SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE

Highway 59 Landfill Composting Facility

Prepared for:

Merced County Regional Waste Management Authority

July 2024

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State Clearinghouse Number 2014061081

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LIST OF ABBREVIATIONS

˚F	degrees Fahrenheit
AB	Assembly Bill
APN	Assessor's parcel number
ATC	Authority to Construct
Authority	Merced County Regional Waste Management Authority
BACT	Best Available Control Technology
BAU	business as usual
BPS	Best Performance-based Standards
C/N	carbon to nitrogen ratio
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	climate action plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASP	covered aerated static pile
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CCIC	California Information Center
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources

CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibels
DOT	US Department of Transportation
Draft SEIR	draft supplemental environmental impact report
EIR	environmental impact report
EO	Executive Order
EPA	US Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
GHG	greenhouse gas
GWP	global warming potential
HAP	hazardous air pollutant
HRA	health risk assessment
Hz	hertz
in/sec	inches per second
ITP	incidental take permit
JP	Joint Partnerships
L_{dn}	day-night level
L_{eq}	equivalent continuous sound level
LFG	landfill gas
L_{max}	maximum sound level
LOS	level of service
MACT	Maximum Achievable Control Technology
MBTA	Migratory Bird Treaty Act
MCAG	Merced County Association of Governments
MCRWMA	Merced County Regional Waste Management Authority
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
mPa	micro-Pascals
MPSP	Master Plans, Strategies, and Programs
MRR	Mandatory Reporting Rule
MT	metric tons

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHTSA	National Highway Traffic and Safety Administration
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
OPR	California Governor's Office of Planning and Research
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM_{10}	respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less
PPV	peak particle velocity
PRC	Public Resources Code
PSR	Planning Studies and Reports
PTO	Permits to Operate
RDR	Regulation and Development Review
RMS	root-mean-square
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	regional water quality control board
SAF Plan	State Alternative Fuels Plan
SB	Senate Bill
SIP	state implementation plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLCP	Short-Lived Climate Pollutant
SO	County Services and Operations
SO_2	sulfur dioxide
SPL	sound pressure level
SR	State Route
STIP	California Statewide Transportation Improvement Program
SWFP	solid waste facility permit

TAC	toxic air contaminant
TISG	Vehicle Miles Traveled-Focused Transportation Impact Study Guide
tpy	ton-per-year
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
Valley Fill Project	Highway 59 Landfill Valley Fill Project
VdB	vibration decibels
VMT	vehicle miles travelled
VOC	volatile organic compound
WDR	Waste Discharge Requirement
WEAP	Worker Environmental Awareness Program

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

Merced County Regional Waste Management Authority (MCRWMA or Authority) is considering changes to the Highway 59 Landfill Valley Fill Project (Valley Fill Project), for which an environmental impact report (EIR) was certified in 2016. Because an EIR was previously certified, the proposed modifications to the Valley Fill Project are being analyzed in a supplemental environmental impact report (SEIR).This summary is provided in accordance with the California Environmental Quality Act (CEQA), including CEQA Guidelines Section 15123 (Title 14, California Code of Regulations [CCR].) As stated in CCR Section 15123(a), "an environmental impact report (EIR) shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical." As required by the CCR, this section includes: (1) a summary description of the proposed project; (2) a synopsis of environmental impacts and recommended mitigation measures; (3) identification of the alternatives evaluated and of the environmentally superior alternative; (4) a discussion of the areas of controversy associated with the project; and (5) issues to be resolved, including the choice among alternatives.

ES.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The project (i.e., proposed modifications to the Valley Fill Project) consists of conversion of the current 25,000-tons per year (tpy) green waste windrow composting facility to a 75,000-tpy covered aerated static pile (CASP) green waste and food waste compost facility to comply with Senate Bill (SB) 1383 regulations. The converted compost facility would be located on MCRWMA's Highway 59 Landfill property and would occupy the same area as the current compost facility with CASP technology, including processing and composting equipment, located on a compacted soil compost pad that would drain to an on-site lined pond. The compost facility would be designed to accept up to 75,000 tpy and an average of 300 tons per day of green waste and food waste and would be able to store on-site up to 100,000 cubic yards of organic material that would have otherwise been landfilled.

ES.2.1 Previous Approved Project

As evaluated in the 2016 Valley Fill Project EIR, MCRWMA previously approved a project that included the modification of solid waste disposal and recycling operations at its Highway 59 Landfill in Merced County. The approved Valley Fill Project includes relocation of several currently permitted on-site facilities and a vertical reconfiguration of the landfill disposal area. The reconfiguration, as approved, allows for continued operation of the existing landfill for an additional 11–15 years without expanding the boundary of the permitted facility. As part of the proposed relocation of facilities, the Valley Fill Project EIR evaluated the installation and operation of concrete-padded areas east of the existing administrative offices and parking for the purposes of household hazardous waste disposal, materials recycling, a relocated shop, and two aboveground storage tanks. As a result of project approval in 2016, MCRWMA amended its solid waste facility permit (SWFP) in 2016 and then again in 2019 to incrementally increase the maximum daily tonnage up to 3,000 peak tons per day in 2035 and beyond, incrementally increase the allowable traffic up to 800 vehicles per day by 2035, increase the height of the disposal area by 50 feet, and add dewatered sewage sludge to the list of accepted wastes. The project also included continued operation of the landfill's composting operation with a green waste composting operation (with an annual capacity of 25,000 tpy). The primary purpose of the approved project was to increase the disposal capacity of the landfill in a manner that is consistent with existing regulations, as well as economically and environmentally superior to the previously identified disposal and recycling plan for the landfill.

In June 2023, MCRWMA approved an addendum to the Valley Fill Project EIR that allowed for installation of a concrete pad for organic waste processing and transfer operations within the existing compost facility boundary.

ES.2.2 Project Objectives

The overall goal of the project is to comply with composting goals set forth under the state's Short-Lived Climate Pollutant (SLCP) Reduction Strategy (SB 1383 [Lara], Chapter 395, Statutes of 2016), commonly referred to as SB 1383. The project is intended to achieve the following individual objectives:

- Provide capacity for implementation of a transformative organics diversion program in Merced County as required by California legislation;
- Reduce methane emissions from landfills by removing organics from landfills and by composting new feedstocks and reducing greenhouse gas (GHG) emissions by sequestering nutrient-rich compost in soils;
- Modify an existing, strategically integrated waste management facility to accommodate the growing regulatory demand for mixed materials, organic waste, and food waste composting;
- Receive and compost food wastes derived from commercial and residential sources, and increase diversion of organic materials from landfills by expanding the approved feedstock list to include digestates that can be received and processed;
- Provide preprocessing food waste operations at the facility; and
- Enhance the business community's ability to comply with SB 1383.

ES.2.3 Description of the Project

The project would authorize the composting facility at the Highway 59 Landfill to accept organic waste and "mixed materials" consistent with the requirements of SB 1383 and AB 1826 (Chesbro, Chapter 272, Statutes of 2014), which have changed the requirements for disposal of organic waste, as well as expanded the list of organic wastes that may be accepted at a compostable materials handling facility. Organic "mixed materials" include all types of food material, including postconsumer food waste, food-soiled paper, and compostable plastics, as well as digestate, consistent with current regulations.

The project involves conversion of the current 25,000-tpy green waste windrow composting facility to a CASP green waste and food waste compost facility that would meet the organic waste disposal targets of California's SLCP Reduction Strategy. The compost facility would be designed to accept up to 75,000 tpy of green waste and food waste and be able to store on-site up to 100,000 cubic yards of organic material. Additional site improvements would include construction of a new lined wastewater storage pond; on-site drainage improvements; and improvements to working surfaces, such as paving active composting and/or processing areas or amending/compacting the soil. The total land area associated with the project consists of the 7.5-acre CASP facility and up to 5 acres of temporary storage (i.e., two 2.5-acre potential temporary storage areas would be established to support periods of higher throughput during Fall and Spring). The project would also include clearing and grading of the entirety of the southern 35.6-acre parcel of the landfill (Assessor's Parcl No. 170-070-002) for primarily vegetation management purposes, although only 2.5 acres of this area would be used for potential temporary compost storage.

The CASP and processing and composting equipment would be installed on a concrete pad draining to a new lined pond within the project site. The organic waste would be delivered to the proposed compost facility by collection vehicles, transfer trailers, and self-haul vehicles. Once received, the organic waste would be sorted to remove non-compostable wastes and contamination, then preprocessed by grinding. The active composting area would be located on a compost pad. Some organic material may be delivered preprocessed and feedstock-ready from local material recovery facilities and may be deposited directly into the CASP unit without further processing. Once active composting is complete, the materials are then moved to a curing area, then to final screening and finishing at the compost storage area and/or the potential temporary storage areas.

Finished compost would leave the site as a result of either direct purchases at the Highway 59 Landfill (10 percent), transport to Vulcan Materials Company, 22101 Sunset Avenue, Los Banos (45 percent), and transport to Agromin-Bowles Compost Facility, 13000 Carlucci Road, Dos Palos (45 percent) for sale from those facilities.

ES.3 ENVIRONMENTAL IMPACTS

CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (Public Resources Code [PRC] Section 21100, CCR Sections 15126.2[a] and 15128). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of "environment"). The Draft SEIR evaluates the potential impacts of the Highway 59 Landfill Composting Facility project in the following environmental impact areas:

- air quality;
- archaeological, historical, and tribal cultural resources;
- biological resources;
- energy;
- greenhouse gas emissions and climate change;
- noise; and
- transportation.

As described in Section 3.0, "Approach to the Environmental Analysis," other resource areas were determined not to result in significant effects on the environment. Table ES-1, presented at the end of this chapter, provides a summary of the environmental impacts of the project.

ES.4 ALTERNATIVES

The State CEQA Guidelines Section 15126.6 mandates that all EIRs include a comparative evaluation of the proposed project with alternatives to the project that are capable of attaining most of the project's basic objectives but that would avoid or substantially lessen any of the significant effects of the project. CEQA requires an evaluation of a "range of reasonable" alternatives, including the "no project" alternative.

Sections 3.1 through 3.7 of this Draft SEIR address the potential environmental impacts of implementation of the Highway 59 Landfill Composting Facility project. As described in Chapter 5, "Alternatives," potentially feasible alternatives are typically developed with consideration of avoiding or lessening the significant, and potentially significant, adverse impacts of a proposed project. However, as described in this Draft SEIR, there would be no significant and impacts associated with the project that cannot be mitigated to a less-than-significant level. Therefore, there would be no such impacts to avoid or lessen through implementation of alternatives.

ES.4.1 Alternatives Addressed in the Valley Fill Project EIR

The Valley Fill Project EIR evaluated four alternatives: Alternative 1: No Project, Alternative 2: Reduced Project Alternative; Alternative 3: Lateral Expansion Alternative, and Alternative 4: Billy Wright Landfill Expansion Alternative.

As discussed in the Valley Fill Project EIR, the No Project Alternative would avoid the localized significant environmental impact associated with the proposed project and the other "build" alternatives, but would result in greater overall impacts on air quality, GHG emissions, and traffic. In addition, the No Project Alternative would not meet the need for long-term solid waste disposal capacity in Merced County and elsewhere in the region, would not minimize the net fiscal effects on rate payers and taxpayers, and would not conserve resources while providing a reasonable level of solid waste disposal. Therefore, this alternative was determined to not meet the basic objectives of the Valley Fill Project.

The remaining action alternatives discussed in the Valley Fill Project EIR would meet most of the Valley Fill Project objectives. Of these alternatives, Alternative 2: Reduced Project Alternative was determined be the environmentally superior alternative but was determined to not achieve the project objectives to the degree of the Valley Fill Project.

ES.4.2 Alternatives Evaluated in the Draft SEIR

Chapter 5 of this Draft SEIR evaluates two "no project" alternatives and two action alternatives to the Highway 59 Landfill Composting Facility project.

Alternative 1: No Project-No Development Alternative: Under Alternative 1, the No Project–No Development Alternative, there would be no changes to the existing compost program at the Highway 59 Landfill. That is, the area occupying the project site would remain as a windrow compost system, and there would not be an increase in the quantity of compostable materials diverted from the municipal waste stream at the Highway 59 Landfill. No covered aerated static pile (CASP) composting system would be constructed. This alternative would not meet most of the project objectives.

Alternative 2: No Project-Transfer Station Alternative: Under Alternative 2, the No Project–Transfer Station Alternative, there would be no changes to the existing composting program at the Highway 59 Landfill. Rather some compostable materials would be hauled off site to a new transfer station. For the purposes of this analysis, it is assumed that the transfer station would be located within approximately 5 miles of the Highway 59 Landfill on lands zoned for such uses. Compostable materials would continue to be diverted from the municipal solid waste stream; however, 25,000 tpy would be processed at the existing windrow facility, in the same manner as under the existing conditions, and 50,000 tpy would be hauled to a transfer station for processing elsewhere at an existing composting facility. No CASP composting system would be constructed at Highway 59 Landfill.

Alternative 3: Reduced Throughput Alternative: Under Alternative 3, compost throughput at the Highway 59 landfill would be limited to 50,000 tpy (a 25,000 tpy capacity increase above the existing facility). This reduced throughput would eliminate the need for the southern temporary storage of finished compost site. All other components of Alternative 3 would be the same as for the project, including construction and operation of the CASP system, the number of trucks coming to and from the Highway 59 Landfill, and the need for the northern temporary storage of finished compost location.

Alternative 4: Expansion to the North Alternative: Under Alternative 4, compost throughput at the Highway 59 landfill would be the same as under the project (75,000 tpy). Components of Alternative 4 would be the same as for the project, including construction and operation of the CASP system, the number of truck coming to and from the Highway 59 Landfill, and the need for the northern compost storage location; however, instead of the southern temporary storage of finished compost, a storage site would be established to the north of the Highway 59 Landfill in an area currently occupied by orchards. This would require an agreement related to use or purchase of land (approximately 2.5 acres) from the landowner north of Highway 59 Landfill.

ES.4.3 Environmentally Superior Alternative

Because the No Project–No Development would avoid all adverse impacts resulting from construction and operation of the project analyzed in Chapter 3 of this Draft SEIR, it is the environmentally superior alternative. However, the No Project–No Development Alternative would not meet the objectives the project. When the environmentally superior alternative is the No Project Alternative, the State CEQA Guidelines (Section 15126.6[e][2]) require selection of an environmentally superior alternative from among the other alternatives evaluated.

Implementation of Alternatives 2, 3, and 4 would all result in some impacts of greater severity and lesser severity than under the project. Of these alternatives, Alternative 3 reduces impacts to the greatest number of resource areas, however, it does not result in as large of a GHG reduction as the project. Regardless, as noted above, the project would not result in any significant environmental effects that cannot be mitigated to a less-than-significant level, and therefore no additional alternatives need to be evaluated or considered. Thus, because there would be no significant impacts related to the project that cannot be mitigated to a less-than-significant level, further discussion on an environmentally superior alternative is unnecessary.

ES.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

A Notice of Preparation (NOP) was distributed for the modified project on November 1, 2023, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals that may have an interest in the project. Project information was provided, and oral comments were sought at a public scoping meeting beginning at 3:00 p.m. on November 16, 2023. The purpose of the NOP and the scoping meeting was to provide notification that an SEIR would be prepared for the project and to solicit input on the scope and content of the environmental document. The NOP and comments received on the NOP are included in Appendix A. Key concerns and issues that were expressed during the scoping process, included the following:

- increased truck trips associated with project implementation,
- potential effects on existing drainage facilities or flow patterns.
- Potential effects on special-status species
- Potential effects on cultural resources and tribal cultural resources,
- Potential criteria air pollutant emissions,

The substantive environmental issues raised in the NOP comment letters and the scoping meetings have been addressed or otherwise considered during preparation of this Draft SEIR.

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Air Quality			
Impact 3.1-1: Short-Term Construction-Generated Criteria Pollutant Emissions Short-term construction-generated emissions associated with the project would not exceed SJVAPCD's regional significance thresholds and, thus, would not contribute to pollutant concentrations that exceed the NAAQS or CAAQS. Therefore, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.1-2: Generation of Long-Term Criteria Pollutant Emissions Implementation of the proposed project would not result in long-term operational emissions that would exceed SJVAPCD's thresholds of significance or substantially contribute to concentrations that exceed the NAAQS or CAAQS. Impacts related to these long-term operational (regional) emissions would be less than significant, in and of themselves, but when considered in light of the projected emissions associated with the Valley Fill Project, impacts would be potentially significant.	PS	Implementation of adopted Mitigation Measure 4.2-2 from the Valley Fill Project EIR constitutes feasible mitigation that would reduce potentially significant impacts related to long-term air quality emissions at Highway 59 Landfill. **Valley Fill Project EIR Mitigation Measure 4.2-2:** In accordance with SJVAPCD requirements, MCRWMA shall coordinate with SJVAPCD and purchase offsets for those emissions in excess of SJVAPCD thresholds established in Table 4-1 of Rule 2201. Offsets shall be purchased for stationary source emissions in excess of SJVAPCD emissions limits for the landfill, inclusive of the proposed project and for the entire life of the landfill. The timing of purchase of offsets shall be determined in cooperation with SJVAPCD and in accordance with Rule 2201 requirements.	LTS
Impact 3.1-3: Exposure of Sensitive Receptors to TACs Based on the screening analysis conducted, implementing the proposed project would not result in the exposure of sensitive receptors to TAC emissions beyond levels that require additional evaluation or a site-specific HRA. Therefore, the impact related to exposure of sensitive receptors to TACs would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.1-4: Generation of Other Emissions, Such as Odors Although the project would potentially include new sources of odors, it is anticipated to reduce odorous emissions from the existing facilities by diverting the organic waste from the landfill and producing reduced odorous emissions compared to the existing windrow composting operation. With the implementation of odor minimization design features at the compost facility and considering the distance to sensitive receptors, the project is not expected to produce objectionable odors that would affect a substantial number of people. Therefore, the project would have a less-than-significant impact regarding odorous emissions.	LTS	No mitigation measures are required.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Archaeological, Historical, and Tribal Cultural Resources			
Impact 3.2-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource The records search revealed one element (Henderson Lateral) of a historic district (Merced Irrigation District) adjacent to the Highway 59 Landfill. However, project activities would occur 3,000 feet south of the Henderson Lateral, and this element of the historical resource would not be physically altered. Therefore, implementation of the proposed project would not result in a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5, and impacts would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.2-2: Cause a Substantial Adverse Change in the Significance of Archaeological Resources or Human Remains Project-related ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5 or human remains. This would be a potentially significant impact.	PS	Implementation of adopted Mitigation Measure 4.4-2 from the Valley Fill Project EIR constitutes feasible mitigation that would reduce potentially significant impacts to previously undiscovered or unrecorded archaeological resources or human remains. **Valley Fill Project EIR Mitigation Measure 4.4-2: Halt Ground-Disturbing Activity upon Discovery of Subsurface Archaeological Features** 1. In the event that any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during construction, all ground-disturbing activity within 100 feet of the resources shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because it is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall develop appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery. 2. If the archaeologist determines that some or all of the affected property is a Native American cultural place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (Public Resources Code Section 5097.9) or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Public Resources Code Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (Public Resources Code Section 5097.993), the applicant shall implement potentially feasible procedures recommended by	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		the archaeologist that would preserve the integrity of the site or minimize impacts to it, including any or a combination of the following: ▶ Avoidance, preservation, and/or enhancement of all or a portion of the Native American Cultural Place as open space or habitat, with a conservation easement dedicated to the most interested and appropriate tribal organization. If such an organization is willing to accept and maintain such an easement, or alternatively, a cultural resource organization that holds conservation easements; ▶ An agreement with any such tribal or cultural resource organization to maintain the confidentiality of the location of the site so as to minimize the danger of vandalism to the site or other damage to its integrity; or ▶ Other measures, short of full or partial avoidance or preservation, intended to minimize impacts on the Native American Cultural Place consistent with land use assumptions and the proposed design and footprint of the development project for which the requested grading permit has been approved. After receiving such recommendations, the Authority shall assess the feasibility of the recommendations and impose the most protective mitigation feasible in light of land use assumptions and the proposed design and footprint of the development project. The Authority shall, in reaching conclusions with respect to these recommendations, consult with both the project applicant and the most appropriate and interested tribal organization. 3. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, MCRWMA's contractor shall immediately halt potentially damaging excavation within 50 feet of the burial and notify the County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the archaeologist, and NAHC-designated Most Likely Descendent shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section 5097.94.	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.2-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource Tribal consultation under AB 52 has not resulted in the identification of tribal cultural resources on the project site. However, excavation activities associated with project construction may disturb or destroy previously undiscovered significant subsurface tribal cultural resources. This would be a potentially significant impact.	PS	**Mitigation Measure 3.2-3: Retain a Native American Monitor** The project applicant shall retain and compensate for the services of a Tribal monitor or consultant who is listed under the Native American Heritage Commission's tribal contact list for the area in which the proposed project is located. The project applicant shall contact the tribal representatives a minimum of 7 days prior to beginning earthwork or other ground-disturbing activities; construction activities will proceed if no response is received 48 hours prior to ground-disturbing activities. Prior to the start of any ground-disturbing activities, the tribal monitor shall present a Worker Environmental Awareness Program, pertaining to cultural resources, to all on-site construction crew. The topics to be addressed in the Worker Environmental Awareness Program shall include, at a minimum: ▶ types of cultural resources expected in the project area; ▶ what to do if a worker encounters a possible resource; and ▶ what to do if a worker encounters bones or possible bones. The Tribal monitor shall only be present onsite during the construction phases that involve ground disturbing activities. The Tribal monitor shall complete daily monitoring logs that describe each day's activities, including construction activities, locations, soil, and any cultural materials identified. Onsite monitoring shall conclude when the site grading and excavation activities are completed, or when the Tribal representatives and monitor have indicated that the site has a low potential for impacting tribal cultural resources.	LTS
Biological Resources			
Impact 3.3-1: Result in Loss of Nesting Bird Species or Habitat Construction activities associated with the Highway 59 Compost Project could affect nesting birds, if present, through direct mortality of eggs or young. Impacts to nesting birds would be potentially significant.	PS	Implementation of adopted Mitigation Measure 4.3-1 from the Valley Fill Project EIR constitutes feasible mitigation that would reduce potentially significant impacts to nesting birds. **Valley Fill Project EIR Mitigation Measure 4.3-1: Nesting Birds** Removal or relocation of existing buildings within the landfill site shall be conducted between September 1 and February 14, if feasible. If infeasible, a qualified biologist shall conduct a pre-construction survey within ten business days before removal or relocation of existing buildings to determine presence or absence of nesting birds. If no nesting birds are observed, no further mitigation is required so long as the building demolition or relocation commences within ten days before the pre-construction survey. If building demolition or relocation does	LTS

