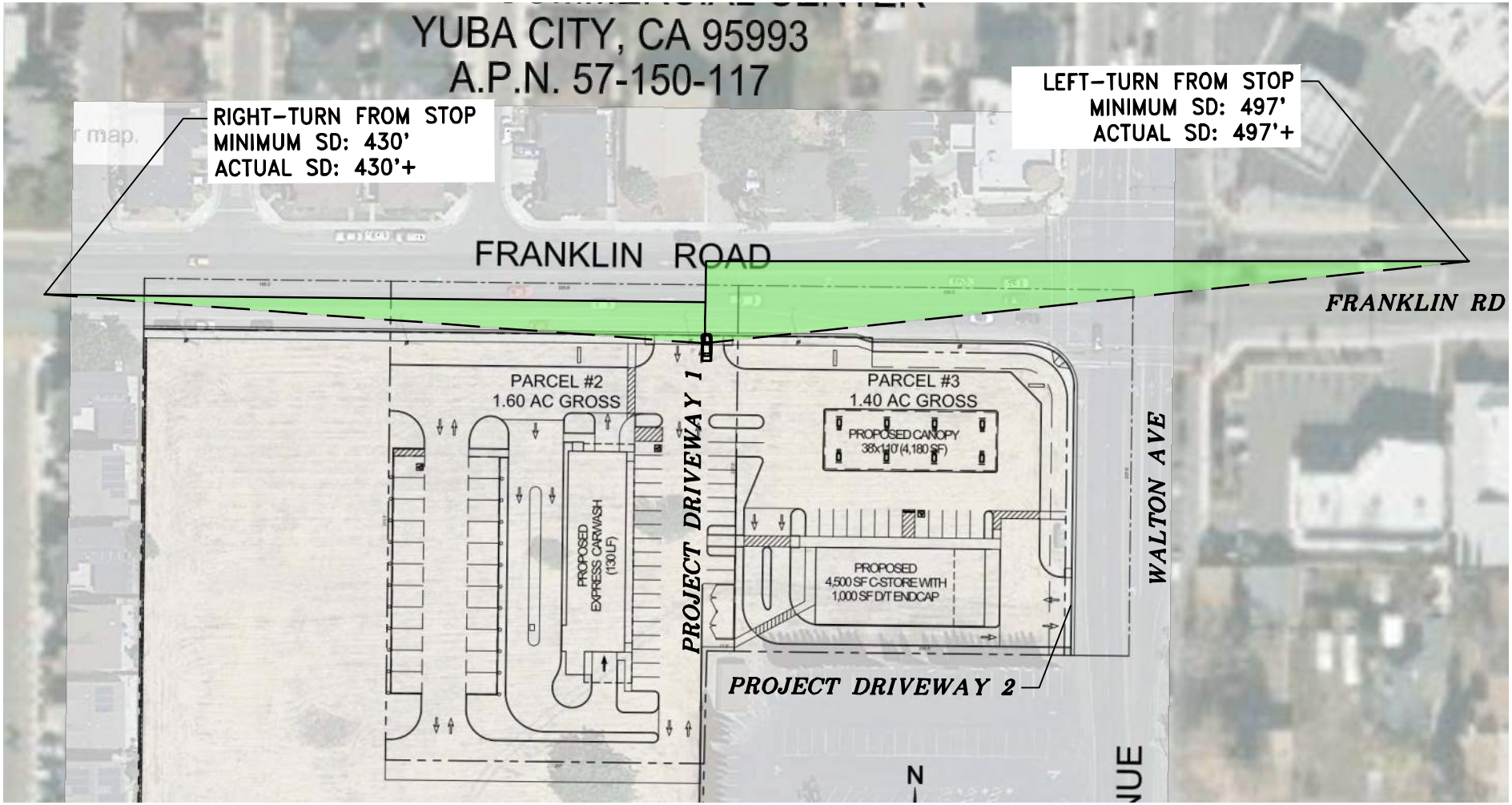
FRANKLIN ROAD COMMERCIAL TIA

CORNER SIGHT DISTANCE

PROJECT DRIVEWAY 1 AT FRANKLIN ROAD

YUBA CITY CALIFORNIA

MARCH, 2024



100' 50' 0 100'

SCALE: 1" = 100'