<table>
<tr><th>Impacts</th><th>Significance before Mitigation</th><th>Mitigation Measures</th><th>Significance after Mitigation</th></tr>
<tr><td></td><td></td><td>not commence within 10 days of the pre-construction survey or halts for more than 10 days, a new pre-construction survey will be required.

If nesting birds are observed within any buildings proposed for removal/relocation, the biologist shall establish an appropriate buffer to ensure construction activities do not directly affect birds or any active nest and no buildings will be removed or relocated until a qualified biologist verifies that the nestlings have successfully fledged and the nest is no longer occupied.</td><td></td></tr>
<tr><td>Impact 3.3-2: Result in Loss of Special-Status Plant Species and Habitat
Vegetation clearing and ground disturbance associated with potential temporary storage of compost site in annual grassland areas could affect special-status plants, if present, through direct removal and habitat loss. Impacts to special-status plants would be a potentially significant impact.</td><td>PS</td><td>Mitigation Measure 3.3-2a: Survey Special-Status Plants
Prior to commencement of ground disturbance in the annual grassland potential storage area (southerly potential storage area) and during the blooming period for the special-status plants with potential to occur on the sites (Table 3.3-3), a qualified botanist will conduct protocol-level surveys for the potentially occurring special-status plants that could be removed or disturbed by project activities. Protocol-level surveys will be conducted in accordance with protocols for surveying and evaluating impacts to special-status native plant populations and sensitive natural communities (CDFW 2018). This protocol, which is intended to maximize detectability, includes visiting reference populations to facilitate the likelihood of field investigations during the appropriate period to identify the special-status plants, typically when they are blooming. If special-status plants are not found, the botanist will document the findings in a letter report to MCRWMA and further mitigation will not be required.

Table 3.3-3: Normal Blooming Period for Special-Status Plants with Potential to Occur within the Project Site
<table>
<tr><th>Species</th><th>Jan</th><th>Feb</th><th>Mar</th><th>Apr</th><th>May</th><th>Jun</th><th>Jul</th><th>Aug</th><th>Sep</th><th>Oct</th><th>Nov</th><th>Dec</th></tr>
<tr><td>Hoover's calycadenia Calycadenia hooveri</td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td></tr>
<tr><td>Beaked clarkia Clarkia rostrata</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		Mitigation Measure 3.3-2b: Observe Special-Status Plant Buffer If special-status plants are detected during the protocol-level surveys required by Mitigation Measure 3.3-2a, special-status plant species would be avoided whenever possible by delineating and observing a no-disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If buffers cannot be maintained, then Mitigation Measure 3.3-2c will apply. **Mitigation Measure 3.3-2c: Consult (as Necessary) with CDFW and USFWS** If special-status plants are found during rare plant surveys and cannot be avoided, the implementing party will consult with CDFW and USFWS, as appropriate depending on species status, to determine the appropriate compensation to achieve no net loss of occupied habitat or individuals. Mitigation measures may include preserving and enhancing existing populations, creating off-site populations on mitigation sites through seed collection or transplantation at a 1:1 ratio, and restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat or individuals. The implementing party will develop and implement a site-specific mitigation strategy describing how unavoidable losses of special-status plants will be compensated. Success of the preserved and compensatory populations will include the following criteria: ▶ The extent of occupied area and plant density (number of plants per unit area) in compensatory populations will be equal to or greater than the affected occupied habitat. ▶ Compensatory and preserved populations will be self-producing. Populations will be considered self-producing when: ▪ plants reestablish annually for a minimum of f5 years with no human intervention, such as supplemental seeding; and ▪ reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity. If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures will be included in the mitigation plan, including information about responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria, such as those listed above, and other details, as appropriate to target the preservation of long-term viable populations.	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.3-3: Result in Loss of Special-Status Amphibian Species or Habitat If California tiger salamander or western spadefoot are present in the annual grassland in the southern potential storage area, then construction activities associated with vegetation clearing, ground-moving, and storage of compost in that area could affect special-status amphibians by directly crushing amphibians as they move overland or while they are using underground burrows for upland refugia. Impacts to special-status amphibians would be a potentially significant impact.	PS	**Mitigation Measure 3.3-3a: Implement Special-Status Amphibian Avoidance Practices** Prior to commencement of ground-disturbing activities within suitable habitat for California tiger salamander and western spadefoot (i.e., the southern potential compost storage area located in grassland), the following practices will be implemented to avoid direct loss of California tiger salamanders and western spadefoot: ▶ **Worker Environmental Awareness Program (WEAP):** A WEAP shall be presented to all construction staff conducting excavation, vegetation removal, and other construction activities in the annual grassland potential storage area. The WEAP will include training that instructs workers to recognize California tiger salamander, western spadefoot, their habitat(s), general behavior and ecology of the species, sensitivity to human activities, legal protection, penalties for violation of state and federal laws, and measures to implement in the event that a sensitive species is found during construction. ▶ **No Plastic Monofilament Wattles:** If wattles are used for erosion control, straw waddles will be used. Plastic monofilament waddles (which can entrap and injure reptiles and amphibians) will not be used on the site. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. ▶ **Check Equipment:** Prior to beginning work each day, all contractors, their employees, and personnel involved in the implementation of the project will check for the presence of sensitive wildlife under or next to stationary vehicles prior to operating their vehicles. If a special-status reptile or amphibian is found, they will be allowed to move out of the construction area under their own accord. ▶ **Maintain Trash:** All food and food-related trash will be enclosed in sealed trash containers at the end of each workday and removed completely from the construction site every 3 days to avoid attracting wildlife. ▶ **Speed Limit:** A speed limit of 15 mph will be maintained on dirt roads. **Mitigation Measure 3.3-3b: Regularly Conduct Special-Status Amphibian Surveys** Prior to commencement of ground-disturbing activities within suitable habitat for California tiger salamander and western spadefoot (i.e., grassland area proposed for potential compost storage), the following measures will be implemented to avoid direct loss of California tiger salamanders and western spadefoot: ▶ **Pre-Activity Survey:** A pre-activity survey shall be conducted no more than one week prior to commencement of all project activities that involve ground-disturbing work (e.g., excavation, grading) or vegetation removal in the annual grassland potential storage area. A qualified biologist familiar with the life history of California tiger salamander and western spadefoot and experienced in	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		performing surveys for these species will conduct a focused survey within 100 feet of ground disturbance or vegetation clearing that occurs within suitable habitat for these species. The qualified biologist will inspect the area for individual California tiger salamander and western spadefoot as well as suitable burrows for these species. ▶ **Burrows:** If burrows suitable for use by California tiger salamander or western spadefoot are found, they will either be assumed occupied by sensitive amphibians, or a qualified biologist will use a borescope or similar nonground disturbing methods to determine if California tiger salamander or western spadefoot is present. ▪ If presence has been assumed, a 50-foot no-disturbance buffer will be established around burrows that provide suitable upland habitat for California tiger salamander or western spadefoot. ▪ If California tiger salamander or western spadefoot are not detected during the pre-activity survey, the qualified biologist will submit a report summarizing the results of the survey to MCRWMA, further avoidance will not be required, and the project activities will proceed. ▪ If the 50-foot buffer cannot be maintained around a burrow identified during the survey, all suitable burrows directly impacted by construction will be hand excavated under the supervision of a qualified wildlife biologist. If western spadefoot are found, the qualified biologist will relocate the animal out of harm's way. If California tiger salamanders are found, work activity will cease until a USFWS-approved biologist with a recovery permit for California tiger salamander relocates the organism to the nearest burrow that is outside of the construction impact area. **Mitigation Measure 3.3-3c: Install Wet Season Work and Special-Status Amphibian Exclusionary Fencing** ▶ **Exclusionary Fencing:** If feasible, for work conducted during the California tiger salamander migration season (November 1–May 31), exclusionary fencing will be erected around the construction site during ground-disturbing activities after surveys pursuant to Mitigation Measure 3.3-3b have been conducted and any necessary hand excavation of burrows has been completed. A qualified biologist shall inspect the placement of exclusion fencing prior to initiation of ground-disturbing activities. A qualified biologist will visit the site every other week to ensure that the fencing is in good working condition. Fencing material and design will be subject to the approval of USFWS. If exclusionary fencing is not	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		used, a qualified biological monitor will be on-site during all ground-disturbance activities. Exclusion fencing will also be placed around all spoils and stockpiles. If exclusionary fencing is infeasible, the following measures will apply: ▶ **Wet-Season Daily Monitoring:** For work conducted during the California tiger salamander migration season (November 1–May 31), a qualified biologist will survey the active work areas (including access roads) daily in mornings following measurable precipitation events. Construction may commence once the biologist has confirmed that no California tiger salamanders are in the work area. ▶ **No Work During Rain**: No construction work shall be performed during rain unless wildlife exclusion fencing has been constructed. If a rain event results in accumulation of less than 0.2 inches in a 24-hour period, work may resume after precipitation ceases. If a rain event results in accumulation of 0.2 inches or greater in a 24-hour period, work may resume after precipitation ceases, a drying-out period of 24 hours is observed, and the approved biologist inspects all work areas to verify the absence of California tiger salamanders and western spadefoot.	
Impact 3.3-4: Result in Loss of Burrowing Owl Habitat If burrowing owl are overwintering or nesting within the vicinity of the southern potential storage area, then construction activities associated with vegetation clearing, ground-moving, and compost storage in that area could affect burrowing owl through indirect disturbance of active overwintering burrows or nest burrows. Impacts to burrowing owl would be a potentially significant impact.	PS	**Mitigation Measure 3.3-4: Conduct Burrowing Owl Surveys and Avoidance Practices** Prior to ground disturbance, vegetation removal, or compost storage activities in the southern potential storage area, the project applicant will implement the following measures: ▶ Retain a qualified biologist to conduct focused breeding and nonbreeding season surveys for burrowing owls in areas of suitable habitat on and within 1,500 feet of the southern potential storage area. Surveys shall be conducted prior to the start of construction activities and in accordance with Appendix D of CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). ▶ If no occupied burrows are found, a letter report documenting the survey methods and results shall be submitted to CDFW and no further mitigation will be required. ▶ If an active burrow is found during the nonbreeding season (September 1–January 31), a minimum 150-foot buffer will be established around the occupied burrow. ▶ If an active burrow is found during the breeding season (February 1–August 31), occupied burrows shall not be disturbed and will be provided with a 150- to 1,500-foot protective buffer unless a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		capable of independent survival. The size of the buffer shall depend on the time of year and level disturbance as outlined in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The size of the buffer may be reduced if a broad-scale, long-term, monitoring program acceptable to CDFW is implemented to ensure burrowing owls are not detrimentally affected. ▶ Once the fledglings are capable of independent survival, the owls will be relocated to suitable habitat outside the project area in accordance with a burrowing owl exclusion and relocation plan developed in consultation with CDFW and in accordance with Appendix E of the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Evacuated burrows will be destroyed to prevent owls from reoccupying them. No burrowing owls will be excluded from occupied burrows until a burrowing owl exclusion and relocation plan is approved by CDFW. Following owl exclusion and burrow demolition, the site shall be monitored by a qualified biologist to ensure burrowing owls do not recolonize the site prior to construction.	
Impact 3.3-5: Result in Loss of Crotch's Bumble Bee The project site contains potential habitat for Crotch's bumble bee foraging where floral resources are present within grassland areas. Project activities (e.g., ground disturbance, vegetation clearing, heavy equipment use, staging application) could result in take of individual Crotch's bumble bees through trampling or crushing foraging bumblebees. This would be a potentially significant impact.	PS	**Mitigation Measure 3.3-5. Conduct Crotch's Bumble Bee Surveys and Avoidance** Prior to initiation of ground-disturbing, compost storage, or vegetation removal activity in the southern potential compost storage area that occurs in grassland habitat, a qualified biologist will conduct focused surveys for Crotch's bumble bee, and their requisite habitat features following the methodology outlined in the *Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species* (CDFW 2023b). This includes the following practices and guidelines: ▶ Conduct three on-site surveys to detect foraging bumble bees and potential nesting sites (nesting surveys) during the colony active period and when peak floral resources are present (April–August). Each survey should ideally be spaced 2–4 weeks apart. ▶ Conduct a habitat assessment evaluating the likelihood of bumble bees occurring within and adjacent to the project area, along with survey results, should be submitted to CDFW prior to initiation of ground-disturbing project activities. ▶ The habitat assessment shall include quantification of plant species blooming and percent cover of flowering plants, as well as quantification of nesting resources, such as bare ground and rodent burrows. ▶ Surveys are only valid for the year in which they are conducted. If more than 1 year passes between survey completion and initiation of ground disturbing project activities, presence surveys must be repeated.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		If Crotch's bumble bee is detected on the project site, then all small mammal burrows and thatched or bunch grasses will be avoided by a minimum of 50 feet to avoid take of Crotch's bumble bee. MCRWMA may propose site-specific measures to avoid take or consult with CDFW to obtain an incidental take permit (ITP) if take may occur during project activities. If Crotch's bumble bees are not observed but suitable nesting, foraging, or overwintering habitat is present within the project site, it is recommended that a biological monitor be on-site during vegetation or ground-disturbing activities that take place during the queen flight period (February–March), the gyne flight period (September–October), and the colony active period (April–August).	
Impact 3.3-6: Result in Loss of Bald Eagle, Swainson's Hawk, and Northern Harrier Nesting Habitat The project site associated with the Highway 59 Landfill Project is not in or adjacent to habitat suitable for nesting by bald eagle, northern harrier, or Swainson's hawk. No active nests of these species would be adversely affected by project activities (i.e., vegetation clearing, ground disturbance, compost storage). Therefore, impacts to bald eagle, Swainson's hawk, and northern harrier would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.3-7: Result in Loss of Tricolored Blackbird Habitat The project site contains suitable tricolored blackbird foraging habitat; however, no habitat suitable for tricolored blackbird nesting colonies is present in the project site. No active tricolored blackbird nests would be adversely affected by project activities (i.e., vegetation clearing, ground disturbance, compost storage), and foraging tricolored blackbirds would avoid areas of active disturbance. Therefore, impacts to tricolored blackbird would be less than significant.	LTS	No mitigation measures are required.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Energy			
Impact 3.4-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy during Project Construction or Operation Implementation of the project would result in the consumption of energy during construction and operation of the composting facility. However, this energy expenditure would not be considered wasteful, because construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. Because operation of the project is necessary to meet SB 1383 goals, which address emissions of methane, a potent short-lived climate pollutant and GHG, the increase in energy demand at the Highway 59 Landfill associated with the project would not be considered a wasteful, inefficient, or unnecessary consumption of energy. This impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Greenhouse Gas Emissions and Climate Change			
Impact 3.5-1: Increase in GHG Emissions Project construction and operation would result in a net reduction in GHG emissions of 2,315 $MTCO_2e$ per year compared to conditions without the project. Implementing the project would not result in a substantial increase in GHG emissions. This impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.5-2: Conflict with an Applicable Plan, Policy, or Regulation Approximately 30 million tons of solid waste are disposed of in California landfills annually, contributing to the generation of methane emissions, a potent GHG. To mitigate these emissions and comply with legislation such as SB 1383, the project aims to divert organic waste from landfills through composting, aligning with CARB's SLCP Reduction Strategy to decrease GHG emissions. Thus, the project is consistent with the state strategies to reduce GHG emissions and would not conflict with an applicable plan, policy, or regulation. This impact would be less than significant.	LTS	No mitigation measures are required.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Noise and Vibration			
Impact 3.6-1: Increased Short-Term, Construction-Related Noise at Nearby Sensitive Land Uses Project implementation would result in short-term construction activity associated with installation of processing equipment associated with the CASP. The County Municipal Code and General Plan limit construction activities to daytime business hours (i.e., between 7:00 a.m. and 6:00 p.m.) and require the proper muffling and maintenance of construction equipment. The project would adhere to these policies and would not conflict with or exceed applicable noise standards at any nearby off-site sensitive receptors. Therefore, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.6-2: Increased Short-Term, Construction-Related Vibration at Nearby Sensitive Land Uses Project construction would result in short-term vibrations from the use of heavy-duty construction equipment. The most vibration-intensive activity would involve the use of a vibratory roller during the paving phase. The use of a vibratory roller would not exceed the County maximum vibration threshold (i.e., 70 VdB) or FTA standard for structural damage (0.20 in/sec PPV). Because construction vibration levels would not exceed applicable thresholds, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.6-3: Increased Stationary Source Noise during Operation The project would include the installation of additional equipment (e.g., grinders, conveyors) for the operation of the CASP green waste and food waste compost facility. However, the project would not place equipment closer to existing receptors such that a substantial increase in operational stationary noise levels would occur. As a result, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.6-4: Increased Stationary Source Vibration during Operation The project would include the installation of additional equipment for the operation of the CASP facility. However, the project would not place equipment closer to existing receptors such that a substantial increase in operational vibration levels would occur. As a result, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Transportation/Traffic			
Impact 3.7-1: Conflict or Inconsistency with CEQA Guidelines Section 15064.3, Subdivision (b) Development of the expanded compost facility would allow for the facility to accept up to 75,000 tons of green waste and food waste. However, this waste would be diverted from the municipal solid waste (MSW) stream already associated with and disposed of at the Highway 59 Landfill. As a result, the increase in truck trips associated with composting materials would result in a commensurate and equivalent reduction in truck trips associated with MSW, and no significant increase in VMT would occur. Further, because State CEQA Guidelines Section 15064.3, SB 743, and SB 1383 are all intended to reduce GHG emissions, the project would be considered consistent with Section 15064.3(b). This impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.7-2: Increased Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment) Development of the expanded facility could result in the construction of new access roads or alterations to existing internal roadways in the Highway 59 Landfill. However, consistent with existing roadway widths in the landfill, a minimum 20-foot width of internal roadways and one lane of travel in each direction would be maintained. As a result, construction and operation of the compost facility would not increase hazards due to a geometric design feature or incompatible uses. Therefore, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS
Impact 3.7-3: Impact Related to the Provision of Inadequate Emergency Access Development of the expanded facility could involve modification of internal roadways at the Highway 59 Landfill. However, consistent with California Fire Code requirements, adequate right-of-way would be maintained for emergency vehicles. Therefore, this impact would be less than significant.	LTS	No mitigation measures are required.	LTS

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1 INTRODUCTION

Merced County Regional Waste Management Authority (MCRWMA or Authority) is considering changes to the Highway 59 Landfill Valley Fill Project (Valley Fill Project), for which an environmental impact report (EIR) was certified in 2016 and includes relocation of certain currently permitted onsite uses and reconfiguration of the disposal area to accommodate an increase in the maximum disposal elevation. The modifications to the approved Valley Fill Project include conversion of the existing 25,000 tons per year (tpy) windrow composting facility to a 75,000-tpy covered aerated static pile (CASP) composting facility.