LEGEND

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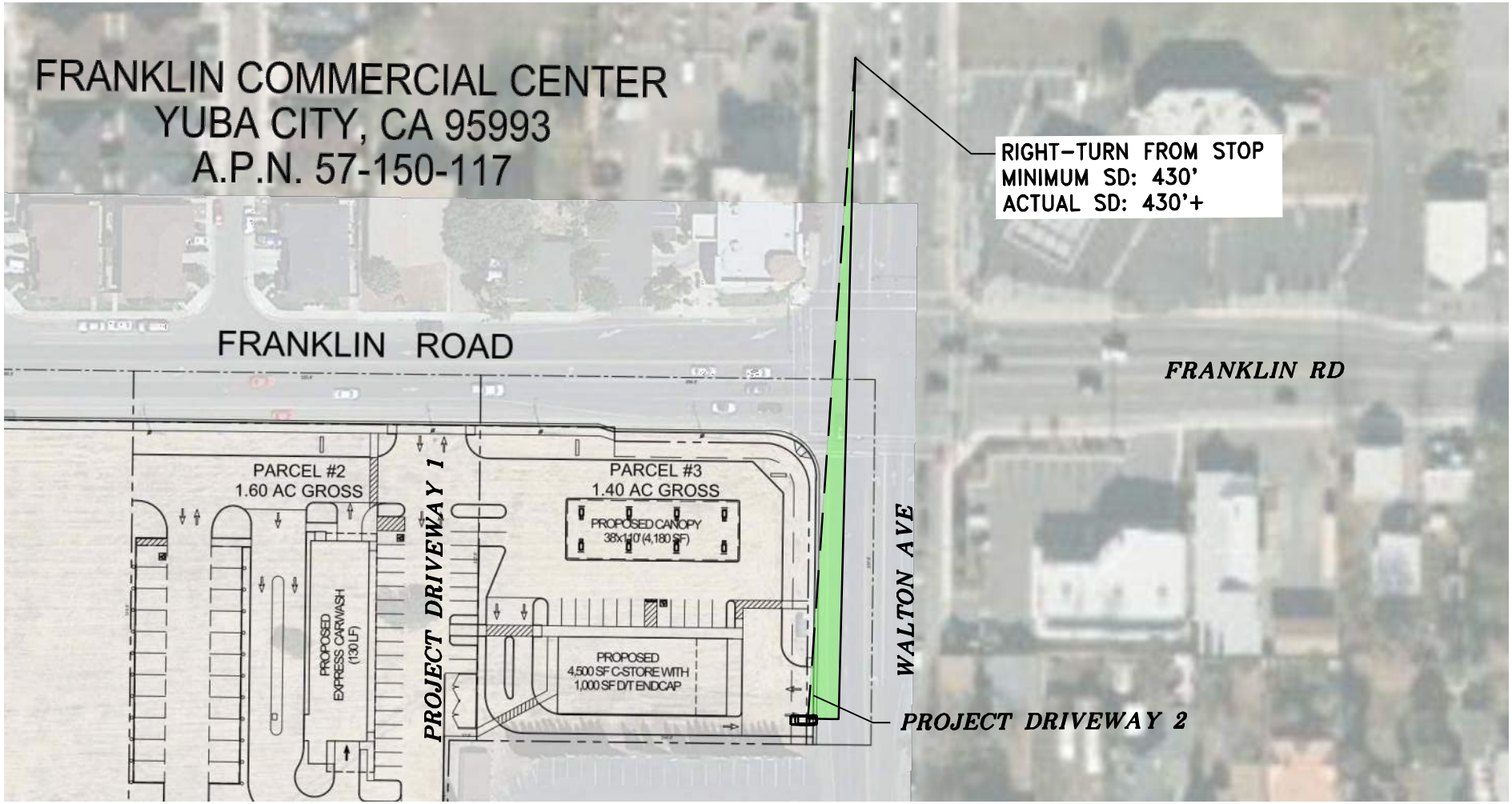
FRANKLIN ROAD COMMERCIAL TIA

CORNER SIGHT DISTANCE

PROJECT DRIVEWAY 2 AT WALTON AVENUE

YUBA CITY CALIFORNIA

MARCH, 2024



100' 50' 0 100'

SCALE: 1" = 100'

LEGEND

VISIBLE AREA

LINE OF SIGHT

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

ATTACHMENT E

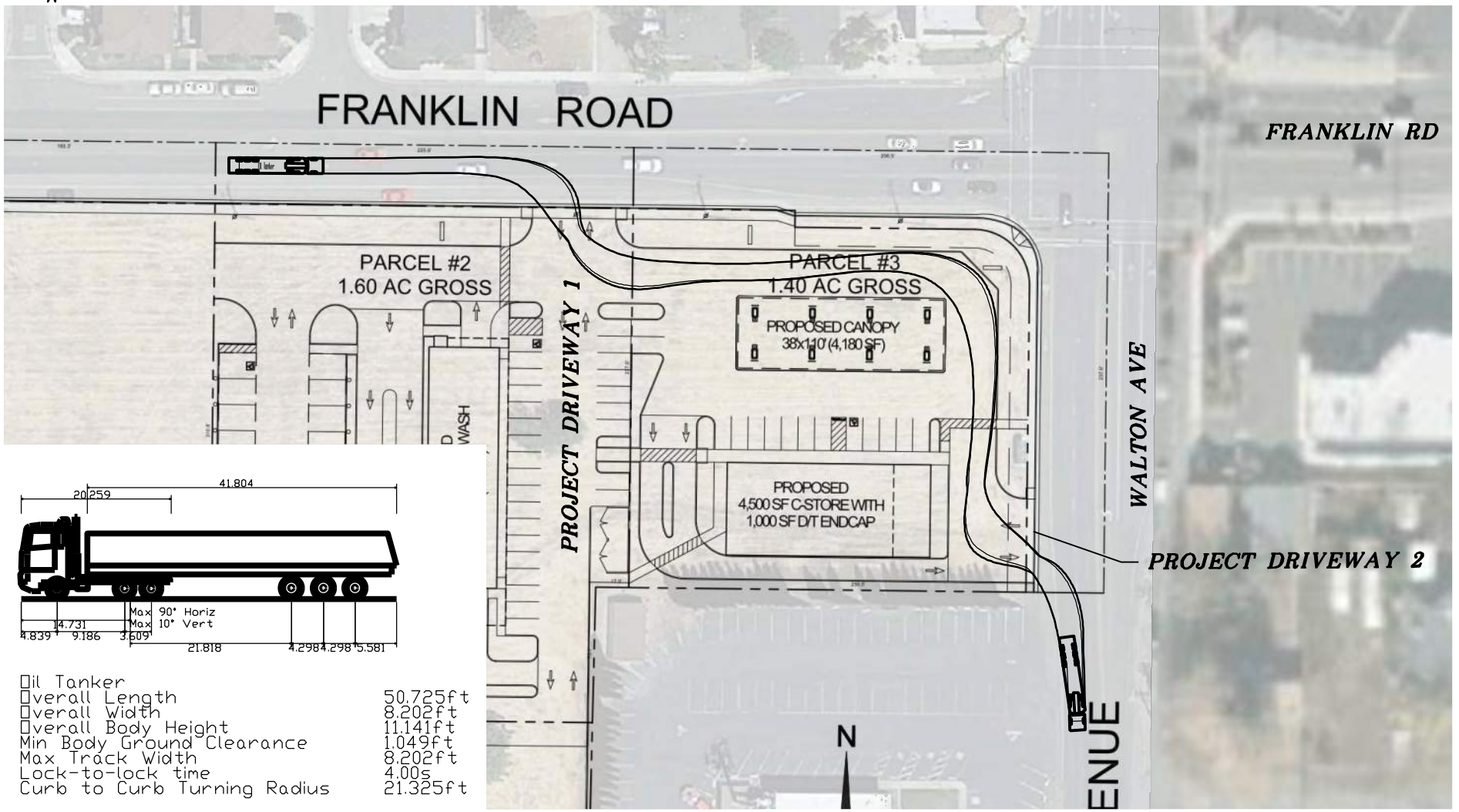
PROJECT DRIVEWAY TRUCK TURN EXHIBITS

FRANKLIN ROAD COMMERCIAL TIA

TRUCK TURNS - RIGHT-TURN IN & RIGHT-TURN OUT

YUBA CITY CALIFORNIA

MARCH, 2024



Oil Tanker	
Overall Length	50.725ft
Overall Width	8.202ft
Overall Body Height	11.141ft
Min Body Ground Clearance	1.049ft
Max Track Width	8.202ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	21.325ft

80' 40' 0 80'

SCALE: 1" = 80'