This draft supplemental environmental impact report (Draft SEIR) evaluates the environmental impacts associated with the proposed modifications (hereafter referred to as the project), which include the construction and operation of a 75,000-tpy CASP facility within the Valley Fill Project site at Highway 59 Landfill. This Draft SEIR has been prepared by MCRWMA as lead agency under CEQA and in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et al.). This chapter of the Draft SEIR provides information on:

- the project requiring environmental analysis (synopsis);
- the type, purpose, and intended uses of this Draft SEIR;
- the scope of this Draft SEIR;
- intended uses of this Draft SEIR;
- the agency roles and responsibilities;
- the public review process;
- incorporation of the Valley Fill Project EIR by reference;
- the organization of this Draft SEIR; and
- the standard terminology.

1.1 TYPE AND PURPOSE OF THIS SEIR

1.1.1 Type of EIR

In accordance with Section 15163 of the State CEQA Guidelines, this document is a supplemental EIR that a lead agency may choose to prepare to a previous certified EIR when any of the conditions calling for preparation of a subsequent EIR (State CEQA Guidelines Section 15162) are met, but "[o]nly minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation" (State CEQA Guidelines Section 15163[a]). The conditions described in Section 15162 are:

1) Substantial changes are proposed to the project which require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2) Substantial changes occur with respect to the circumstances under which the project is undertaken which require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete was adopted, shows any of the following:

a. The project will have one or more significant effects not discussed in the previous EIR;

b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

1.1.2 Purpose of This EIR

According to CEQA, preparation of an EIR is required whenever it can be fairly argued, based on substantial evidence, that a project may result in a significant environmental impact. An EIR is an informational document used to inform public-agency decision makers and the general public of the significant environmental impacts of a project, identify possible ways to minimize the significant impacts, and describe reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project. This Draft SEIR has been prepared to meet the requirements of a project EIR as defined by Section 15163 of the State CEQA Guidelines. MCRWMA has decided to prepare this SEIR to allow analysis in the context of changed conditions and provide for public and agency input. Pursuant to State CEQA Guidelines Section 15087, a supplement to an EIR is required to be given the same kind of notice and public review as given to a draft EIR.

1.2 SCOPE OF THIS DRAFT SEIR

This Draft SEIR includes an evaluation of the following seven environmental issue areas as well as other CEQA-mandated issues (e.g., cumulative impacts, growth-inducing impacts, significant and unavoidable impacts, alternatives):

- air quality;
- archaeological, historical, and tribal cultural resources;
- biological resources;
- energy;
- greenhouse gas emissions and climate change;
- noise and vibration; and
- transportation/traffic.

MCRWMA anticipates that the project would not result in significant environmental impacts to the following resources and does not propose to evaluate them in detail in the Draft SEIR: aesthetics, agriculture and forestry, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, utilities, and wildfire. Brief discussion of these resources will be provided in the Draft SEIR with explanation as to why significant impacts on these resources are not anticipated.

Under the CEQA statutes and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when such effects are not considered potentially significant (CEQA Section 21002.1[e]; State CEQA Guidelines Sections 15128, 15143). Information used to determine which impacts would be potentially significant was derived from review of the project; review of Valley Fill Project EIR; review of applicable planning

documents and CEQA documentation; field work; feedback from public and agency consultation; comments received during a public scoping meeting held on November 16, 2023; and comments received on the Notice of Preparation (NOP) (see Appendix A of this Draft SEIR).

The NOP was distributed on November 1, 2023, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals who may have an interest in the project. The purpose of the NOP and the public scoping meeting was to provide notification that an EIR for the project was being prepared and to solicit input on the scope and content of the environmental document. As a result of the review of existing information and the scoping process, it was determined that each of the issue areas listed above should be evaluated fully in this Draft SEIR. Further information on the NOP and scoping process is provided below in Section 1.4, "Public Review Process."

1.3 INTENDED USE OF THE ENVIRONMENTAL IMPACT REPORT

An EIR is a public informational document used in the planning and decision-making process. The EIR assesses the environmental effects related to the planning, construction, and operation of a project and indicates ways to reduce or avoid significant environmental impacts. The EIR also discloses significant environmental impacts that cannot be avoided; any growth-inducing impacts of a project; effects found not to be significant; and significant cumulative impacts of past, present, and reasonably foreseeable future projects in combination with the impacts of the project.

Mitigation has been recommended where feasible to reduce or avoid the project's significant impacts. As an informational document for decision makers, a Draft EIR is not intended to recommend either approval or denial of a project. CEQA requires the decision makers to balance the benefits of a project against its unavoidable environmental impacts. If environmental impacts are identified as significant and unavoidable (i.e., no feasible mitigation is available to reduce the impact to a less-than-significant level), MCRWMA may still approve the project if it believes that social, economic, or other benefits outweigh the unavoidable impacts. MCRWMA would then be required to make findings and state, in writing, the specific reasons for approving the project, based on information in the Draft EIR and other information in the administrative record. In accordance with Section 15093 of the State CEQA Guidelines, the document containing such reasons is called a "statement of overriding considerations."

1.4 AGENCY ROLES AND RESPONSIBILITIES

1.4.1 Lead Agency

Under CEQA, the lead agency is the public agency with principal responsibility for carrying out or approving a project. MCRWMA, as part of the Merced County Association of Governments (MCAG), operates the existing Highway 59 Landfill and, therefore, is serving as the lead agency for CEQA compliance on the proposed project. MCRWMA has coordinated with responsible and trustee agencies as appropriate. As lead agency under CEQA, MCRWMA is principally responsible for conducting the environmental review process, including scoping, preparing appropriate environmental documentation, and obtaining required permits and other regulatory approvals. Following completion of the Final EIR, the MCRWMA Governing Board will decide whether to certify the Final EIR and whether to approve the project.

1.4.2 Trustee and Responsible Agencies

Under CEQA, responsible agencies are state and local public agencies other than the lead agency that have the authority to carry out or approve a project, that are required to approve a project, or that are required to approve a portion of the project for which a lead agency is preparing or has prepared an EIR. Trustee agencies are state agencies with legal jurisdiction over natural resources affected by a project that are held in trust for the people of the State of California.

The following agencies may have responsibility for or jurisdiction over implementation of elements of the project. The following list also identifies potential permits and other approval actions that may be required before implementation of certain project elements.

STATE

- California Regional Water Quality Control Board, Central Valley Region: Waste Discharge Requirements
- California Department of Resources Recycling and Recovery: Solid Waste Facility Permit

REGIONAL AND LOCAL

- Merced County Community and Economic Development Department—Environmental Health Division
- San Joaquin Valley Air Pollution Control District

1.5 PUBLIC REVIEW PROCESS

As identified above in Section 1.2, "Scope of This Draft SEIR," in accordance with CEQA regulations, an NOP was distributed on November 1, 2023, to responsible agencies, interested parties and organizations, and private organizations and individuals who could have interest in the project. The purpose of the NOP was to provide notification that an EIR for the project was being prepared and to solicit input on the scope and content of the document. The NOP and responses to the NOP are included in Appendix A of this Draft SEIR.

This Draft SEIR is being circulated for public review and comment for a period of 45 days. During this period, comments from the general public, as well as organizations and agencies on environmental issues may be submitted to the lead agency.

Upon completion of the public review and comment period, a Final SEIR will be prepared that will include written comments on the Draft SEIR received during the public-review period, responses to those comments, and any revisions to the Draft SEIR made in response to public comments. The Draft SEIR and Final SEIR together will make up the SEIR for the project.

Before approving the project, the lead agency is required to certify that the SEIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the SEIR, and that the SEIR reflects the independent judgment of the lead agency.

1.6 INCORPORATION BY REFERENCE

This document incorporates by reference the certified EIR for the Valley Fill. The State CEQA Guidelines CCR Section 15150 encourages incorporation by reference of previously analyzed and publicly circulated information. Incorporation by reference involves a brief summary or description of the referenced document. A summary of the approved project, as provided in the certified Valley Fill Project EIR, is provided above in Section 2.2, "Description of the Previously Approved Project." In addition, significant impacts disclosed in the certified Valley Fill Project EIR, and hereby incorporated by reference, are summarized in Section 3.1, "Approach to the Environmental Analysis."

Copies of current and previous environmental documents related to the Valley Fill Project will be available for review online at: https://www.mcrwma.org/215/2255/Valley-Fill-Project.

2 PROJECT DESCRIPTION

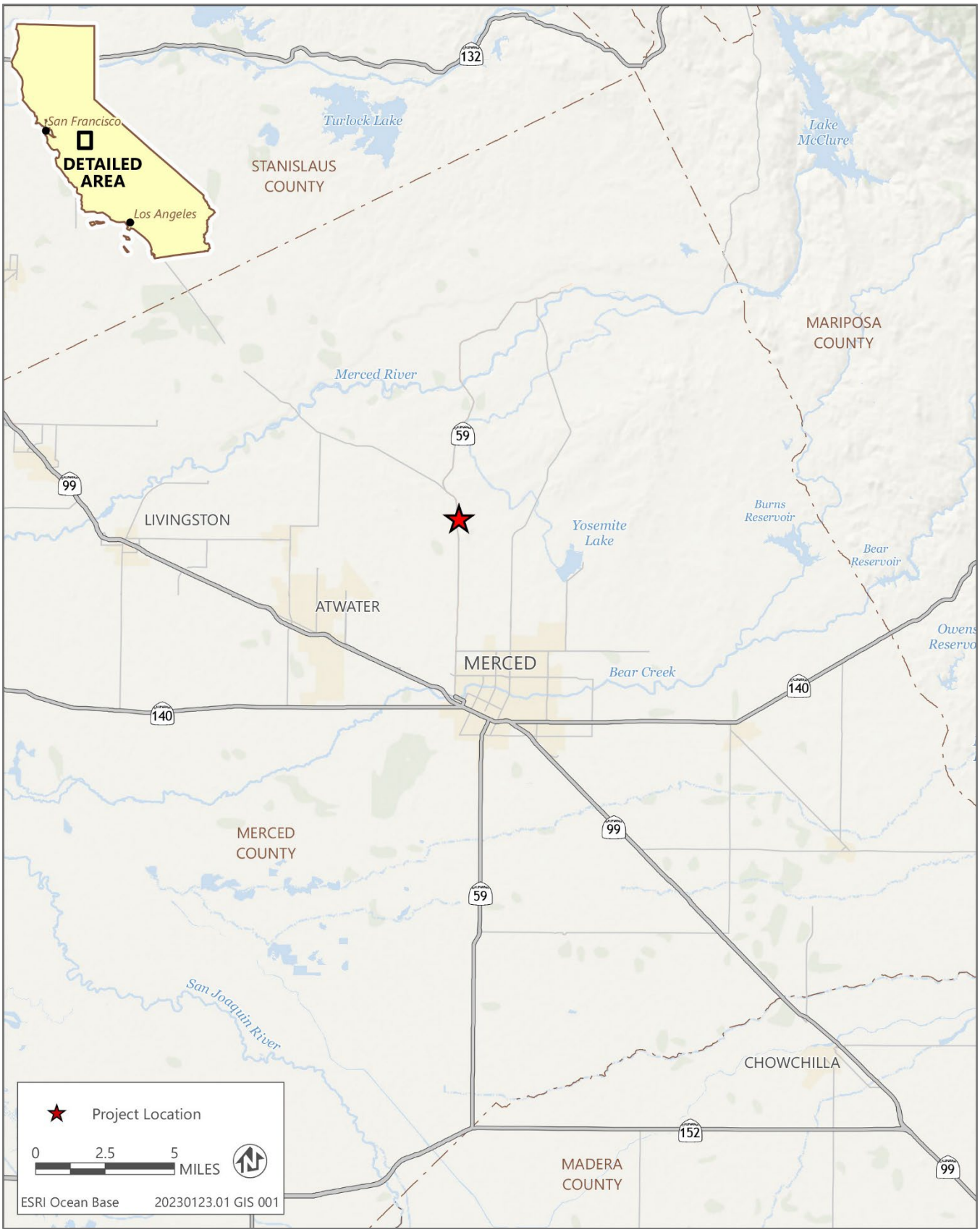
This chapter presents a detailed description of the proposed modifications (hereafter referred to as the project) to the Valley Fill Project at the Highway 59 Landfill, which is owned and operated by MCRWMA. In May 2016, MCRWMA certified the EIR (State Clearinghouse No. 2014061081) for the Valley Fill Project, which involves relocation of certain currently permitted on-site uses and reconfiguration of the disposal area to accommodate an increase in the maximum disposal elevation to 360 feet above mean sea level in a portion of the existing landfill. The Valley Fill Project modified the previously approved Highway 59 Landfill Expansion project, which was analyzed in the 1996 Highway 59 Landfill Expansion Project EIR. As part of the implementation of the Valley Fill Project, MCRWMA obtained an amendment to its existing solid waste facility permit.

The project (i.e., proposed modifications to the Valley Fill Project) consists of conversion of the current 25,000-ton-per-year (tpy) green waste windrow composting facility to a covered aerated static pile (CASP) green waste and food waste compost facility to comply with Senate Bill (SB) 1383 regulations. The converted compost facility would be located on MCRWMA's Highway 59 Landfill property and would occupy the same area as the current compost facility with CASP technology, including processing and composting equipment, located on a compacted soil compost pad that would drain to an on-site lined pond. The compost facility would be designed to accept up to 75,000 tpy and an average of 300 tons per day of green waste and food waste and would be able to store on-site up to 100,000 cubic yards of organic material that would have otherwise been landfilled.

2.1 PROJECT LOCATION

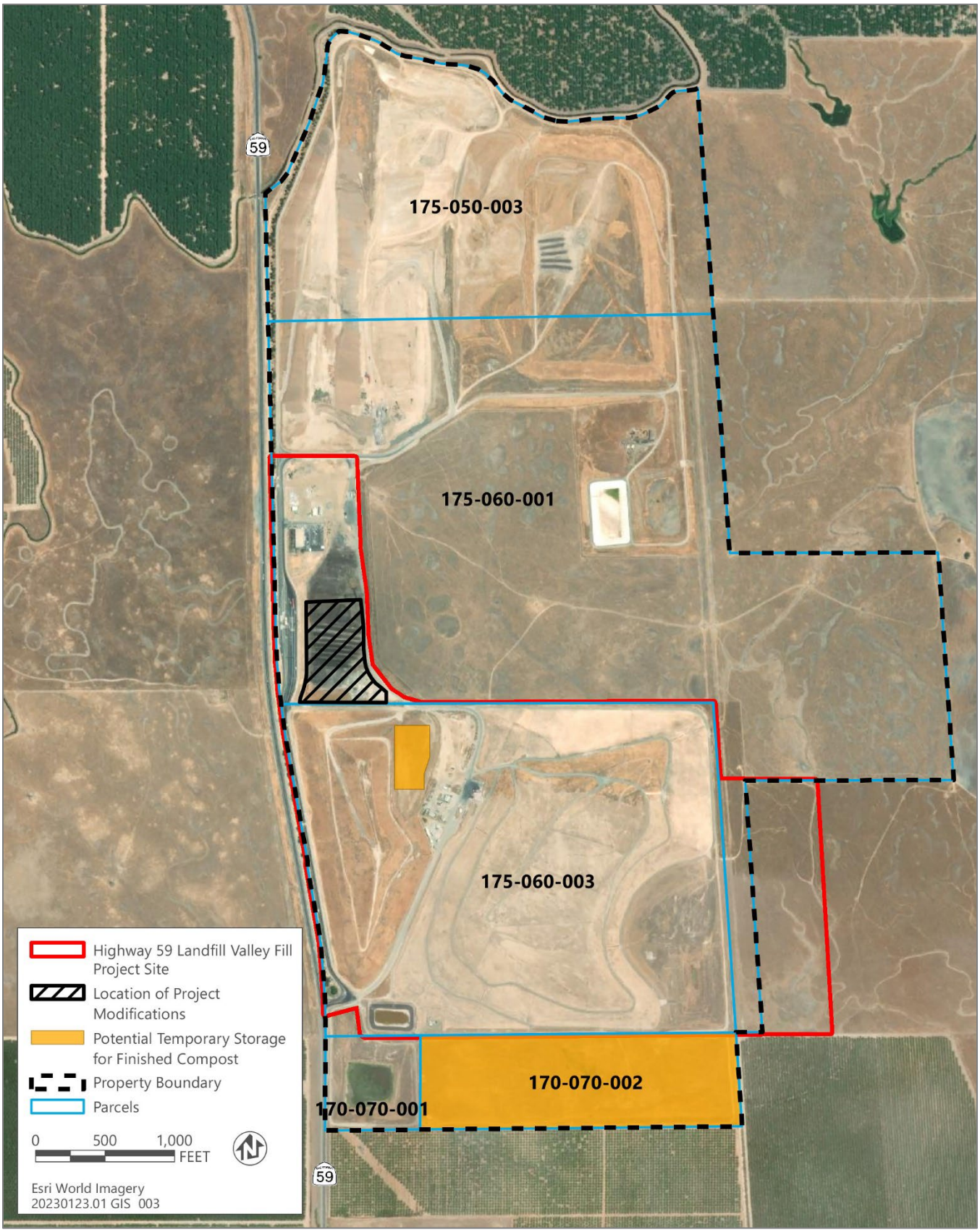
The Highway 59 Landfill is located immediately east of State Route (SR) 59 in unincorporated Merced County, approximately 6 miles north of the city of Merced (Figure 2-1). The street address is 7040 North Highway 59. The Highway 59 Landfill consists of five parcels, which are County Assessor's parcel numbers (APNs) 175-050-003, 175-060-001, 175-060-003. 170-070-001, and 170-070-002 05 (Figure 2-2). The site is located in Sections 13, 14, 23, 24, and 25, Township 6 South, Range 13 East on the US Geological Survey Winton and Yosemite Lake 7.5-minute quadrangles. The existing landfill is bounded on the west by SR 59 and vacant grazing land, on the east by vacant grazing land and an abandoned railroad grade, and on the north and south by orchards. Residential uses are located farther to the south.