WOOD RODGERS
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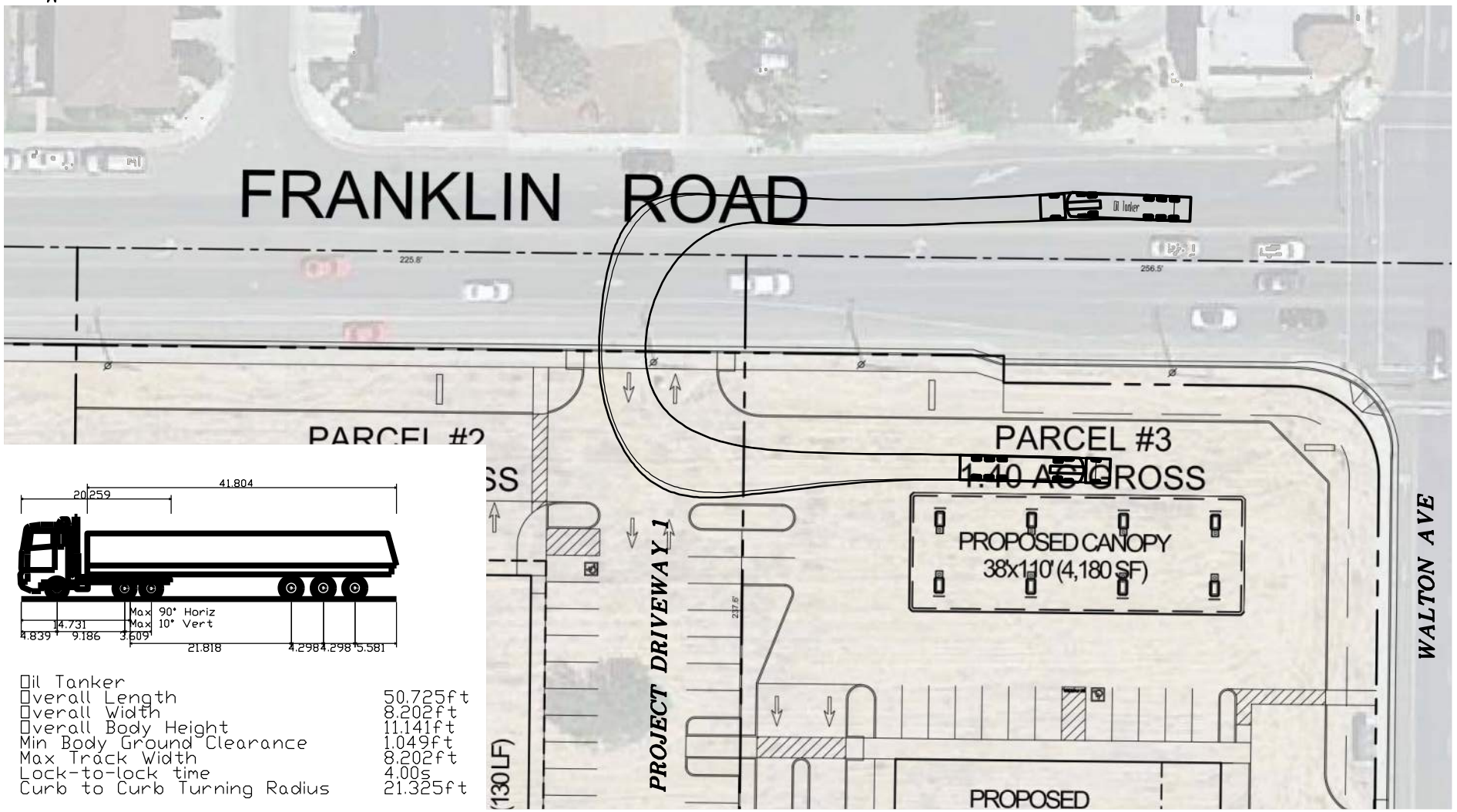
FRANKLIN ROAD COMMERCIAL TIA

TRUCK TURNS - LEFT-TURN IN

YUBA CITY CALIFORNIA

MARCH, 2024



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Overall Body Height	11.141ft
Min Body Ground Clearance	1.049ft
Max Track Width	8.202ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	21.325ft

50' 25' 0 50'

SCALE: 1" = 50'

WOOD RODGERS
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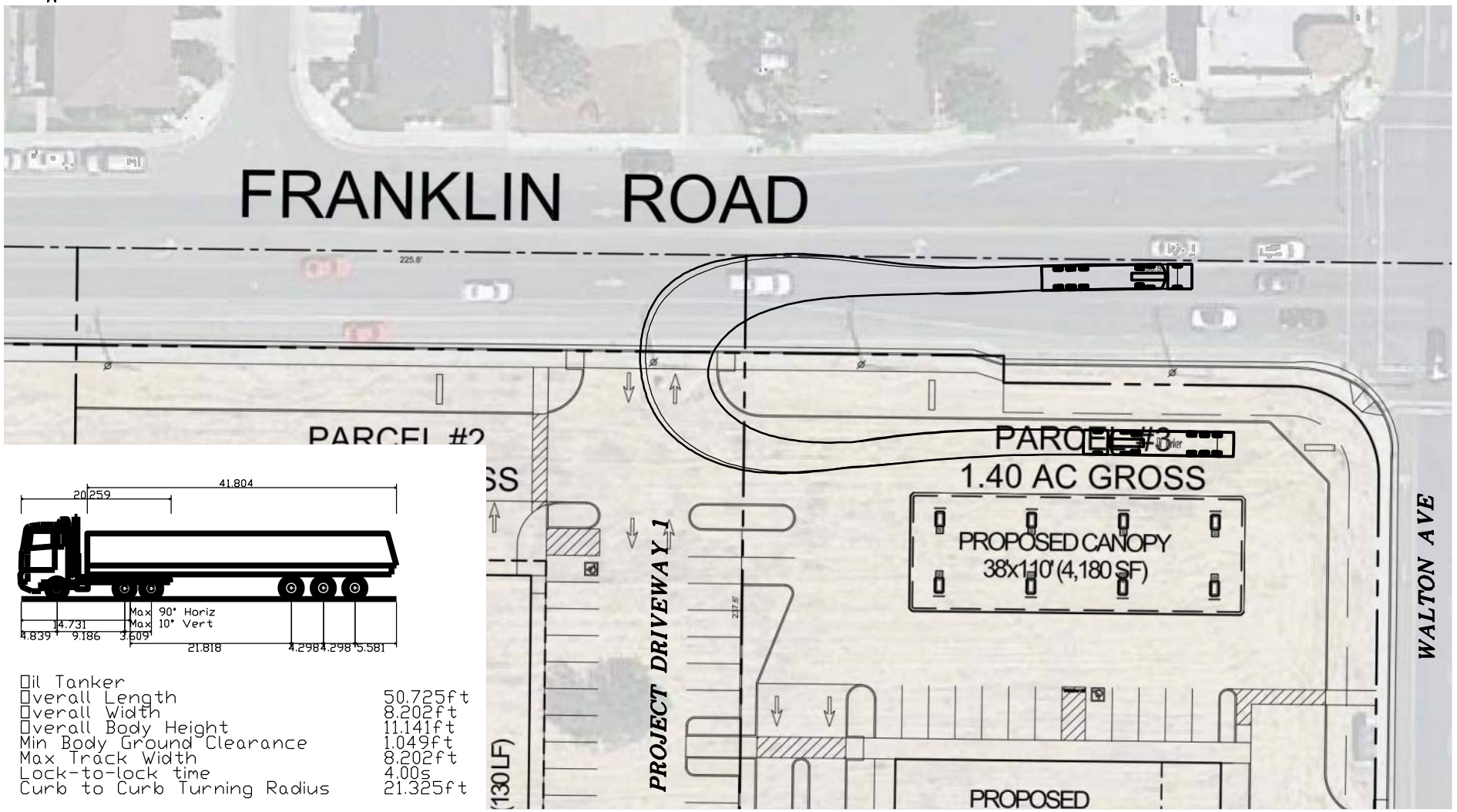
Sacramento, CA 95816 Fax 916.341.7767

FRANKLIN ROAD COMMERCIAL TIA

TRUCK TURNS - RIGHT-TURN OUT

YUBA CITY CALIFORNIA

MARCH, 2024



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Max Track Width	8.202ft
Lock-to-lock time	4.00s
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50' 25' 0 50'

SCALE: 1" = 50'

WOOD RODGERS
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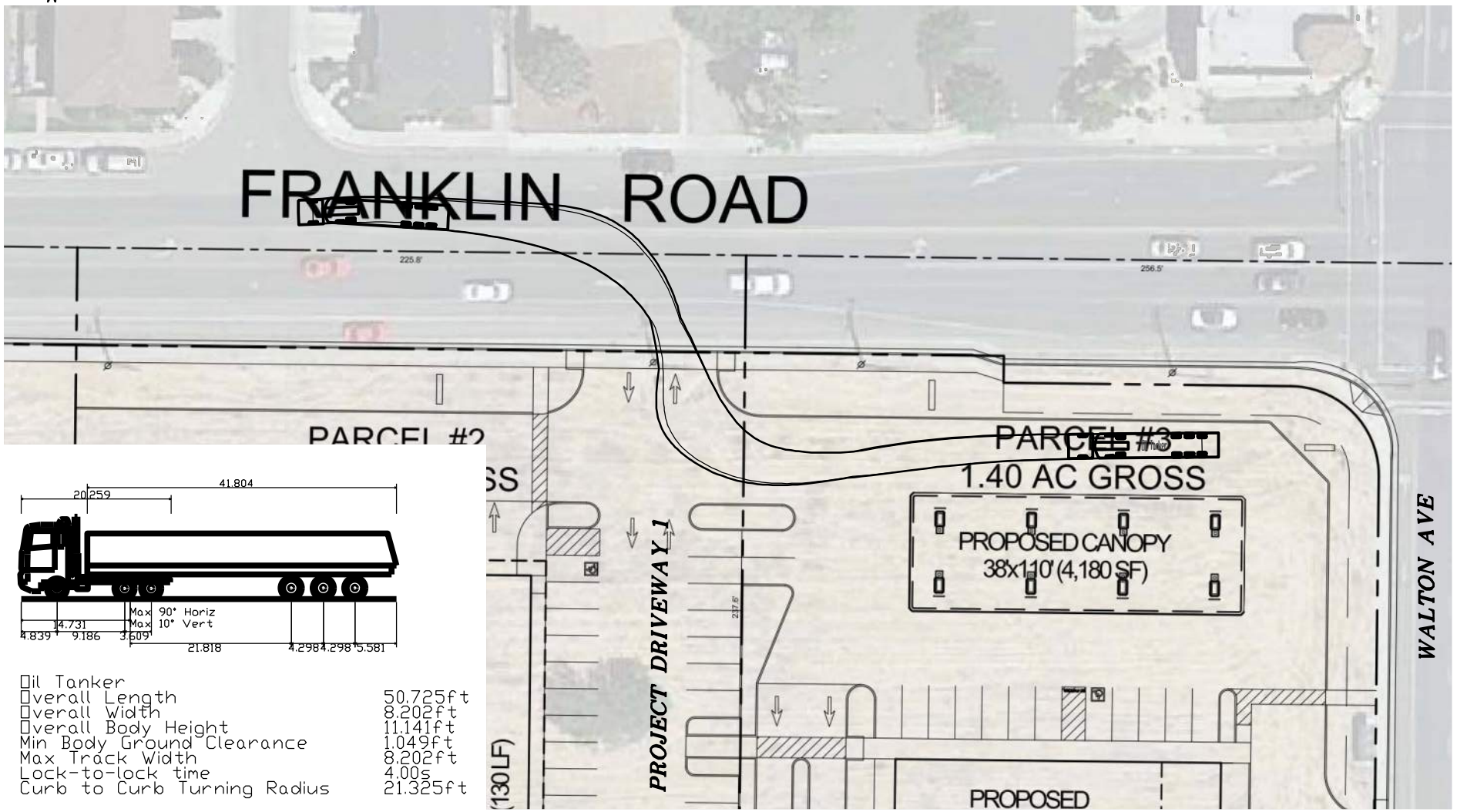
FRANKLIN ROAD COMMERCIAL TIA