The new CASP composting facilities would be located within the boundaries of the existing windrow compost operation at the Highway 59 Landfill, adjacent to the existing scale house and scales located along Highway 59. There are two potential temporary storage locations for finished compost, as depicted in Figure 2-2: a northerly location, just south of the composting site, and a southerly location, just outside of the Valley Fill Project boundary The 7.5-acre project site is located along the western edge of the landfill (see Figure 2-2) and within two of the five landfill parcels (APNs 175-060-001 and a portion of 175-060-003). The total land area associated with the CASP facility is approximately 7.5 acres, and up to 5 acres of temporary storage (i.e., two 2.5-acre potential temporary storage areas would be established to support periods of higher throughput during Fall and Spring) (see Figure 2-2). The project site also includes the entirety of parcel 170-070-002 (approximately 35.6 acres), although only 2.5 acres of this area would be associated with potential temporary compost storage (as noted above).



Source: Adapted by Ascent in 2023.

Figure 2-1 Project Location



Source: Adapted by Ascent in 2023.

Figure 2-2 Project Site

2.2 BACKGROUND

2.2.1 Previously Approved Project

As evaluated in the 2016 Valley Fill Project EIR, MCRWMA previously approved a project that included the modification of solid waste disposal and recycling operations at its Highway 59 Landfill in Merced County. The approved Valley Fill project includes relocation of several currently permitted on-site facilities and a vertical reconfiguration of the landfill disposal area. The reconfiguration, as approved, allows for continued operation of the existing landfill for an additional 11–15 years without expanding the boundary of the permitted facility. As part of the proposed relocation of facilities, the Valley Fill Project EIR evaluated the installation and operation of concrete-padded areas east of the existing administrative offices and parking for the purposes of household hazardous waste disposal, materials recycling, a relocated shop, and two aboveground storage tanks. As a result of project approval in 2016, MCRWMA amended its solid waste facility permit (SWFP) in 2016 and then again in 2019 to incrementally increase the maximum daily tonnage up to 3,000 peak tons per day in 2035 and beyond, incrementally increase the allowable traffic up to 800 vehicles per day by 2035, increase the height of the disposal area by 50 feet, and add dewatered sewage sludge to the list of accepted wastes. The project also included continued operation of the landfill's composting operation with a green waste composting operation (with an annual capacity of 25,000 tpy). The primary purpose of the approved project was to increase the disposal capacity of the landfill in a manner that is consistent with existing regulations, as well as economically and environmentally superior to the previously identified disposal and recycling plan for the landfill.

In June 2023, MCRWMA approved an addendum to the Valley Fill Project EIR that allowed for installation of a concrete pad for organic waste processing and transfer operations within the existing compost facility boundary.

2.2.2 Overview of Composting Processes

Composting is the biological decomposition of organic material under aerobic conditions (i.e., in the presence of oxygen). Composting is a self-limiting biological process. Conditions that limit the microbial population include nutrient availability, temperature, aeration, moisture content, and pH. The composting process requires that microorganisms be supplied with the primary nutrients carbon and nitrogen. Carbon to nitrogen ratios (C/N) ranging from 20:1 to 30:1 are considered optimal for microorganisms. The more the C/N ratio deviates from this range, the slower the decomposition process becomes. With a ratio greater than 40:1, nitrogen represents a limiting factor, and the reaction rate slows. With a C/N ratio lower than 15:1, excess nitrogen is driven off as ammonia. Although this loss of nitrogen is not detrimental to the decomposition process, it does lower the nutrient value of the compost product.

Windrow composting, which is the method currently used at the Highway 59 Landfill, consists of forming long, narrow rows, or "windrows," roughly twice as wide as they are high and as long as space allows. It is the most common method of composting in the United States. Windrows can be turned periodically or have perforated pipes underneath them to allow air flow. Small to large volumes and a wide variety of materials can be composted using this method, which makes it adaptable to many scales and sites. Windrow composting often requires equipment such as front-end loaders, excavators, and windrow turners.

CASP technology, which would be implemented as part of the project, can be permitted to receive a variety of composting feedstocks, including all types of compostable organic wastes, green wastes, food wastes, and clean wood wastes. Many compost facilities receive feedstocks that are predominately composed of tree prunings, leaves, grass clippings, and a small percentage of food waste. Leaves generally have a high C/N ratio. Lawn clippings lack structure to maintain porosity for aeration but have a C/N ratio and moisture content favorable for composting, as does food waste. The CASP compost "recipe," which would vary over time as the participation in residential food waste collection programs increases, would be composed primarily of residential food waste, along with SB 1383 commercial organic wastes; however, the recipe would be a balanced C/N ratio and would yield an excellent finished compost product.

2.2.3 Existing Composting Activities at Highway 59 Landfill

The Highway 59 Landfill property operates as a Class III disposal site with Class II surface impoundment under Waste Discharge Requirements (WDRs) contained in Order No. R5-2014-0139 R, adopted on October 10, 2014, by the Central Valley Regional Water Quality Control Board (RWQCB). The landfill also operates under SWFP No. 24-AA-0001, issued on March 5, 2019, by the Merced County Division of Environmental Health, acting as the Local Enforcement Agency.

The on-site composting operation operates under a separate SWFP (No. 24-AA-0020) and has a permitted annual throughput of up to 25,000 tpy. It operates under SWRCB WDRs for Composting Operations Order WQ 2020-0012-DWQ as a Tier I facility as of November 2, 2022.

2.3 PROJECT NEED AND OBJECTIVES

As part California's recycling and greenhouse gas (GHG) emission goals, mandatory commercial recycling collection has been implemented under AB 341 (Chesbro, Chapter 476, Statutes of 2011) and organics collection from businesses and multifamily buildings has been required under AB 1826 (Chesbro, Chapter 272, Statutes of 2014). More recently, SB 1383 (Lara, Chapter 395, Statutes of 2016) requires 50 percent reduction of all organics by 2020 and 75 percent reduction of all organics by 2025 to limit the generation and release of methane, a potent GHG. AB 876 (McCarty, Chapter 593, Statutes of 2015) requires jurisdictions to identify organic processing capacity through 2035 in their annual report, in which all jurisdictions must describe the progress made toward meeting the requirements of AB 1826. SB 1383 requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the California Air Resources Board, to adopt regulations that achieve the specified targets for reducing organic waste in landfills. SB 1383 regulations were approved by CalRecycle in November 2020 and became effective in 2022. SB 1383 would authorize local jurisdictions to charge and collect fees to recover the local jurisdiction's costs incurred in complying with the regulations.

The total number of targeted tons for jurisdiction in Merced County for reducing 50 percent of all organic waste by 2022 and 75 percent of all organic waste by 2025 for SB 1383 compliance was calculated based on current disposal, using 2014 waste characterization and tonnage amounts as the baseline.

The overall goal of the project is to comply with composting goals set forth under the state's Short-Lived Climate Pollutant (SLCP) Reduction Strategy (SB 1383 [Lara], Chapter 395, Statutes of 2016), commonly referred to as SB 1383. The project is intended to achieve the following individual objectives:

- provide capacity for implementation of a transformative organics diversion program in Merced County as required by California legislation;
- reduce methane emissions from landfills by removing organics from landfills and by composting new feedstocks and reducing greenhouse gas (GHG) emissions by sequestering nutrient-rich compost in soils;
- modify an existing, strategically integrated waste management facility to accommodate the growing regulatory demand for mixed materials, organic waste, and food waste composting;
- receive and compost food wastes derived from commercial and residential sources, and increase diversion of organic materials from landfills by expanding the approved feedstock list to include digestates that can be received and processed;
- provide preprocessing food waste operations at the facility; and
- enhance the business community's ability to comply with SB 1383.

2.4 PROJECT COMPONENTS

The project would authorize the composting facility at the Highway 59 Landfill to accept organic waste and "mixed materials" consistent with the requirements of SB 1383 and AB 1826 (Chesbro, Chapter 272, Statutes of 2014), which

have changed the requirements for disposal of organic waste, as well as expanded the list of organic wastes that may be accepted at a compostable materials handling facility. Organic "mixed materials" include all types of food material, including postconsumer food waste, food-soiled paper, and compostable plastics, as well as digestate, consistent with current regulations, as listed in Table 2-1.

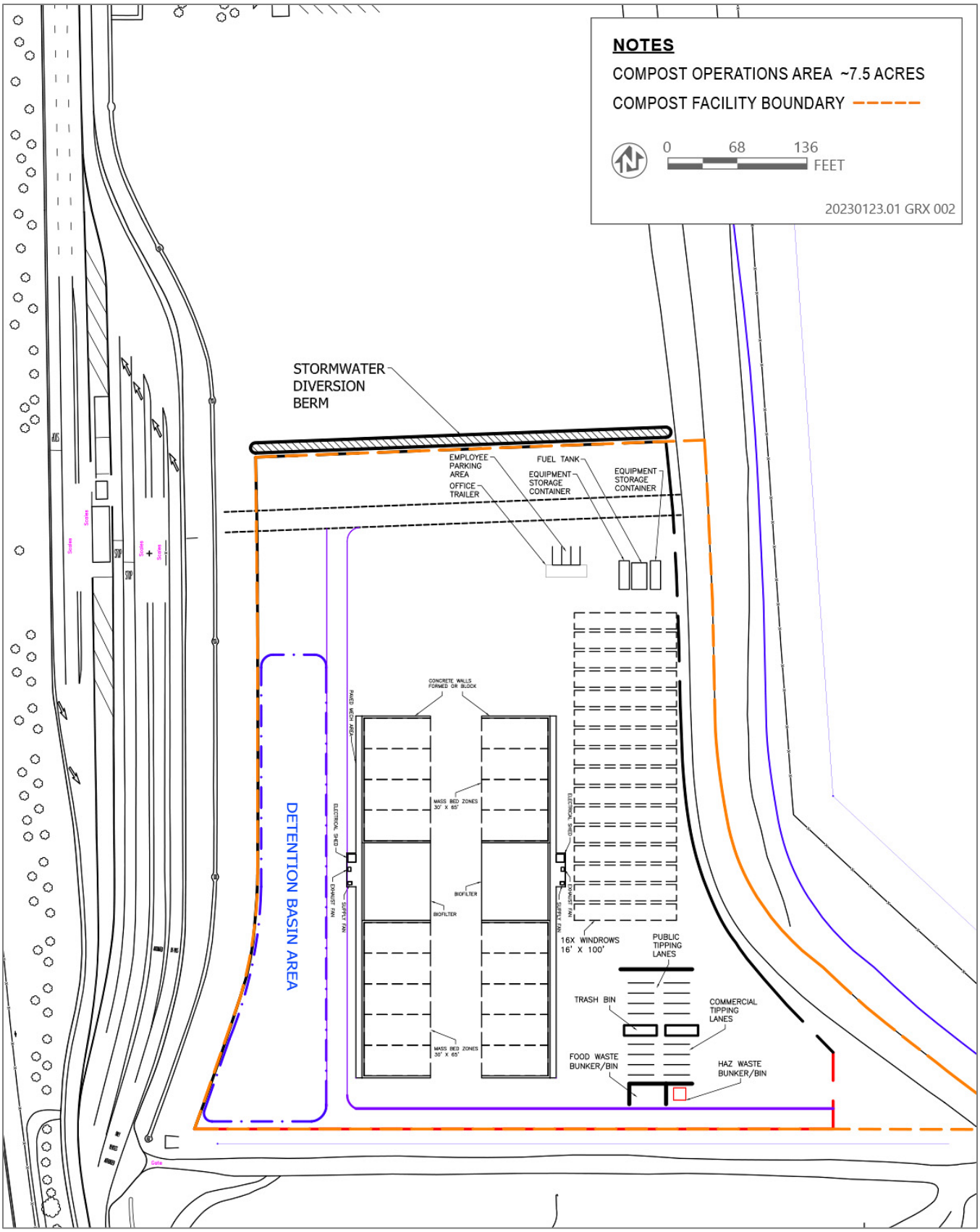
The project involves conversion of the current 25,000-tpy green waste windrow composting facility to a CASP green waste and food waste compost facility to meet the organic waste disposal targets of California's SLCP Reduction Strategy. The compost facility would be designed to accept up to 75,000 tpy of green waste and food waste and be able to store on-site up to 100,000 cubic yards of organic material. Additional site improvements would include construction of a new lined wastewater storage pond; on-site drainage improvements; and improvements to working surfaces, such as paving active composting and/or processing areas or amending/compacting the soil. The overall site plan is depicted in Figure 2-3.

Table 2-1 Feedstock Definitions for Feedstocks to Be Accepted under the Project

Feedstocks	Description
Agricultural materials	Waste material of plant or animal origin that results directly from the conduct of agriculture, animal husbandry, horticulture, aquaculture, silviculture, vermiculture, viticulture, and similar activities undertaken for the production of food or fiber for human or animal consumption or use and that is separated at the point of generation and contains no other solid waste. With the exception of grape pomace (i.e., materials remaining from wine processing) or material generated during nut or grain hulling, shelling, and processing, agricultural material has not been processed except at its point of generation and has not been processed in a way that alters its essential character as a waste resulting from the production of food or fiber for human or animal consumption or use. Material defined in CCR Section 17852 as "food material" or "vegetative food material" is not agricultural material. Agricultural material includes manures, orchard and vineyard prunings, grape pumice, and crop residues.
Food material	A waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption and that is separated from the municipal solid waste stream. Food material includes food waste from food facilities as defined in Health and Safety Code Section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code Section 111955, grocery stores, institutional cafeterias (such as prisons, schools, and hospitals) and residential food scrap collection. Food material does not include any material that is required to be handled only pursuant to the California Food and Agricultural Code and regulations. (14 CCR Section 17852)
Digestate	Organic byproduct (solid or liquid) of anaerobic digestion process.
Green material	Any plant material except food material and vegetative food material that is separated at the point of generation, contains no greater than 1.0% of physical contaminants by dry weight, and meets the requirements of Section 17868.5. Green material includes, but is not limited to tree and yard trimmings, untreated wood wastes, natural fiber products, wood waste from silviculture and manufacturing, and construction and demolition wood waste. Green material does not include food material, vegetative food material, biosolids, mixed material, material separated from commingled solid waste collection or processing, wood containing lead-based paint or wood preservative, or mixed construction and demolition debris. Agricultural material, as defined in this Section 17852(a) (5), that meets this definition of "green material" may be handled as either agricultural material or green material. (14 CCR Section 17852)
Mixed material	Any compostable material that is part of the municipal solid waste stream, and is mixed with or contains non-organics, processed industrial materials, mixed demolition or mixed construction debris, or plastics. A feedstock that is not source separated or contains 1.0% or more of physical contaminants by dry weight is mixed material (14 CCR Section 17852).
Organic wastes	Solid wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food waste, green waste material, landscape and pruning waste, applicable organic textiles and carpets, wood, lumber, fiber, paper products, printing and writing paper, manure, biosolids, digestate, and sludges. (SB 1383 or as may be amended).
Preprocessed feedstock-ready CASP materials	Some organic material may be delivered preprocessed and feedstock-ready from local material recovery facilities and may be deposited directly into the CASP unit without further processing.

Notes: CASP = covered aerated static pile; CCR = California Code of Regulations; SB = Senate Bill.

Source: Compiled by Ascent in 2024.



Source: Image prepared and produced by Edgar & Associates in 2023.

Figure 2-3 CASP Facility Site Plan

The CASP and processing and composting equipment would be installed on a concrete pad draining to a new lined pond within the project site. The organic waste would be delivered to the proposed compost facility by collection vehicles, transfer trailers, and self-haul vehicles. Once received, the organic waste would be sorted to remove non-compostable wastes and contamination, then preprocessed by grinding. The active composting area would be located on a compost pad. Some organic material may be delivered preprocessed and feedstock-ready from local material recovery facilities and may be deposited directly into the CASP unit without further processing. Once active composting is complete, the materials are then moved to a curing area, then to final screening and finishing at the compost storage area until products are sold.

2.4.1 Project Construction Activities

The new composting facility would be located where the green waste composting and food waste transfer facility is currently operating. Construction at the site would last approximately 5–6 months and would include the installation of processing and composting equipment for a 75,000 tpy CASP facility, a 7.5-acre compacted soil and concrete compost pad, and a lined pond to collect contact water from the composting facility and immediate surrounding area. Temporary construction equipment would include a grader, tractor, loader, backhoe, and rubber-tired bulldozer.

As noted above, during periods of higher throughput (i.e., fall and spring), two temporary storage areas (approximately 2.5 acres in size each) would be available for storing finished compost. The areas that could accommodate temporary storage, depicted in Figure 2-2, would be grubbed and lightly graded but not paved. Finished compost would be piled directly onto cleared areas. The project would also include clearing and grading of the entirety of the southernmost parcel of the landfill (APN 170-070-002) for vegetation management purposes, although only 2.5 acres of this area would be used for potential temporary compost storage.

An electrical utility pole would be installed in the CASP facility to provide power to run compost equipment, processing equipment, blowers, and an electric grinder. A power line would be extended to the pole from lines located along SR 59.

As discussed above, the site improvements include construction of a new lined stormwater drainage pond. While the landfill property currently has site-specific WDRs for water quality protection, they may need to be revised to reflect operational changes associated with the proposed compost facility, and additional regulatory requirements may be imposed by the RWQCB related to the compacted and/or paved compost pads and lined contact water storage ponds. Alternatively, the compost facility may be addressed under State Water Resources Control Board Compost General Order (WQ 2020-0012-DWQ) instead of revised site-specific WDRs. Regardless, site improvements would include constructing a new lined wastewater storage pond; making additional on-site drainage improvements to continue to direct stormwater and process water runoff into the detention pond; and improving working surfaces, such as paving active composting and/or processing areas or amending/compacting the soil, to meet the RWQCB's specifications.

2.4.2 Project Operations

The planned maximum annual throughput of the compost facility is 75,000 tpy, and the average daily throughput is 300 tons per day. Recovered green waste and wood waste would be diverted from the adjacent landfill and delivered to the compost facility by collection vehicles, transfer trailers, and self-haul vehicles. Operation of the compost facility would involve preprocessing, chipping and grinding, feedstock storage, food waste preprocessing, blending, CASP composting, curing, and screening. These activities are described as follows:

- Green waste preprocessing operations: Through education, awareness, monitoring, and reporting, the MCRWMA would work with the County, the cities, and their haulers to minimize contamination placed in organic waste carts and bins. After it is received, the organic green waste would be load-checked for noncompatible wastes and contamination, which would be removed manually on the sort floor for outdoor operations or by mechanical processing equipment operated inside a building. Noncompostable residual material would be sorted and placed in containers on-site and transported for landfill disposal within 48 hours of collection.

- **Chipping and grinding**: In preparation for the active composting phase, feedstock materials may be processed by grinding to reduce the volume of material, increase the surface area to promote biological decomposition, and provide a relatively uniform mixture of material and particle size. Chipping and grinding would generally occur on the day of receipt for co-collected residential organics and up to 7 days following receipt for green waste.
- **Feedstock storage**: The outdoor organic waste processing area would have a capacity to store up to 10,000 cubic yards of wood waste, green waste, and co-collected waste. Stockpiles would be separated by 20-foot-wide fire lanes consistent with applicable fire district standards. Green waste and co-collected residential organics would be stockpiled on a pad for a maximum period of 48 hours. Wood waste may be stored for up to 30 days. The processed co-collected organics material storage area would be constructed with a compacted all-weather pad equipped with a gravity drain to the lined contact water storage pond.
- **Food waste preprocessing**: Food waste material would be processed either on-site or off-site before being deposited in the CASP. For those feedstocks not preprocessed off-site, the project would allow for reception and preprocessing of commercial organic waste and food material/mixed material at the facility. Transfer trailers, collection trucks, or end dump vehicles would transport unprocessed commercial organic waste to the project site, where it would be weighed on certified scales. Delivery trucks would travel to a dedicated receiving and storage area in a designated bunker where the material would be offloaded. Vectors would be controlled by good housekeeping practices, and the storage bunkers would be covered with tarps for overnight storage. With a front-end loader, materials and organic waste would be transported from the bunkers to an in-feed bin to be mechanically separated from the noncompostable waste.
- **Blending**: Feedstock may consist of organic materials, including green waste, clean dimensional lumber (wood fiber cut to a specific thickness, width, and length based on predefined, standardized sizes), agricultural materials (such as grape pomace), and food wastes. The amounts of the materials that make up the feedstock "recipe" are critical for optimizing the C/N ratio, bulk density, and porosity. Green waste materials with small percentages of food waste introduced to the mixture are ideal for the CASP technology, based on experience with the materials generated in the region. High percentages of food waste or other similar high-density materials may be too dense to be composted as is, because dense materials do not allow for proper airflow through the CASP. Bulking materials, such as compost overs or shredded wood waste, can be added to alter the bulk density and improve porosity.

  Feedstock would be blended with processed food waste in a ratio of 10- to 35-percent food material to green waste and wood materials, which would then be placed in the CASP for composting. Additional blending may be necessary to meet the required moisture levels.
- **CASP composting**: Following preprocessing, grinding, and blending or receipt of feedstock-ready materials (as discussed above), the materials would be placed in aerated static piles that would be up to 65 feet long by 30 feet wide, approximately 10 feet high (referred to as "mass bed zones" in Figure 2-3). Two aerated static pile systems would be oriented such that a biofilter area separates four individual piles to the north and five individual piles to the south. The piles would be constructed using a loader to stack the material. Underlying the piles would be perforated pipes (up to 32 pipes and eight blowers per CASP unit, or fan group) that may be embedded in the concrete pad or may be flexible pipes placed on grade under each static pile. These pipes provide positive aeration to the bottom of the piles from air handling units or "blowers" as part of the initial phases to aerate the mass. After the piles are constructed, they are covered with approximately 12 inches of cured compost material, which acts as a biofilter to reduce harmful emissions and potential odors. The compost cover itself is moisture-conditioned using a sprinkler system through the active composting phase, as needed, to maintain its effectiveness in controlling emissions and odors.

  Composting piles remain in the primary CASP unit for 24 days before being moved by a loader or conveyance system to the secondary CASP unit for another 24 days, with some variation in composting time depending on feedstock composition, temperature, moisture, season of the year, and stability of the compost at the end of the primary phase. The secondary CASP unit is used to ensure that adequate decomposition is attained if uniform decomposition was not achieved during the primary phase. After secondary composting, the material is moved to the curing pad to mature.

The project allows for preprocessed feedstock-ready material to be placed directly into the CASP unit, bypassing storage. However, much of the feedstock would require blending to ensure the proper moisture content, bulk density, porosity, and C/N ratio. (Blending is discussed in more detail above.) To ensure that materials are available for blending, some feedstock storage is anticipated. Co-collected residential organic wastes and materials mixed with food waste may be stored outdoors for up to 48 hours. Green waste may be stored outdoors for up to 7 days in a designated area. Wood waste may be stored outdoors for up to 30 days in a designated area.

- Curing: When the active composting phase is complete, the curing phase begins with dismantling of the CASP composting piles and transport to the curing area by a front-end loader. Curing allows the compost material to mature and is essential in the development of a stable, high-quality product. Curing piles are constructed with front loaders and are approximately 20 feet wide, 250 feet long, and 15 feet high. Material placed in the curing area would typically cure for 3 months or more. Moisture may also be added to the curing windrows, as needed, to maintain suitable curing conditions and control dust.
- Screening: After the curing process is complete, the composted materials are screened based on customer demand, but typically to 3/8 inch in diameter or smaller (sometimes referred to as the "unders") to remove oversized particles and contaminants (e.g., plastic, glass) and provide a final compost product specific for its end use.

  This screening process also produces an oversized finished compost produce (typically larger than 3/8 inch in diameter). This material is typically referred to as "overs" and generally consists of composted pieces of woody material. Overs are not generally considered a residual; they are a valuable part of the finished compost. There are many uses for overs, such as composted mulch, biofilter media, erosion control material, compost bulking agent, and soil amendment. However, because of the rather low nitrogen content and size of this material, the value for overs tends to be less than that for unders. In addition, film plastic contaminants, a common problem when composting residential wastes, tend to be concentrated in the overs fraction of the finished compost. Because of this contamination, some end uses of the overs may be limited or unavailable. Depending on inbound feedstock contamination levels and the tendency to concentrate film plastics in the overs fraction through screening, a portion of overs may end up as landfill alternate daily cover.

The project would require two to four additional staff at the Highway 59 Landfill to support increased compost processing. Maintenance of the composting process requires temperature control through the use of wireless automated temperature probes that provide temperature monitoring throughout the active composting process. Temperatures are monitored to ensure that the prescribed regulatory period of 72 consecutive hours at no less than 55°C (131°F), a requirement of the US Environmental Protection Agency's process to further reduce pathogens, is satisfied. Pile temperature can be moderated using the aeration system. Based on monitoring and operational protocol, the aeration system is activated to induce airflows through the CASP. Increasing the airflow provides more oxygen, which increases metabolic activity and raises temperature; reducing airflow reduces oxygen levels, which reduces biological activity and lowers temperature. A vast excess of air can also be used to dissipate heat from the piles. The CASP composting system would use wet suppression/water sprays to help reduce fugitive dust during material receiving/mixing, active and curing phase composting, and storage and load-out of finished compost.

Development of the proposed composting facility would result in additional truck trips associated with green and food waste travelling to and from the Highway 59 Landfill. However, this waste would be removed and separated at the point of origin from the municipal solid waste stream that is already occurring. As a result, the overall number of truck trips to and from the landfill is anticipated to remain consistent with existing and projected conditions (as evaluated in the Valley Fill Project EIR). No increase in the maximum allowable number of vehicle trips arriving at Highway 59 Landfill are anticipated as a result of the project.

2.4.3 Postprocessing Activities

Finished compost would leave the site as a result of either direct purchases at the Highway 59 Landfill (10 percent), transport to Vulcan Materials Company, 22101 Sunset Avenue, Los Banos (45 percent), and transport to Agromin-Bowles Compost Facility, 13000 Carlucci Road, Dos Palos (45 percent) for sale from those facilities.

2.5 OPERATIONAL MAINTENANCE

A site-specific odor impact minimization plan would be prepared consistent with CalRecycle requirements. The plan would identify multiple design and operational measures to reduce odors, including adherence to a 48-hour time limit for outdoor storage of unprocessed co-collected materials.

The MCRWMA would also maintain one 8,000-gallon water truck and two bulldozers at the site that would be available 24 hours per day. All structures, trucks, bulldozers, and other heavy equipment at the landfill would be equipped with fire extinguishers, as required by law.

Fire protection services to the project site would be provided by the Merced County Fire Department substation in the city of Merced, which is approximately 12 miles from the site. The project would be required to meet access and other fire safety standards established by the fire department. In addition, the site operator would take the following additional precautions to prevent or quickly control fires on-site:

- Smoking would be prohibited in areas subject to fire.
- A stockpile of cover would be available for use in extinguishing fire.
- All earth-moving equipment operated at the site would be fitted with a spark arrestor and would carry a fire extinguisher, consistent with Section10.301(a) of the Uniform Fire Code).

2.6 HOURS OF OPERATIONS

The Highway 59 Landfill is open to the public from 7:00 a.m. to 3:30 p.m., Monday through Saturday, and closed to the public on major holidays. The landfill is also open seven nights per week, from 3:00 a.m. to 7:00 a.m., for commercial hauling vehicles only, and is permitted to be open 24 hours per day, 7 days per week. The project would operate 24 hours per day for facility operations, as needed.

2.7 POTENTIAL APPROVALS AND PERMITS REQUIRED

The following approvals and permits may be required as part of implementation of the proposed project:

- Merced County Community and Economic Development Department, Environmental Health Division: Solid Waste Facility Permit
- San Joaquin Valley Air Pollution Control District: Authority to Construct
- Central Valley RWQCB: WDRs
- CalRecycle: Modify Enforcement Agency Notification for Facility No. 24-AA-0020 to accommodate an annual throughput of up to 75,000 tpy of compostable materials

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3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.0 APPROACH TO THE ENVIRONMENTAL ANALYSIS

This draft supplemental environmental impact report (Draft SEIR) evaluates and discloses the environmental impacts associated with the Highway 59 Landfill Composting Facility Project, in accordance with the CEQA and the CEQA Guidelines.

Sections 3.1 through 3.7 of this Draft SEIR present a discussion of regulatory background, existing conditions, environmental impacts associated with construction and operation of the project, mitigation measures to reduce the level of impact, and the residual level of significance (i.e., after application of mitigation, including impacts that would be significant and unavoidable after application of all feasible mitigation measures). Issues evaluated in these sections consist of the environmental topics identified for review in the NOP prepared for the project, as well as responses received on the NOP (see Appendix A of this Draft SEIR).

Chapter 4, "Alternatives," presents a reasonable range of alternatives and evaluates the environmental effects of those alternatives relative to those of the project, as required by CEQA Guidelines Section 15126.6. Chapter 5, "Cumulative Impacts," presents an analysis of the project's impacts considered together with the related impacts of other past, present, and probable future projects, as required by CEQA Guidelines Section 15130. Chapter 6, "Other CEQA-Required Sections," includes an analysis of the project's growth-inducing impacts and significant irreversible environmental effects. The full references associated with the sources cited in this Draft SEIR are presented in Chapter 8, "References," organized by chapter and section number.

The remainder of this chapter addresses the following resource topics:

- Section 3.1, "Air Quality";
- Section 3.2, "Archaeological, Historical, and Tribal Cultural Resources";
- Section 3.3, "Biological Resources";
- Section 3.4, "Energy";
- Section 3.5, "Greenhouse Gas Emissions and Climate Change";
- Section 3.6, "Noise and Vibration"; and
- Section 3.7, "Transportation/Traffic."

Sections 3.1 through 3.7 of this Draft SEIR each include the following components:

- **Regulatory Setting:** This subsection presents information on the laws, regulations, plans, and policies relevant to each resource topic, including federal, state, regional, and city regulations that address potentially adverse environmental impacts.
- **Environmental Setting:** This subsection describes existing environmental conditions at the project site and in the surrounding area, in accordance with CEQA Guidelines Section 15125. This setting generally serves as the baseline against which environmental impacts are evaluated. The NOP for the project was issued on November 1, 2023. Typically, and in accordance with CEQA Guidelines Section 15125, the date on which the NOP is issued is considered appropriate for establishing the baseline.
- **Environmental Impacts and Mitigation Measures:** In accordance with CEQA Guidelines Sections 15126, 15126.2, and 15143, this section identifies the method of analysis to determine whether an impact may occur, as well as the thresholds of significance used to determine the level of significance of the environmental impacts for each resource topic. The thresholds of significance are based on the checklist presented in Appendix G of the most recently adopted State CEQA Guidelines, best available data, applicable regulatory standards, and local practice

and standards. The level of each impact is determined by analyzing the effect of the project on the defined baseline conditions and comparing it to the applicable significance threshold.

Project impacts and mitigation measures are numbered sequentially in each subsection (e.g., Impact 3.2-1, Impact 3.2-2, Impact 3.2-3, etc.). A summary impact statement precedes a more detailed discussion of each environmental impact. The discussion presents the analysis, rationale, and substantial evidence upon which conclusions are drawn regarding the level of significance of the impact.

An impact is considered "less than significant" if it would not involve a substantial adverse change in the physical environment. An impact would be "potentially significant" or "significant" if it could or clearly would, respectively, result in a substantial adverse change in the physical environment; both are treated the same under CEQA in terms of procedural requirements and the need to identify feasible mitigation.

This Draft SEIR identifies feasible mitigation measures that would avoid, minimize, rectify, reduce, or compensate for potentially significant and significant adverse impacts (CEQA Section 21081.6[b]). Mitigation measures are not required for effects found to be less than significant. Where feasible mitigation for a potentially significant or significant impact is available, it is described in this Draft SEIR following the impact, along with its effectiveness at addressing the impact. Each identified mitigation measure is labeled numerically to correspond with the impact it addresses. Where feasible mitigation is not sufficient to reduce an impact to a less-than-significant level, the impact is identified as significant and unavoidable. The final determination of the level of significance of each impact is presented in bold text in the impact summary and at the end of each impact discussion.

Effects Found Not to Be Significant

CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (CEQA Section 21100, CEQA Guidelines Sections 15126.2[a] and 15128). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse changes in physical conditions that exist within the affected area, as defined in CEQA Section 21060.5 (statutory definition of "environment").

ISSUES DISMISSED FROM FURTHER ANALYSIS IN VALLEY FILL PROJECT EIR

Section 4.0, "Environmental Setting, Impacts, and Mitigation Measures," in the Valley Fill Project EIR identifies the environmental resources for which no impacts were expected to result from implementation of the Valley Fill Project. Accordingly, as required by CEQA, the Valley Fill Project EIR presented a brief explanation as to why impacts on each resource were not anticipated, and these resource categories were not addressed further. The project addressed in this SEIR also would not cause potentially significant impacts in these resource categories for the reasons provided below.

Population, Employment, and Housing

A project is considered to be growth-inducing if it fosters economic or population growth, directly or indirectly, in the surrounding environment. These impacts could result from projects that include housing construction; the removal of an obstacle to growth, such as expansion of a wastewater treatment plant and extending transportation routes into previously undeveloped areas; and the establishment of major new employment opportunities. The proposed project would increase the capacity of the Highway 59 Landfill without expanding the existing footprint. Expansion of the existing facility would not result in population growth through the provision of new homes, new businesses, additional employees, or in any other manner. In addition, all proposed facilities would be limited to the footprint of the landfill and, thus, would not displace existing housing or people such that replacement housing would be required to be constructed elsewhere. No residential structures would be constructed or removed as part of the project. Therefore, no impacts would occur, and this technical issue area is not discussed further in this EIR. The potential for growth-inducing effects of expanding the capacity of the landfill are discussed further in Chapter 6, in the subsection "Growth Inducement."

Public Services and Recreation

As discussed above, the proposed project does not include new housing or other project elements that would increase the permanent resident population in the project area. Increasing the capacity of the existing landfill would have no effect on population growth. There could be a slight increase in the demand for police, fire, or other emergency services related to extending the life of the landfill; however, this increase would be minimal and would be covered by the existing police and fire facilities. There would be no increased demand on schools or recreational facilities. In addition, there are no police, fire, school, or recreational facilities located within the project site or in the immediate project vicinity; therefore, the proposed improvements would have no direct effect on public services or recreation. No impact would occur, and this technical issue area is not discussed further in this EIR.

ISSUES ANALYZED IN THE VALLEY FILL PROJECT EIR BUT NOT EVALUATED IN DETAIL IN THIS SEIR

Based on a review of the information presented in the Valley Fill Project EIR, the notice of preparation (NOP) prepared for the project, comments received as part of the public scoping process (Appendix A), and additional research and analysis of relevant data during preparation of this Draft SEIR, the following resources previously analyzed in the Valley Fill Project EIR were identified as resource areas for which no significant environmental impacts would result from the project. Accordingly, the evaluations of these resources from the Valley Fill Project EIR are summarized below with a brief explanation as to why significant impacts to each resource are not anticipated. These resources are not addressed further in this Draft SEIR.

Aesthetics

The proposed area for the new CASP composting facilities would be located within the boundaries of the existing windrow compost operation, and the two potential temporary storage areas would be located within the existing landfill property boundary. The Highway 59 Landfill does not contain any scenic vistas and the nearest state scenic highway, Interstate 5, is located approximately 35 miles to the west (MCRWMA 2015; Caltrans 2024). The project would modify the type of composting technology from a windrow system to a CASP system. These modifications would not substantially change the appearance at the project site, except that compost piles would be covered with a sheet of plastic rather than uncovered. Other modifications to the project site would include new processing areas and stormwater drainage improvements, which would appear similar to other areas of the overall Highway 59 Landfill (i.e., areas of managed waste). The project would not result in new additional substantial adverse effects related to aesthetics compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

Agricultural Resources

The project site, as well as the entirety of the Highway 59 Landfill, is located on land classified as Urban and Built-Up Land (DOC 2018). There are no William Act contract lands in the surrounding areas (MCRWMA 2015). Because the project would occur within the Highway 59 Landfill property boundary, there would be no conversion of land to nonagricultural. The project would not result in new additional substantial adverse effects related to agricultural resources compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

Geology and Soils

As discussed in the Valley Fill Project EIR, geotechnical investigations indicated that the potential for liquefaction and consolidation, or settlement, for soils under the project site was low and would not expose people or structures to hazards. Additionally, the project site was found to not be located on a geologic unit or soil that is unstable (MCRWMA 2015). The project would not include the installation or operation of a septic system and would not result in impacts to soils associated with septic systems or alternate wastewater disposal systems. The potential for impacts related to seismic hazards and landslides or subsidence would be minimized through the landfill's compliance with standard engineering practices and applicable codes, as well as Title 27 of the CCR requirements stated in the Valley Fill Project EIR. Because the Highway 59 Landfill implements the above-mentioned regulations and requirements,

there would be no significant impacts related to geology and soils. The project would not result in new additional substantial adverse effects related to geologic resources compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

Hazards and Hazardous Materials

The project site is located within the existing Highway 59 Landfill and is not located within 0.25 miles of a school. The nearest airport, Castle Airport, is approximately 3.5 miles southwest of the project site. The project site is not located within the vicinity of airport approach or departure safety zones or private airstrips (MCRWMA 2015). No impacts related to schools, private airstrips, or public airports would occur as a result of project implementation. Additionally, there are no hazardous materials sites located within the project site (DTSC 2024). Because the project site is located within a landfill, there is potential for people and the environment to be exposed to hazardous materials. However, Mitigation Measure 4.6-1a required implementation of a Hazardous Waste Contingency Plan, which contains procedures for handling accidental spills and unknown contaminates that may be discovered. The project would not affect any adopted emergency plan and would not involve modification of existing roadway alignments that would affect nearby evacuation routes. Therefore, there would be no significant impacts related to hazards and hazardous materials. Thus, the project would not result in new additional substantial adverse effects associated with hazards and hazardous materials compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

Hydrology and Water Quality

As discussed in the Valley Fill Project EIR, topography of the region is predominantly flat with no steep areas, and the Highway 59 Landfill is outside the 100-year or 500-year floodplain. The Central Valley Regional Water Quality Control Board (RWQCB) would require site improvements as part of the approval process for this project. The landfill property currently has site-specific Waste Discharge Requirements (WDRs) for water quality protection. The WDRs would need to be revised to reflect operational changes associated with the proposed compost facility and additional regulatory requirements imposed by the RWQCB for compacted or paved compost pads and lined contact water storage ponds. Alternatively, the compost facility may be placed under the General Order instead of revised site-specific WDRs. Regardless, site improvements would include constructing a new lined wastewater storage pond, making additional on-site drainage improvements to continue to direct storm water and process water runoff into the detention pond, and improving working surfaces, such as paving active composting or processing areas or amending and compacting the soil to meet the RWQCB's specifications. Because the project would be subject to WDRs or placed under the compost General Order, the potential for adverse impacts on water quality would be limited through RWQCB requirements. Thus, the project would not result in new additional substantial adverse effects on hydrology and water quality compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

Land Use and Planning

The project site is located within the Highway 59 Landfill property, where the existing green waste composting facility and food waste transfer operation is located. The project would include modifications to the existing composting facility and addition of two potential temporary storage sites. The project would not result in a zoning change and would be consistent with the 2030 Merced County General Plan and existing zoning. Thus, the project would not result in new additional substantial adverse effects on land use and planning compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

Mineral Resources

The primary mineral commodity produced in Merced County is construction aggregate. The project site is not classified as an aggregate resource area, with no significant mineral resources being identified within the project site. Thus, the project would not result in new additional substantial adverse effects related to mineral resources compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

Utilities and Service Systems

The project would involve extension of an electrical power line to support operations but would not increase demand for municipal water supply, wastewater treatment, or natural gas. As discussed above, under "Hydrology and Water Quality," stormwater would be managed according to permitting requirements set forth by the RWQCB and would be associated with a new retention basin within the project site. Thus, the project would not result in new additional substantial adverse effects related to utilities and service systems compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

ADDITIONAL ISSUE AREAS FOUND NOT TO BE SIGNIFICANT

The State CEQA Guidelines have undergone updates since the Valley Fill Project EIR was certified. These updates have addressed legislative changes to the CEQA statute, clarified certain portions of the State CEQA Guidelines, and updated the State CEQA Guidelines to be consistent with recent court decisions. The most recent update became effective on December 28, 2018. The project is not anticipated to result in significant impacts to the following resource categories now included in the Appendix G checklist of the State CEQA Guidelines for the reasons discussed below.