TRUCK TURNS - LEFT-TURN OUT

YUBA CITY CALIFORNIA

MARCH, 2024



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50' 25' 0 50'

SCALE: 1" = 50'

WOOD RODGERS
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Sacramento, CA 95816 Fax 916.341.7767

ATTACHMENT F

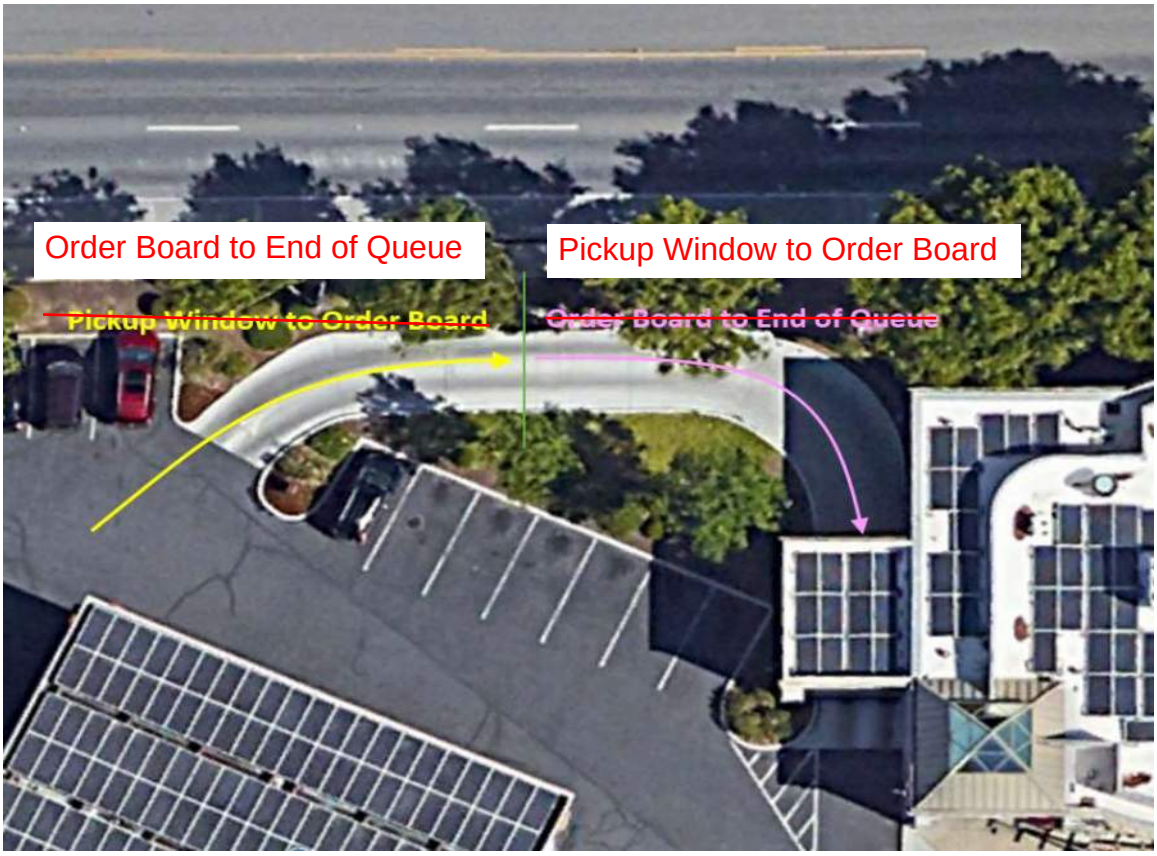
DRIVE-THROUGH QUEUEING DATA

Prepared by National Data & Surveying Services

Max Queue

Location: FreeTime Java DT at Circle K, 1466 Colusa Hwy
City: Yuba City
Date: 11/30/2023 (Thu)