Forestry Resources

The Valley Fill Project EIR did not assess impacts related to conflicts with existing zoning related to, or loss or conversion of forestry resources, including timberland. The 2009 update to the State CEQA Guidelines added consideration of forestry resources to the Appendix G checklist. The project would not cause potentially significant impacts in this resource category because it is located within the existing landfill property and does not involve any land-based development activities that could affect any forestry resources, including timberland. For this reason, this issue is not discussed further in this SEIR.

Wildfire

The Valley Fill Project EIR did not assess impacts related to wildfire in or near a state responsibility area or lands classified as very high fire hazard severity zone because CEQA did not require such an analysis at that time. In 2018, the State CEQA Guidelines were amended to include the resource category of wildfire to the Appendix G Checklist. The Highway 59 Landfill is not located in or near state responsibility areas or land classified as a Very high Fire Hazard Severity Zone. Thus, the project would not result in new additional substantial adverse effects associated with wildfire compared to those discussed in the Valley Fill Project EIR. Therefore, this topic is not discussed further in this Draft SEIR.

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3.1 AIR QUALITY

This section describes existing air quality conditions, summarizes applicable regulations, and assesses potential short-term and long-term air quality impacts of the project from air pollutant emissions. The methods of analysis are consistent with the recommendations of the San Joaquin Valley Air Pollution Control District (SJVAPCD), California Air Resources Board (CARB), and U.S. Environmental Protection Agency (EPA). Potential health risks related to toxic air contaminants (TACs) are also evaluated. Information in this section is based on the air quality impact analysis prepared for the project by Yorke Engineering, which is included as Appendix B of this Draft SEIR.

A comment letter related to air quality was received during the public review period for the Notice of Preparation (NOP). SJVAPCD requested that the air quality analysis evaluate project-generated emissions in comparison with adopted thresholds of significance using the California Emissions Estimator Model (CalEEMod); determine an appropriate off-site truck trip length and truck routes for operations, as well as ways to reduce idling emissions from trucks; conduct a health risk assessment (HRA); evaluate potential on-site equipment use increases; consider a voluntary emissions reduction agreement (if applicable); evaluate impacts from odors; and provide a summary of applicable rules and regulations. The analysis in this section serves to respond to each of the specific comments received. A scoping report that contains the NOP and comments received in response to it is presented in Appendix A.

3.1.1 Regulatory Setting

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Clean Air Act

At the federal level, EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the Clean Air Act (CAA), which was enacted in 1970. Congress made the most recent major amendments to the law in 1990. The CAA required EPA to establish National Ambient Air Quality Standards (NAAQS) that establish limits on certain airborne pollutants and, in so doing, are intended to protect public health and welfare. EPA has established primary and secondary NAAQS, which are shown in Table 3.1-1, for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The primary standards protect the public health, and the secondary standards protect public welfare.

The CAA also required each state to prepare an air quality control plan, referred to as a state implementation plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA must review all state SIPs to determine whether they conform to the mandates of the CAA and the amendments thereof and to determine whether implementing them will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the nonattainment area. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may cause sanctions to be applied to transportation funding and stationary air pollution sources in the air basin.

Federal Hazardous Air Pollutant Programs

Hazardous air pollutants (HAPs) are regulated through federal and state controls on individual sources. Federal law defines HAPs as noncriteria air pollutants with short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. The 1977 CAAA required EPA to identify and set forth National Emission Standards for Hazardous Air Pollutants (NESHAP) to protect public health and welfare. The 1990 CAAA established a technology-based approach for reducing air toxics, such that designated HAPs are regulated under a two-phase strategy. The first phase involves requiring facilities to install Maximum Achievable Control Technology (MACT). MACT includes measures, methods, and

techniques, such as material substitutions, work practices, and operational improvements, aimed at reducing toxic air emissions. Since 1990, EPA has issued regulations limiting emissions of air toxics from more than 174 categories of major industrial sources including chemical plants, oil refineries, aerospace manufacturers, and steel mills.

Table 3.1-1 Ambient Air Quality Standards and Designations for San Joaquin Valley Air Basin

Pollutant	Averaging Time	California Standards [a]		National Standards b		
		Maximum Allowable [c]	Attainment Status [d]	Primary [c,e]	Secondary [c,f]	Attainment Status [g]
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	N(Severe)	—	Same as primary standard	Revoked
	8-hour	0.07 ppm (137 µg/m^3)	N	0.075 ppm (147 µg/m^3)		N(Extreme)
Respirable particulate matter (PM_{10})	24-hour	50 µg/m^3	N	150 µg/m^3	Same as primary standard	A
	Annual arithmetic mean	20 µg/m^3		—		
Fine particulate matter ($PM_{2.5}$)	24-hour	—	N	35 µg/m^3	Same as primary standard	N
	Annual arithmetic mean	12 µg/m^3		9 µg/m^3		
Carbon monoxide (CO)	8-hour	9 ppm (10 mg/m^3)	U/A	9 ppm (10 mg/m^3)	—	U/A
	1-hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.03 ppm (57 µg/m^3)	A	0.053 ppm (100 µg/m^3)	Same as primary standard	U/A
	1-hour	0.18 ppm (339 µg/m^3)		0.100 ppm [h]	—	
Sulfur dioxide (SO_2)	Annual arithmetic mean	—	A	0.030 ppm (for certain areas) [i]	—	U/A
	24-hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas) [i]	—	
	3-hour	—		—	0.5 ppm (1,300 µg/m^3) [i]	
	1-hour	0.25 ppm (655 µg/m^3)		0.075 ppm (196 µg/m^3) [i]	—	
Lead [j]	30-day average	1.5 µg/m^3	A	—	—	—
	Calendar quarter	—	—	1.5 µg/m^3	Same as primary standard	A
	Rolling 3-month average	—	—	0.15 µg/m^3		A
Visibility-reducing particle matter	8-hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more	U	No national standards		
Sulfates	24-hour	25 µg/m^3	A			
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	U			
Vinyl chloride [j]	24-hour	0.01 ppm (26 µg/m^3)	A			

Notes: µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; ppm = parts per million.

[a] California standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration is expressed first in the units in which it was promulgated (i.e., parts per million [ppm] or micrograms per cubic meter [µg/m^3]). Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] California attainment status:
Unclassified (U): The data are incomplete and do not support a designation of attainment or nonattainment.
Attainment (A): The state standard for that pollutant was not violated at any site in the area during a 3-year period.
Nonattainment (N): There was a least one violation of a state standard for that pollutant in the area.

[e] National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[f] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Federal attainment status:
Unclassifiable (U): Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.
Attainment (A): Any area that meets the national primary or secondary ambient air quality standard for the pollutant.

[h] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

[i] On June 2, 2010, EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is equal to 0.075 ppm.

[j] CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: SJVAPCD 2023.

EPA is responsible for implementing programs established under the federal CAA, establishing NAAQS, and judging the adequacy of SIPs. The California SIP is a state-level document that identifies all air pollution control programs in California designed to help the state meet the NAAQS. EPA also has regulatory and enforcement jurisdiction over emissions sources beyond state waters (Outer Continental Shelf) and those under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. EPA sets federal vehicle and stationary source emission standards, as well as provides research and guidance for air pollution programs. It may also delegate authority to implement some federal programs to the states while retaining oversight authority to ensure that the programs are properly implemented.

Title V of the federal CAA, as amended in 1990, created an operating permit program for certain defined sources. One of the primary Title V applicability criteria is based on the facility's potential to emit, and the emission threshold varies by the attainment status of the local area. For example, owners/operators of industrial sources that emit more than 100 tons per year (tpy) of oxides of nitrogen (NO_X) or volatile organic compounds (VOC) must possess a Title V permit. If a source is located in a federal ozone nonattainment area classified as "Serious Nonattainment," this threshold is lowered to 50 tpy. For "Severe Nonattainment" areas, the threshold is lowered to 25 tpy, and for "Extreme Nonattainment" areas, the threshold is further lowered to 10 tpy. The lowering of the thresholds results in more businesses having to comply with Title V permitting requirements in areas with worse air quality. EPA defined the basic requirements of the Title V program under the Code of Federal Regulations (CFR) Title 40 Part 70, and each air district, including SJVAPCD, has adopted rules specific to their area to implement the Title V program. The SJVAPCD Title V program is codified under Rule 2520, as discussed in the "San Joaquin Valley Air Pollution Control District" section, below. Title V is not meant to impose any new air pollution standards, require installation of any new controls on the affected facilities, or require emissions reductions. It does, however, enhance public and EPA participation in the permitting process and requires additional recordkeeping and reporting by businesses, which may result in additional administrative requirements.

EPA also establishes New Source Performance Standards (NSPS) and NESHAP for a variety of stationary sources of emissions, codified in 40 CFR Parts 60, 61, and 63. Implementation and enforcement of most of these standards have been delegated to SJVAPCD. NSPS and NESHAP are implemented through adopted rules and regulations, discussed in the "State Plans, Policies, Regulations, and Laws" and "San Joaquin Valley Air Pollution Control District" sections, below.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Clean Air Act

CARB is the agency responsible for coordinating and providing oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish the California Ambient Air Quality Standards (CAAQS), which are shown in Table 3.1-1. CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, as well as the above-mentioned federal criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporates a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. It specifies that local air districts should focus particular attention on reducing the emissions from mobile source and areawide emission sources and provides districts with the authority to regulate indirect sources.

Among CARB's other responsibilities are overseeing local air district compliance with California and federal laws; approving local air quality plans; submitting SIPs to EPA; monitoring air quality; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

State Toxic Air Contaminant Programs

California state law defines TACs as air pollutants that may cause or contribute to an increase in mortality, serious illness, or potential hazard to human health. The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807. More than 200 substances have been designated TACs under California law; they include the 188 (federal) HAPs adopted in accordance with AB 2728 and additional chemicals regulated by the state.

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not directly regulate or limit air toxics emissions. TAC emissions from individual facilities are quantified, and the facilities prioritized. Under AB 2588, "high-priority" facilities are required to perform an HRA and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures. SJVAPCD implements AB 2588 requirements for all permitted sources.

CARB has established Airborne Toxic Control Measures (ATCMs) for mobile sources, including for on-road heavy-duty diesel-fueled residential and commercial solid waste collection vehicles. This ATCM, referred to as the Solid Waste Collection Vehicle (SWCV) regulation was adopted by the Board in 2004. All SWCVs, except for certain low-use vehicles, were required to have particulate matter (PM) filters installed by December 31, 2010. In January 2019, the Board approved amendments to the SWCV regulation. The amended regulation continues to apply to 2006 model year and older engines in garbage roll-off and garbage packer trucks. Reporting of these trucks is now mandatory and the information will be used to minimize the chance for unnecessary registration delays at the California Department of Motor Vehicles (DMV). The approved amendments also added requirements specific to certain specialized on-road diesel-fueled heavy cranes with a single engine.

California Health and Safety Code

California Health and Safety Code (Section 41700, Health Risk Assessment) requirements are generally implemented through the local air districts. Pursuant to SJVAPCD Policy APR 1905, Risk Management Policy for Permitting New and Modified Sources, before TAC emissions associated with a proposed new source or modification to an existing source can be increased, an analysis must be conducted to determine the potential health risk impacts on the nearest residents or worksite.

California Department of Resources Recycling and Recovery

According to Title 14 California Code of Regulations (CCR) Section 17863.4, all commercial composting facilities in California are required to "prepare, implement, and maintain" a site-specific Odor Impact Minimization Plan (OIMP). OIMPs must provide guidance to on-site operations personnel by describing the following items:

- an odor monitoring and data collection protocol for on-site odor sources, including the proximity of possible odor receptors and a method for assessing odor impacts at the locations of the possible odor receptors;
- meteorological conditions affecting the migration of odors and/or transport of odor-causing material off-site, including seasonal variations that affect wind velocity and direction;
- a complaint response and recordkeeping protocol;
- design considerations and/or projected ranges of optimal operation to be employed in minimizing odor, including method and degree of aeration, moisture content of materials, feedstock characteristics, airborne emission production, process water distribution, pad and site drainage and permeability, equipment reliability, personnel training, weather event impacts, utility service interruptions, and site-specific concerns as applicable; and
- operating procedures for minimizing odor, including aeration, moisture management, feedstock quality, drainage controls, pad maintenance, wastewater pond controls, storage practices (e.g., storage time and pile geometry), contingency plans (i.e., equipment, water, power, and personnel), biofiltration, and tarping as applicable.

Odor regulation and enforcement at compost facilities are regulated by the California Department of Resources Recycling and Recovery (CalRecycle).

REGIONAL PLANS, POLICIES, AND ORDINANCES

San Joaquin Valley Air Pollution Control District

SJVAPCD was formed in 1991 with the goal of improving air quality conditions in the SJVAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategies of SJVAPCD include preparing plans and programs for the attainment of ambient air quality standards, adopting and enforcing rules and regulations, and issuing permits for stationary sources. In 2015, SJVAPCD published a revised guide for assessing air quality impacts under CEQA, the *Guidance for Assessing and Mitigating Air Quality Impacts*. This guide provides lead agencies with uniform procedures for addressing air quality impacts in environmental documents.

Federal and state air quality regulations also require regions designated as nonattainment to prepare plans that either demonstrate how the region will attain the standard or demonstrate reasonable improvement in air quality conditions. In compliance with this requirement, SJVAPCD develops and implements attainment plans for the SJVAB, which are included as part of California's SIP. The attainment plans must demonstrate compliance with NAAQS and CAAQS and must be approved by CARB before inclusion in the SIP. These plans, including SJVAPCD's current ozone and particulate matter plans, reflect regional growth projections and demonstrate how attainment can be reached through the use of appropriate pollution controls while still allowing for regional growth. SJVAPCD is also responsible for implementing and enforcing the NSPS, new source review guidelines, MACT, and Title V programs. The following SJVAPCD rules and regulations are applicable to the project:

- **Rule 2010** specifies Authority to Construct (ATC) and permitting requirements for new or modified sources. SJVAPCD issues Permits to Operate (PTOs) for facilities that meet the permitting criteria specified in Rule 2010.
- **Rule 2201** describes new source review requirements. It applies to all new and modified emission sources subject to applicable Rule 2010 permitting requirements. The purpose of Rule 2201 is to provide for the review of new and modified sources and provide mechanisms, including the use of Best Available Control Technology (BACT), BACT for toxics, and emissions offsets, by which ATCs for such new and modified sources may be granted. This rule implements the no-net-increase requirements of Section 40919(a)(2) of the California Health and Safety Code.

- **Rule 2520** mandates operating permits for major sources with a potential to emit over specific thresholds based on the attainment status of the area, major sources of HAPs, and sources that are subject to certain federal regulations. This requirement comes from Title V of the CAA Amendments of 1990. Consequently, these types of operating permits are called Title V permits. In the San Joaquin Valley, Title V permits are issued by SJVAPCD pursuant to Rule 2520.
- **Rule 4001** incorporates the NSPS from 40 CFR Part 60 and applies to new sources of air pollution and modifications of existing sources of air pollution that meet the applicability requirements listed in 40 CFR Part 60.
- **Rule 4002** incorporates the NESHAPs from 40 CFR Parts 61 and 63 and applies to sources of HAPs as defined in each subpart.
- **Rule 4101** prohibits visible air contaminant discharge into the atmosphere for a period or periods aggregating more than 3 minutes in any 1 hour with 20 percent opacity or greater.
- **Rule 4102** prohibits discharge of air contaminants that could cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such person or the public; or cause or have a natural tendency to cause injury or damage to business or property. Odors from industrial sources are generally regulated by Rule 4102; however, odors from compost facilities are regulated by CalRecycle pursuant to the Public Resources Code.
- **Rule 4201** applies to sources that emit or may emit dust, fumes, or total suspended particulate. The rule prohibits discharge of dust, fumes, or total suspended particulate into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.
- **Rule 4202** limits particulate matter (PM) emissions by establishing allowable emission rates. PM emissions from any source operation shall not exceed the hourly emission rate allowed by Rule 4202.
- **Rule 4565** limits emissions of VOC from operations involving the management of biosolids, animal manure, or poultry litter. The provisions of this rule apply to all facilities whose throughput consists entirely or in part of biosolids, animal manure, or poultry litter and operators that landfill, land apply, compost, or co-compost these materials.
- **Rule 4566** requires an operator of a composting operation with a total throughput of less than 100,000 wet tons per year of organic materials to comply with one of the following within 10 days of receipt of the organic material at the facility: (1) remove the organic material from the facility; (2) start the active phase of composting; (3) cover the organic material with waterproof covers that have at least a 6-foot overlap of adjacent sheets and are securely anchored; or (4) implement an alternative mitigation measure approved by the Air Pollution Control Officer not listed above.
- **Rule 4801** limits the emissions of sulfur compounds. The rule applies to any discharge into the atmosphere of sulfur compounds that would exist as a liquid or a gas at standard conditions. The rule prohibits the discharge into the atmosphere of sulfur compounds in concentrations greater than 2,000 parts per million by volume as SO_2 on a dry basis averaged over 15 consecutive minutes.
- **Regulation VIII** (Fugitive PM_{10} Prohibitions, Rules 8011–8081) requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. In accordance with SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts*, each of these regulations, as well as the NSPS/emissions guidelines requirements, would be incorporated into the SJVAPCD ATC/PTO and Title V permit revision for the project.
- **Rule 8011** applies to specified anthropogenic fugitive dust sources. The purpose of Regulation VIII (Fugitive PM_{10} Prohibitions) is to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The rules contained in Regulation VIII have been developed pursuant to EPA guidance for serious PM_{10} nonattainment areas. Fugitive dust contains PM_{10} and particles larger than PM_{10}.
- **Rule 8021** limits fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities. This rule applies to any such activity and other earthmoving activities, including land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.

- **Rule 8031** limits fugitive dust emissions from outdoor handling, storage, and transport of bulk materials.
- **Rule 8041** limits fugitive dust emissions from carry-out and track-out. The rule applies to all sites that are subject to any of the following rules where carry-out or track-out has occurred or may occur on paved public roads or the paved shoulders of a paved public road: Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Rule 8031 (Bulk Materials), Rule 8061 (Paved and Unpaved Roads), and Rule 8071 (Unpaved Vehicle and Equipment Traffic Areas).
- **Rule 8051** limits fugitive dust emissions from open areas. This rule applies to any open area having 0.5 acre or more in urban areas or 3.0 acres or more within rural areas that contain at least 1,000 square feet of disturbed surface area.
- **Rule 8061** limits fugitive dust emissions from paved and unpaved roads by implementing control measures and design criteria. This rule applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- **Rule 8071** limits fugitive dust emissions from unpaved vehicle and equipment traffic areas. This rule applies to any unpaved vehicle/equipment traffic area.

LOCAL PLANS, POLICIES, AND ORDINANCES

Merced County General Plan

The *2030 Merced County General Plan* (2013) identifies air quality–related goals and policies relevant to the project. The goals and policies that are applicable to the proposed project are identified below:

GOAL AQ-1: Reduce air pollutants and greenhouse gas emissions and anticipate adaptation due to future consequences of global and local climate change.

- **Policy AQ-1.1: Energy Consumption Reduction.** Encourage new residential, commercial, and industrial development to reduce air quality impacts from energy consumption.
- **Policy AQ-1.2: Business Energy Reduction Strategies.** Encourage all businesses to: replace high mileage fleet vehicles with more efficient and/or alternative fuel vehicles; increase the energy efficiency of facilities; transition toward the use of renewable energy instead of non-renewable energy sources; adopt purchasing practices that promote emissions reductions and reusable materials; and increase recycling.
- **Policy AQ-1.6: Air Quality Improvement.** Support and implement programs to improve air quality throughout the County by reducing emissions related to vehicular travel and agricultural practices.
- **Policy AQ-1.8: Climate Change Adaptation.** Prepare appropriate strategies to adapt to climate change based on peer-reviewed scientific findings of the potential impacts.
- **Policy AQ-1.10: Public Awareness.** Increase public awareness about climate change and encourage county residents and businesses to become involved in activities and lifestyle changes that will aid in reduction of greenhouse gas emissions.
- **Policy AQ-1.11: Truck-Related Development.** Discourage development that causes significant increases in truck traffic on roads that are not capable of accommodating truck traffic due to pavement section deficiency or other capacity limitations, unless adequate mitigation through fees or improvements in required as part of the permit approval.

GOAL AQ-2: Mitigate significant local and regional air quality impacts of projects through the CEQA process.

- **Policy AQ-2.1: Air Quality Plan Compliance.** Require all development projects to comply with applicable regional air quality plans and policies.
- **Policy AQ-2.2: Development Review Process.** Use the development review process to achieve measurable reductions in criteria pollutant, toxic air contaminants, and greenhouse gas emissions.

- **Policy AQ-2.3: Cumulative Impacts.** Encourage the reduction of cumulative air quality impacts produced by projects that are not significant by themselves, but result in cumulatively significant impacts in combination with other development.
- **Policy AQ-2.4: Mitigation.** Require that local and regional air quality impacts identified during CEQA review for projects reviewed and approved by the County are consistently and fairly mitigated.
- **Policy AQ-2.5: Innovative Mitigation Measures.** Encourage innovative mitigation measures and project redesign to reduce air quality impacts by coordinating with the San Joaquin Valley Air Pollution Control District, project applicants, and other interested parties.
- **Policy AQ-2.6: County Decision-Making Process.** Require climate change planning and program implementation in the County decision-making process.
- **Policy AQ-2.7: Air District Best Performance Standards.** Require the County to use the Best Performance Standards adopted by SJVAPCD during the development review and decision-making process to ensure new projects meet the targets set by the district.

3.1.2 Environmental Setting

CLIMATE, METEOROLOGY, AND TOPOGRAPHY

The primary factors that determine air quality conditions are the locations of air pollutant sources and the amounts of pollutants emitted. Topographical and meteorological conditions are also important. The project site is located in Merced County, which lies in the middle portion of the SJVAB. The SJVAB is approximately 250 miles long and averages 35 miles wide. It is defined by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi Mountains in the south (SJVAPCD 2015). The valley of the SJVAB, which opens to the sea at the Carquinez Strait, where the San Joaquin–Sacramento Delta empties into the San Francisco Bay, is nearly flat with a slight downward gradient to the northwest.

Generally, marine air flows into the basin from the San Joaquin River Delta. However, the region's topographic features restrict air movement through and out of the basin. The Coast Ranges impede wind access into the valley from the west, the Tehachapi Mountains inhibit southerly passage of airflow, and the Sierra Nevada forms a substantial barrier to the east. The topographic features of these ranges result in weak air flow, which becomes blocked vertically by high barometric pressure over the San Joaquin Valley (SJVAPCD 2015). As a result, the SJVAB is extremely susceptible to pollutant contamination over time.

Temperature and Precipitation

The SJVAB has an "inland Mediterranean" climate with more than 260 sunny days per year. The valley is characterized by warm, dry summers and cool winters. Summer temperatures often exceed 100 degrees Fahrenheit (˚F)2015). .During winter, the cyclonic storm track moves southward, and the storm systems moving in from the Pacific Ocean bring a maritime influence to the SJVAB, including the project site. The Sierra Nevada prevents the cold, continental air masses of the interior from influencing the valley (SJVAPCD 2015).

Precipitation at the project site is typical of the Central Valley region, with approximately 90 percent of the seasonal rainfall falling between November and April. San Joaquin Valley is divided into three rainfall zones; the project site is located in Zone 2, indicating a mean annual precipitation of 13.5 inches.

CRITERIA AIR POLLUTANTS

This section describes the pollutants of greatest importance in the SJVAB, including the physical properties of the pollutant, the health and other effects of the pollutant, and its sources. In general, air quality in the SJVAB is most affected by elevated ozone, $PM_{2.5}$, and PM_{10} levels in the basin, which have caused the air basin to be designated as

nonattainment for the state standards, including as severe nonattainment for the ozone 1-hour standard. Ozone levels are designated as extreme nonattainment for the federal 8-hour standard. Therefore, sources of ground-level ozone, such as VOC and NO_2 emissions, and sources of PM_{10} (e.g., fugitive dust, combustion sources) and $PM_{2.5}$ are of greatest concern for SJVAPCD. CO levels in the basin are also of concern but to a lesser extent. CO has not exceeded federal or state CO standards at a monitoring station since 1991, but localized CO hot spots may still occur. Oxides of sulfur (SO_X) is not a pollutant of concern for the proposed project and is not currently an air quality issue in the SJVAB. Ambient levels of SO_X are well below federal and state standards.

Ozone

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight. It is the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and NO_X in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. Approximately 72 percent of the ROG in the Valley are naturally occurring from non-anthropogenic source; approximately 2 percent is emitted from waste disposal (CARB 2017). NO_X is a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels. A highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while ROG and NO_X levels are high to sustain the ozone formation process. After the precursors have been depleted, ozone levels decline rapidly. Because these reactions occur on a regional scale, ozone is considered a regional pollutant. Motor vehicles are a major source of NO_X and a minor source of ROG.

Ozone located in the upper atmosphere (stratosphere) acts in a beneficial manner by shielding the earth from harmful ultraviolet radiation emitted by the sun. However, ozone located in the lower atmosphere (troposphere) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air, coupled with warm temperatures and clear skies, provide the optimum conditions for ozone formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 2004).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as people with asthma and children, but healthy adults. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 part per million (ppm) for 1–2 hours has been found to substantially alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Ambient levels of ozone greater than 0.12 ppm are linked to symptomatic responses, such as throat dryness, chest tightness, headache, and nausea. In addition to these adverse health effects, evidence also exists that ozone exposure is related to an increase in permeability of respiratory epithelia; such increased permeability leads to an increased response of the respiratory system to challenges and a decrease in the immune system's ability to defend against infection (Godish 2004).

Carbon Monoxide

CO is a colorless, odorless gas formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes approximately 56 percent of all CO emissions nationwide. Other nonroad engines and vehicles (such as construction equipment and boats) contribute approximately 22 percent of all CO emissions nationwide. Higher levels of CO generally occur in areas with heavy traffic congestion. In cities, 85–95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing); residential wood burning; and natural sources, such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are sources of CO indoors. The highest levels of CO in the outside air typically occur during the colder months of the year, when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air (EPA 2012).

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2012).

The highest concentrations are generally associated with cold, stagnant weather conditions that occur during the winter. In contrast to problems caused by ozone, which tends to be a regional pollutant, CO problems tend to be localized.

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2012).

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity in the human body is in the lower respiratory tract. The severity of adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation, during or shortly after exposure. After approximately 4–12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO_2 intoxication after acute exposure has been linked on occasion to prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung function (EPA 2012).

Particulate Matter

Relatively small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly or can contain adsorbed gases (e.g., chlorine or ammonia) that may be injurious to health. Primary sources of PM emissions in the SJVAB are entrained road dust, industrial operations, and fugitive windblown dust. The amount of particulate matter generated depends on the soil type and the soil moisture content. Vehicle traffic generates particulate matter emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots.

The adverse health effects associated with PM_{10} depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons, and other toxic substances adsorbed onto fine particulate matter (referred to as the "piggybacking effect"), or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with PM_{10} may result from both short-term and long-term exposure to elevated concentrations and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2012). $PM_{2.5}$ poses an increased health risk because the particles can be deposited deep in the lungs and may contain substances that are particularly harmful to human health.

Sulfur Dioxide

SO_2 is produced by such stationary sources as combustion of coal and oil, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO_2 exposure pertain to the upper respiratory tract. SO_2 is a respiratory irritant, and constriction of the bronchioles occurs with inhalation of SO_2 at 5 ppm or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO_2 concentrations may result in edema of the lungs or glottis and respiratory paralysis.

MONITORING STATION DATA AND ATTAINMENT AREA DESIGNATIONS

The air quality of the SJVAB is determined by routinely monitoring changes in the quantities of criteria pollutants in the ambient environment. Air quality in the area is a function of the criteria pollutants emitted locally; the existing regional ambient air quality; and the meteorological and topographic factors, which influence the intrusion of pollutants into the area from sources outside the immediate vicinity.

CARB and SJVAPCD maintain ambient air quality monitoring stations at numerous locations throughout the basin. The stations provide information on average concentrations of criteria air pollutants. These data are measured against the air quality standards that EPA and CARB have established in an effort to protect human health and welfare. Geographic areas are designated "attainment" if these standards are met and "nonattainment" if they are not met. Table 3.1-2 summarizes the air quality data from the air quality monitoring stations nearest the project site for the most recent 3-year period. Although it is the best available, the data are not necessarily representative of conditions at the project site because of the distance from the monitor to the site.

Table 3.1-2 Summary of Annual Ambient Air Quality Data (2020–2022)

	2020	2021	2022
Ozone			
Maximum concentration (1-hour/8-hour, ppm)[a]	0.100/0.087	0.099/0.089	0.096/0.083
Number of days state standard exceeded (1-hour/8-hour)	2/21	2/24	2/10
Number of days national standard exceeded (1-hour/8-hour)	0/20	0/21	0/9
Nitrogen Dioxide (NO_2)			
Maximum concentration (1-hour ppm)	0.038	0.038	0.039
Number of days state standard exceeded (1-hour)	0	0	0
Annual average (ppm)	0.007	0.007	0.007
Respirable Particulate Matter (PM_{10})			
Maximum concentration (µg/m^3) (national/California [a])	210.7/209.9	86.9/85.5	46.4/100.5
Number of days state standard exceeded (estimated)	*	*	*
Number of days national standard exceeded (estimated [a])	5.8	*	*
Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration (µg/m^3) (national/California [a])	86.0/86.0	72.9/72.9	43.7/43/7
Number of days national standard exceeded (estimated)	27.7	14.3	4.1
National/California annual average (µg/m^3)[a]	15.5/15.5	11.0/11.1	10.4/10.5

Notes: µg/m^3 = micrograms per cubic meter; ppm = parts per million; * = data not available

Measurements were recorded at the Merced Coffee monitoring station (385 South Coffee Avenue) for ozone and nitrogen dioxide and at the Merced M Street monitoring station (2334 M Street) for particulate matter.

[a] California and national statistics may differ for the following reasons: California statistics are based on California-approved samplers, whereas national statistics are based on samplers using national reference or equivalent methods. State and national statistics may therefore be based on different samplers. California statistics are based on local conditions, and national statistics are based on standard conditions. California criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Source: CARB 2024.

EXISTING EMISSIONS

The Highway 59 Landfill is currently permitted to compost up to 25,000 tpy through windrow composting. Emissions associated with this operation include transportation (i.e., material hauling, employee work commute, finished compost delivery) emissions, material handling emissions, and emissions from the composting operation itself. Existing operational mobile source emissions and compost facility emissions were calculated based on the existing throughput and emission factors from the EMFAC database for mobile sources and a VOC emission factor for composting of 3.58 pounds per wet ton. Table 3.1-3 summarizes the daily and annual emissions of criteria air

pollutants and ozone precursors from existing composting operation at Highway 59 Landfill. Refer to Appendix B for further details on the assumptions and emission estimation procedures.

Table 3.1-3 Summary of Daily and Annual Emissions of Criteria Air Pollutants and Ozone Precursors from Existing Operation of the Compost Facility at the Highway 59 Landfill

Existing Operation	NO_x	VOC	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile sources (lb/day)	7.08	2.16	37.90	0.09	13.11	1.69
Compost facility (lb/day)	<0.01	123.92	<0.01	<0.01	0.48	0.12
Total existing (lb/day)	7.08	126.08	37.90	0.09	14.69	1.80
Total existing (tons/year)	1.10	22.95	5.91	0.01	2.88	0.34

Notes: CO = carbon monoxide; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; SO_X = oxides of sulfur; VOC = volatile organic compounds.

Source: Yorke Engineering 2024.

TOXIC AIR CONTAMINANTS

Concentrations of TACs/HAPs are also used as indicators of ambient air quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. At the existing landfill, TACs are associated with current equipment operations, as well as operations at the existing compost and landfill facilities, including flaring.

According to the *California Almanac of Emissions and Air Quality* (CARB 2013), most of the estimated health risk from TACs can be attributed to relatively few compounds, the most important of which is PM from diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

Unlike other TACs, no ambient monitoring data are available for diesel PM, because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, data are available for several other TACs that pose a high existing ambient risk in California: benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Vehicles on SR 59 and at the landfill site are sources of diesel PM and other TACs associated with vehicle exhaust. Based on data from other compost facilities, TACs associated with composting typically consist of diesel PM, gasoline exhaust TACs, organic TACs, and heavy metals (Yorke Engineering 2024).

ODORS

As bacterial decomposition proceeds, odors can escape from the landfill surface through cracks in the surface cover. Other possible sources of odors are the actual wastes. Some household and consumer products contain substances with distinctive odors. The major contribution to odors comes from two groups of compounds: The first group is dominated by esters and organosulfurs, and the second group consists of alkyl benzenes and limonene. The sensory perception of odorants has four major dimensions: detectability, intensity, character, and hedonic tone. Odor detectability consists of a detection threshold and a recognition threshold. The detection threshold is the lowest concentration of an odorant that will elicit a sensory response in 50 percent of the population. There is an awareness of the presence of an added substance, but not necessarily an odor sensation. The detection thresholds are determined using human subjects and sophisticated dilution equipment.

Because offensive odors rarely cause any physical harm, SJVAPCD does not have any rules or regulations that place quantifiable limitations on emissions of odorous substances other than its nuisance rule, Rule 4102. Any actions related to odors are based on citizen complaints to local governments, local enforcement agencies as designated by CalRecycle, and SJVAPCD.

SENSITIVE LAND USES

Some receptors are considered more sensitive to air pollutants than others. The reasons for greater sensitivity than average include preexisting health problems, proximity to the emissions source, and duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the elderly, and the infirm are more susceptible to respiratory infections and other air quality–related health problems than the general public.

Residential areas are considered sensitive to poor air quality because people in residential areas are often at home for extended periods. Recreational land uses are moderately sensitive to air pollution because vigorous exercise associated with recreation places a high demand on the human respiratory function. Child and adult residential receptors have been considered in the HRA as sensitive receptors.

Specific sensitive receptors in the vicinity of the project site are residential structures located south of the existing landfill. The nearest residence is located approximately 1 mile south of the project site.

3.1.3 Impacts and Mitigation Measures

METHODOLOGY

Construction-Related Criteria Pollutant Emissions

CalEEMod version 2022.1.1.20 was used to quantify the potential construction emissions. Construction modeling was based on project-specific information regarding building uses and sizes, construction equipment, construction schedule, and haul truck trips. The remainder of modeling assumptions were based on CalEEMod defaults. Construction activities were assumed to occur Monday through Friday. No construction activities were assumed to occur on weekends. Emissions from construction equipment were estimated using default equipment and emission factors from CalEEMod for the modeled land uses. Detailed CalEEMod input and assumptions are provided in Appendix B.

Operational Criteria Pollutant Emissions

Operational emissions fall into two categories: mobile source emissions and composting emissions. Estimates of mobile source emissions include exhaust emissions from both on-road vehicles and off-road equipment, as well as fugitive dust emissions from travel on paved road and unpaved area. EMFAC2021 (CARB 2021) was used to generate emission factors for estimating on-road exhaust emissions from vehicle fleet during project operation. Off-road exhaust emissions were estimated using equipment-specific brake horsepower, engine load, operating hours, and emission factors from the EPA tier of the given engine. Fugitive dust emissions were estimated using EPA AP-42 methods. The facility would not have backup generators, so the project would not generate related emissions. In the case of a power interruption, the covered aerated static piles (CASP) would simply become windrows until power is restored. Details of the methodology used to determine operational emissions are described in Appendix B.

Composting emissions estimates include fugitive dust emissions from material handling and wind erosion, as well as gaseous emissions from composting itself. VOC emissions during composting were estimated for four composting phases using phase-specific composting throughput and emission factors recommended by SJVAPCD, the Bay Area Air Quality Management District, or CARB, derived from reports published by these agencies or from source test data from similar facilities elsewhere in California. Project emissions were compared to emissions from the current operation to determine net operational emissions. Detailed emissions modeling inputs and outputs are contained in Appendix B.