Time	Max Queue Length (# of Vehicles)		
	QUEUE 1 From Pick Up Window to Order Board	QUEUE 2 From Order Board to End of the Lane	TOTAL MAX QUEUE
7:00 AM	1	0	1
7:05 AM	0	1	1
7:10 AM	1	0	1
7:15 AM	0	0	0
7:20 AM	0	0	0
7:25 AM	1	1	2
7:30 AM	1	0	1
7:35 AM	1	0	1
7:40 AM	0	0	0
7:45 AM	0	0	0
7:50 AM	1	1	2
7:55 AM	1	0	1
8:00 AM	0	0	0
8:05 AM	2	0	2
8:10 AM	1	0	1
8:15 AM	2	0	2
8:20 AM	2	1	3
8:25 AM	0	0	0
8:30 AM	1	0	1
8:35 AM	1	0	1
8:40 AM	1	0	1
8:45 AM	0	0	0
8:50 AM	2	0	2
8:55 AM	2	0	2
4:00 PM	1	1	2
4:05 PM	2	1	3
4:10 PM	1	0	1
4:15 PM	0	0	0
4:20 PM	1	1	2
4:25 PM	1	0	1
4:30 PM	2	1	3
4:35 PM	2	1	3
4:40 PM	1	0	1
4:45 PM	0	0	0
4:50 PM	1	0	1
4:55 PM	1	0	1
5:00 PM	1	0	1
5:05 PM	0	0	0
5:10 PM	0	0	0
5:15 PM	1	1	2
5:20 PM	1	0	1
5:25 PM	1	1	2
5:30 PM	1	0	1
5:35 PM	2	0	2
5:40 PM	2	0	2
5:45 PM	0	0	0
5:50 PM	0	0	0
5:55 PM	1	1	2
Totals	44	12	56


Order Board to End of Queue
Pickup Window to Order Board
Pickup Window to Order Board
Order Board to End of Queue

Prepared by National Data & Surveying Services

Max Queue

Location: Surf Thru Express Car Wash, 1501 Colusa Hwy
City: Yuba City, CA
Date: 11/30/2023 (Thu)

Time	Max Queue Length (# of Vehicles)						
	QUEUE 1 Car wash to Clearance window	QUEUE 2 Clearance window to back			TOTAL MAX QUEUE		
		Lane 1	Lane 2	Lane 3	Q1 + Lane 1 Q	Q1 + Lane 2 Q	Q1 + Lane 3 Q
7:00 AM	1	0	0	1	1	1	2
7:05 AM	1	0	0	1	1	1	2
7:10 AM	1	0	0	1	1	1	2
7:15 AM	0	0	0	0	0	0	0
7:20 AM	0	0	0	0	0	0	0
7:25 AM	0	1	0	0	1	0	0
7:30 AM	1	1	0	0	2	1	1
7:35 AM	1	1	0	0	2	1	1
7:40 AM	2	1	1	1	3	3	3
7:45 AM	1	0	1	1	1	2	2
7:50 AM	1	0	1	0	1	2	1
7:55 AM	3	0	1	2	3	4	5
8:00 AM	1	1	0	1	2	1	2
8:05 AM	2	0	0	1	2	2	3
8:10 AM	3	1	1	1	4	4	4
8:15 AM	4	2	1	1	6	5	5
8:20 AM	2	1	1	1	3	3	3
8:25 AM	1	1	1	1	2	2	2
8:30 AM	3	2	1	2	5	4	5
8:35 AM	3	1	1	1	4	4	4
8:40 AM	2	1	1	2	3	3	4
8:45 AM	1	1	1	1	2	2	2
8:50 AM	3	1	1	1	4	4	4
8:55 AM	2	1	1	1	3	3	3
4:00 PM	2	1	1	1	3	3	3
4:05 PM	1	0	0	0	1	1	1
4:10 PM	2	1	0	1	3	2	3
4:15 PM	2	0	0	2	2	2	4
4:20 PM	2	1	0	1	3	2	3
4:25 PM	2	2	0	1	4	2	3
4:30 PM	1	1	0	0	2	1	1
4:35 PM	3	1	1	1	4	4	4
4:40 PM	3	1	1	0	4	4	3
4:45 PM	0	0	0	0	0	0	0
4:50 PM	1	1	1	0	2	2	1
4:55 PM	3	1	1	1	4	4	4
5:00 PM	2	1	1	1	3	3	3
5:05 PM	2	1	0	1	3	2	3
5:10 PM	1	1	1	1	2	2	2
5:15 PM	2	1	0	1	3	2	3
5:20 PM	4	2	0	2	6	4	6
5:25 PM	3	1	0	1	4	3	4
5:30 PM	3	1	0	2	4	3	5
5:35 PM	3	1	0	0	4	3	3
5:40 PM	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0
5:50 PM	1	2	0	1	3	1	2
5:55 PM	1	0	1	0	1	2	1
Totals	83	38	22	39	121	105	122


Car wash entrance to clearance window
Clearance to back

Prepared by National Data & Surveying Services

Max Queue

Location: Highway 99 Car Wash, 1265 Hunn Rd
City: Yuba City
Date: 11/30/2023 (Thu)

Time	Max Queue Length (# of Vehicles)		
	QUEUE 1 Entrance to Clearance Window	QUEUE 2 Clearance Window to Back	TOTAL MAX QUEUE
7:00 AM	0	0	0
7:05 AM	0	0	0
7:10 AM	0	0	0
7:15 AM	0	0	0
7:20 AM	0	0	0
7:25 AM	0	0	0
7:30 AM	0	0	0
7:35 AM	0	0	0
7:40 AM	0	0	0
7:45 AM	0	0	0
7:50 AM	0	0	0
7:55 AM	0	0	0
8:00 AM	0	0	0
8:05 AM	0	0	0
8:10 AM	0	1	1
8:15 AM	0	0	0
8:20 AM	0	0	0
8:25 AM	0	1	1
8:30 AM	0	1	1
8:35 AM	0	0	0
8:40 AM	1	2	3
8:45 AM	1	0	1
8:50 AM	1	1	2
8:55 AM	1	0	1
4:00 PM	0	1	1
4:05 PM	0	0	0
4:10 PM	0	0	0
4:15 PM	0	1	1
4:20 PM	0	0	0
4:25 PM	0	1	1
4:30 PM	0	0	0
4:35 PM	1	1	2
4:40 PM	0	0	0
4:45 PM	0	0	0
4:50 PM	0	0	0
4:55 PM	0	0	0
5:00 PM	0	0	0
5:05 PM	0	0	0
5:10 PM	0	0	0
5:15 PM	0	0	0
5:20 PM	0	0	0
5:25 PM	0	0	0
5:30 PM	0	0	0
5:35 PM	0	0	0
5:40 PM	0	0	0
5:45 PM	0	0	0
5:50 PM	0	0	0
5:55 PM	0	0	0
Totals	5	10	15


Highway 99 Car Wash
Wash area to clearance window
Lavar Autos
Clearance window to back

Memorandum

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

To: Ashley Potocnik, Development Liaison
Ben Moody, Director of Public Works and Development Services
City of Yuba City

From: Mario Tambellini, PE, TE

Date: May 17, 2024

Subject: **Franklin Road Commercial – Drive-Through Restaurant Trip Generation**

INTRODUCTION

The *Franklin Road Commercial Traffic Impact Analysis Memorandum* (Franklin Commercial TIA) (Wood Rodgers, April 16, 2024) analyzed a proposed gas station with 16 fueling positions, a 4,500 square foot convenience store with 1,000 square foot drive-through quick service restaurant endcap, and a 130 linear foot express carwash. The Franklin Commercial TIA assumed that the drive-through quick service restaurant would not provide indoor seating. Since the tenant of the drive-through quick service restaurant is not known at this time, it is possible that seating could be provided in the restaurant. Therefore, this memorandum compares the trip generation of a drive-through restaurant with and without indoor seating.

TRIP GENERATION COMPARISON

The trip generation data contained in the *ITE Trip Generation Manual, 11th Edition,* was used to approximate the number of trips generated by a drive-through restaurant with and without indoor seating.

Table 1. Project Trip Generation

Land Use	ITE Code	Quantity	Units	Daily[1]	AM Peak Hour[1]			PM Peak Hour[1]		
					In	Out	Total	In	Out	Total
Fast-Food Restaurant With Drive-Through Window and No Indoor Seating	935	1	Drive-Thru Lanes	600	20	23	43	31	29	60
Fast-Food Restaurant with Drive-Through Window	934	1	1,000 sq. ft. GFA	467	23	22	45	17	16	33
Difference:				133	-3	1	-2	14	13	27

Notes:
[1]Trip rates are calculated based on ITE Trip Generation (11th Edition) fitted curve equations or average rates.

As shown in **Table 1**, using the drive-through restaurant trip generation rates for "no indoor seating" results in 133 more daily trips, 2 fewer AM peak hour trips, and 27 more PM peak hour trips than using the drive-through restaurant trip generation rates for "with indoor seating". Therefore, using the drive through restaurant with indoor seating rates would not result in any deficiencies beyond those already identified in the Franklin Commercial TIA.