Toxic Air Contaminants

According to SJVAPCD guidance (SJVAPCD 2020), a two-step process can be followed to evaluate the health risk associated with TAC emissions. The initial step is to conduct a screening risk prioritization. If the potential for high health risks is found, then an HRA may be required. The California Air Pollution Control Officers Association (CAPCOA) recommends the use of a prioritization score that helps air districts identify priority facilities for risk assessment, which involves consideration of potency; toxicity; quantity of emissions; and proximity to sensitive receptors, such as hospitals, daycare centers, schools, work sites, and residences (CAPCOA 2016). If the score exceeds the intermediate risk level or high risk level, a refined HRA is recommended to determine whether the project's potential health risks are significant. The categories used in this assessment are defined as follows:

- **Low:** Projects having a score of less than 1 are not likely to have an adverse health risk.
- **Intermediate:** Projects having at least 1 and less than 10 are characterized as intermediate risk, and additional factors should be evaluated to determine whether the project's TAC emissions would have a significant health impact.
- **High:** Projects having a score of 10 or more may result in adverse health impacts; therefore, a project-specific HRA would be required.

The SJVAPCD prioritization calculator tool was used to calculate prioritization scores from construction and operational TAC emissions. TAC-specific scores were calculated for each TAC then multiplied with the receptor proximity factor and summed for comparison with prioritization categories. All calculations are provided in Appendix B.

Odors

Because of the subjective nature of odor impacts and the multitude of variables influencing their potential, no quantitative methodologies are available to determine whether potential odors would have a significant impact. Therefore, projects must be evaluated on a case-by-case basis. The SJVAPCD *Guidance for Assessing and Mitigating Air Quality Impacts* sets the screening level for potential odor sources at a 1-mile setback for composting facilities. The guidance also recommends reviewing the odor complaint history for the facility. Nuisance odors were assessed qualitatively, considering the design elements of the composting facility, the proximity of the facility to off-site receptors, and the odor complaint history of the existing facility.

SUMMARY OF VALLEY FILL PROJECT EIR IMPACTS AND MITIGATION MEASURES

Construction Criteria Air Pollutants and Ozone Precursors

The certified Valley Fill Project EIR concluded that the project would result in a less-than-significant impact on air quality from short-term construction activities. Emissions from short-term construction activities were modeled and compared to applicable SJVAPCD thresholds of significance and found not to exceed any threshold. No mitigation was required.

Operational Criteria Air Pollutants and Ozone Precursors

The certified Valley Fill Project EIR determined that because operational emissions associated with the Valley Fill Project would exceed thresholds of significance, the operational air quality impact would be potentially significant. Mitigation Measure 4.2-2 required the purchase of emissions offset credits. With implementation of this measure, the impact was reduced to less than significant because offsets would be purchased in the amount necessary to reduce project-level emissions to the adopted thresholds of significance.

> Valley Fill Project EIR Mitigation Measure 4.2-2
>
> In accordance with SJVAPCD requirements, MCRWMA shall coordinate with SJVAPCD and purchase offsets for those emissions in excess of SJVAPCD thresholds established in Table 4-1 of Rule 2201. Offsets shall be purchased for stationary source emissions in excess of SJVAPCD emissions limits for the landfill, inclusive of the proposed project and for the entire life of the landfill. The timing of purchase of offsets shall be determined in cooperation with SJVAPCD and in accordance with Rule 2201 requirements.

Exposure of Sensitive Receptors to TACs

The certified Valley Fill Project EIR concluded that the project would result in a less-than-significant impact from TAC exposure. Project-generated TACs were modeled and found to be below all adopted SJVAPCD risk-based thresholds. No mitigation was required.

Cabon Monoxide Emissions

The impact related to increases in mobile sources that can lead to CO hot spots was dismissed in the certified Valley Fill Project EIR. No mitigation was required.

Odors

The impact related to odorous emissions was dismissed in the certified Valley Fill Project EIR. No mitigation was required.

SIGNIFICANCE CRITERIA

Based on State CEQA Guidelines Appendix G and SJVAPCD-adopted CEQA thresholds of significance, a significant air quality impact would occur if implementation of the project would:

- conflict with or obstruct implementation of the applicable air quality plan;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard for construction or operational activities that result in emissions that exceed:
  - 10 tons per year of VOC,
  - 10 tons per year of NO_X,
  - 15 tons per year of PM_{10},
  - 15 tons per year of $PM_{2.5}$,
  - 27 tons per year of SO_X, or
  - 100 tons per year of CO.
- result in a modeled exceedance of an ambient standard or significant impact level for projects that have on-site construction or operational emissions from permitted or nonpermitted sources that exceed 100 pounds per day screening level (after implementation of mitigation measures) for any criteria air pollutant;
- expose sensitive receptors to substantial pollutant concentrations (i.e., a project-related increase in cancer risks of greater than 20 in 1 million or acute/chronic hazard risk greater than 1);
- create objectionable odors affecting a substantial number of people (i.e., either more than one confirmed complaint per year averaged over a 3-year period, or three unconfirmed complaints per year averaged over a 3-year period.)

ISSUES NOT DISCUSSED FURTHER

Air Quality Plan Consistency

The applicable air quality plans in the project area are the 2022 Plan for the 2015 8-Hour Ozone Standard and the 2018 Plan for 1997, 2006, and 2012 $PM_{2.5}$ Standards. These plans outline the strategies that would be required for the planning area (i.e., SJVAB) to achieve the ambient air quality standards, and are based on the anticipated long-term growth and associated emissions. Considering that the proposed project is modifying an existing facility and would not result in new land use development or increases in operational mobile-source emissions, the project would not conflict with air quality planning efforts or recently adopted plans. This issue is not discussed further in this SEIR.

Carbon Monoxide Emissions

Emissions of CO can result in impacts when heavy traffic volume increases occur at congested intersections, resulting in CO "hot spots" and emissions that could exceed applicable ambient air quality standards and SJVAPCD thresholds of significance. As noted in further detail in Section 3.7, "Transportation," the project is not anticipating an increase in overall truck traffic to and from Highway 59 Landfill beyond that anticipated in the Valley Fill Project EIR. While truck trips associated with increased composting operations would occur, there is anticipated to be a commensurate reduction in truck trips associated with municipal solid waste disposal as the overall waste stream in the county is not changing as a result of the project. Therefore, no increase in CO hotspots is anticipated beyond what was provided in the Valley Fill Project EIR and implementation of the project would not result in long-term increases in vehicular traffic or haul truck trips. This issue is not discussed further in this SEIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Short-Term Construction-Generated Criteria Pollutant Emissions

Short-term construction-generated emissions associated with the project would not exceed SJVAPCD's regional significance thresholds and, thus, would not contribute to pollutant concentrations that exceed the NAAQS or CAAQS. Therefore, this impact would be **less than significant**.

Earth-moving equipment would be used during construction activities to remove old windrows and construct the proposed CASP facilities. Emissions of NO_X would be primarily associated with off-road (e.g., gas and diesel) construction equipment exhaust. On-road trucks for import and export of materials and worker commuting would be secondary sources. Worker commute trips in gasoline-fueled vehicles would be the primary sources of VOC[1], with additional VOC coming from off- and on-road construction equipment. Emissions of fugitive PM dust (e.g., PM_{10} and $PM_{2.5}$) are associated primarily with ground-disturbing activities and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and vehicle miles traveled on- and off-site. Exhaust emissions from diesel equipment and worker commute trips also contribute to short-term increases in PM_{10} and $PM_{2.5}$ emissions, but to a much lesser extent.

Based on project-specific information (e.g., land use type/size) supplemented with model defaults, maximum daily and annual tons of VOC, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ were estimated. Table 3.1-4 summarizes the modeled daily and annual emissions from construction. The significance of construction-related air quality impacts was determined by comparing the modeled results with applicable significance thresholds.

Table 3.1-4 Summary of Construction Emissions of Criteria Air Pollutants and Precursors (Daily)

Criteria Air Pollutant	NO_X	VOC	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction daily emissions (lb/day)	36.09	3.74	33.99	0.05	15.08	4.13
Screening level (lb/day)	100	100	100	100	100	100
Maximum annual emissions (tons/year)	1.25	0.13	1.36	0.0023	0.95	0.17
Threshold of significance (tons/year)	*10*	*10*	*100*	*27*	*15*	*15*
Would Project Exceed Threshold?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; SO_X = oxides of sulfur; VOC = volatile organic compounds.

Best management practices assumed to be implemented include watering exposed surfaces three times daily.

Refer to Appendix B for model inputs and outputs.

Source: Yorke Engineering 2024.

[1] As noted in Section 3.1.2, reactive organic gases (ROG) are volatile organic compounds (VOC) that are photochemically reactive. The CalEEMod model calculates emissions as ROG and the SJVAPCD significance thresholds are for VOC. Typically, ROG and VOC are used interchangeably, so the emissions are reported herein as VOC.

As shown in Table 3.1-4, above, the maximum daily emissions from construction associated with the project would not exceed SJVAPCD's screening level of 100 pounds per day or the maximum annual threshold for any criteria air pollutant or ozone precursor. Further, the project would comply with SJVAPCD Regulation VIII, which requires dust control measures to prevent construction-related dust from resulting in a nuisance to off-site uses. Regulation VIII requires preparation and submittal of a dust control plan, stabilization of exposed slopes and soils, covering of materials removed from the site, and limits to traffic speeds. Short-term project-generated construction activities would not result in emissions that exceed applicable thresholds or that would contribute to the violation of adopted ambient air quality standards. This impact would be **less than significant**. As construction of the project would not occur concurrently with construction of the remainder of the Valley Fill Project, (e.g., modifications to accommodate expansion into Phase 5) emissions would not be cumulatively considerable, and no new significant or substantially more severe significant impacts related to construction emissions would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.1-2: Generation of Long-Term Criteria Pollutant Emissions

Implementation of the proposed project would not result in long-term operational emissions that would exceed SJVAPCD's thresholds of significance or substantially contribute to concentrations that exceed the NAAQS or CAAQS. Impacts related to these long-term operational (regional) emissions would be less than significant, in and of themselves, but when considered in light of the projected emissions associated with the Valley Fill Project, impacts would be **potentially significant**.

The project involves developing a compost facility featuring CASP technology to provide a waste management alternative that would allow the County to comply with California organic waste diversion regulations. The proposed compost facility would be located adjacent to the existing Highway 59 Landfill, on a site currently used for windrow composting, and would be designed to accept up to 75,000 tpy of organic material that would have otherwise been composted in the existing windrow operation or landfilled.

Emissions associated with operation of the project include emissions from mobile sources, including trucks used to ship feedstock to the facility, vehicles used by employees for travel to and from the facility, support vehicles, heavy equipment needed to move feedstock into the processing units, and vehicles used to deliver finished compost. Composting emissions include fugitive dust emissions from material handling and wind erosion, as well as gaseous emissions from the decomposition of the organic feedstock. Tables 3.1-5 and 3.1-6 summarize the estimated operational emissions of criteria air pollutants and ozone precursors under future conditions compared to existing conditions.

As shown in Tables 3.1-5 and 3.1-6, above, maximum daily emissions associated with project implementation would not exceed SJVAPCD daily screening levels or annual emissions thresholds. Thus, the project would not be expected to contribute to criteria pollutant concentrations that exceed the NAAQS or CAAQS. This impact would, in and of itself, be less than significant. However, and as noted above, long-term operational emissions associated with the Valley Fill Project were determined to be potentially significant with respect to NO_x, PM_{10}, $PM_{2.5}$, SO_X, and VOC. While the Valley Fill Project EIR did consider an increase of daily vehicle trips to the landfill, it also considered continued operation of windrow composting activities at the landfill. As the project would result in an increase in overall operational emissions, criteria pollutant emissions would be **potentially significant** when considered in concert with the previously identified criteria pollutant emissions associated with the Valley Fill Project.

Table 3.1-5 Summary of Operational Criteria Air Pollutants and Ozone Precursors (Daily)

Category	NOx (lb/day)	VOC (lb/day)	CO (lb/day)	SOx (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Highway 59 Landfill Composting Facility (75,000 tpy CASP) Project Emissions						
Mobile source	18	4	64	<1	10	2
Composting facility	0	134	0	0	2	<1
Total	18	138	64	<1	12	2
Existing (25,000 tpy Windrow) Emissions						
Mobile source	7	2	38	<1	14	2
Composting facility	0	124	0	0	<1	<1
Total	7	126	38	<1	15	2
Net Emissions (Highway 59 Landfill Composting Facility Emissions – Existing Windrow Emissions)						
Total emissions	11	12	26	<1	<1	<1
Screening level	100	100	100	100	100	100
Would Project Exceed Threshold?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; SO_X = oxides of sulfur; VOC = volatile organic compounds.

Source: Yorke Engineering 2024.

Table 3.1-6 Summary of Operational Criteria Air Pollutants and Ozone Precursors (Annual)

Category	NOx (tpy)	VOC (tpy)	CO (tpy)	SOx (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Highway 59 Landfill Composting Facility (75,000 tpy CASP) Project Emissions						
Mobile source	2.85	0.56	9.98	0.03	1.59	0.27
Composting facility	0	24.53	0	0	0.38	0.07
Total	2.85	25.09	9.98	0.03	1.97	0.34
Existing (25,000 tpy Windrow) Emissions						
Mobile source	1.10	0.34	5.91	0.01	2.8	0.3
Composting facility	0	22.6	0	0	0.07	0.02
Total	1.10	22.95	5.91	0.01	2.88	0.34
Net Emissions (Highway 59 Landfill Composting Facility Emissions – Existing Windrow Emissions)						
Total emissions	1.74	2.13	4.06	<1	<1	<1
Threshold of significance	10	10	100	27	15	15
Would Project Exceed Threshold?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; SO_X = oxides of sulfur; VOC = volatile organic compounds.

Source: Yorke Engineering 2024.

Mitigation Measures

Implementation of adopted Mitigation Measure 4.2-2 from the Valley Fill Project EIR, as stated above, constitutes feasible mitigation that would reduce potentially significant impacts related to long-term air quality emissions at Highway 59 Landfill.

Significance after Mitigation

Continued implementation of Mitigation Measure 4.2-2 from the Valley Fill Project EIR would reduce impacts associated with operational air quality emissions to a **less-than-significant** level because it requires the purchase of offsets for emissions associated with landfill operations (inclusive of composting emissions). With continued implementation of the aforementioned mitigation, no new significant or substantially more severe significant impacts related to air quality resources would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Impact 3.1-3: Exposure of Sensitive Receptors to TACs

Based on the screening analysis conducted, implementing the proposed project would not result in the exposure of sensitive receptors to TAC emissions beyond levels that require additional evaluation or a site-specific HRA. Therefore, the impact related to exposure of sensitive receptors to TACs would be **less than significant**.

Project construction and operations could result in TAC emissions from the use of diesel-powered construction equipment (i.e., diesel PM) and on-site diesel equipment, as well as from the CASP operation. In accordance with SJVAPCD and CAPCOA guidance and recommended approaches for evaluating TAC emission from projects, a screening-level prioritization analysis was conducted for both the construction and operational phases of the project. The prioritization analysis uses project-specific emissions estimates and conservative air dispersion and risk exposure parameters to determine the risk value at distance intervals from the source. If the resultant score exceeds the high-risk level or intermediate-risk level, a refined HRA is recommended to determine whether the project's potential health risks are significant.

The closest residential receptor is approximately 1 mile south of the facility. The potential health risk from implementation of the project was assessed by calculating a prioritization score at the residential receptor. Priority scores were summarized based on the total facility TAC emissions during construction and operational phases and are summarized in Table 3.1-7. Details of the risk prioritization analysis are included in Appendix B.

Table 3.1-7 Prioritization Assessment

Project Phase	Acute	Chronic	Cancer	Prioritization Score
Construction	<0.01	4.1E-04	0.276	Low
Operation	5.10E-03	5.61E-03	0.50	Low

Source: Yorke Engineering 2024.

As shown in Table 3.1-7, the prioritization scores indicate low risk during both the construction and the operation phase. Thus, the proposed project's TAC emissions would have a less-than-significant health risk impact, and preparation of an HRA is not required. This impact would be **less than significant**. Based on the project's incremental contribution to health risks in the area, no new significant or substantially more severe significant impacts related to TAC emissions would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.1-4: Generation of Other Emissions, Such as Odors

Although the project would potentially include new sources of odors, it is anticipated to reduce odorous emissions from the existing facilities by diverting the organic waste from the landfill and producing reduced odorous emissions compared to the existing windrow composting operation. With the implementation of odor minimization design features at the compost facility and considering the distance to sensitive receptors, the project is not expected to produce objectionable odors that would affect a substantial number of people. Therefore, the project would have a **less-than-significant** impact regarding odorous emissions.

No odor complaints related to the existing windrow operation have been received in the last 5 years. The sensitive receptor nearest to the project site is a residence approximately 1 mile south of the compost facility. VOC and ammonia are the primary malodorous compounds emitted from composting activities. In 2013, SJVAPCD sponsored a study that compared CASP composting to windrow composting (SJVAPCD 2013). The study noted that odor is most commonly associated with receiving and mechanical turning (in windrows) relatively fresh feedstock and may be made worse when food waste is composted, because food waste putrefies rapidly, often creating intense odors. The study concluded that composting methods that reduce handling activities during the active phase would likely reduce odor issues. The CASP technology proposed for the project eliminates the need to turn the compost during processing and thus reduces handling time. A biofilter layer with the CASP design is expected to reduce VOC and ammonia emissions from the composting activity by at least 81 percent and 45 percent, respectively, compared to uncontrolled decomposition, which occurs at the existing windrow operation (SJVAPCD 2013). The study further reported that odors were not detected from the CASP composting system during the study period.

In addition, the proposed CASP composting facility would prepare and maintain a site-specific OIMP, as required by 14 CCR Section 17863.4 to reduce potential odors. The OIMP would be designed to provide guidance to on-site operations personnel by describing, at a minimum, the following items:

- an odor monitoring and data collection protocol for on-site odor sources, including the proximity of possible odor receptors and a method for assessing odor impacts at the locations of the possible odor receptors;
- meteorological conditions affecting the migration of odors and/or transport of odor-causing material off-site, including seasonal variations that affect wind velocity and direction;
- a complaint response and recordkeeping protocol;
- design considerations and/or projected ranges of optimal operation to be employed in minimizing odor, including method and degree of aeration, moisture content of materials, feedstock characteristics, airborne emission production, process water distribution, pad and site drainage and permeability, equipment reliability, personnel training, weather event impacts, utility service interruptions, and site-specific concerns as applicable; and
- operating procedures for minimizing odor, including aeration, moisture management, feedstock quality, drainage controls, pad maintenance, wastewater pond controls, storage practices (e.g., storage time and pile geometry), contingency plans (i.e., equipment, water, power, and personnel), biofiltration, and tarping, as applicable.

Based on the distance to sensitive receptors (i.e., 1 mile), the low population density in the vicinity of the project, and the design features that would be implemented at the compost facility (i.e., CASP technology, implementation of the OIMP, limited storage duration for unprocessed materials), the proposed composting facility is not expected to produce objectionable odors that would affect a substantial number of people. This impact would be **less than significant.** No new significant or substantially more severe significant impacts related to odors would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

3.2 ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

This section, which was titled "Cultural Resources" in the certified Valley Fill Project EIR, analyzes and evaluates the potential impacts of the project on known and unknown cultural resources. Cultural resources include districts, sites, buildings, structures, and objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include prehistoric resources, historic-period resources, and "tribal cultural resources" (the latter as defined by CEQA Section 21074).

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of precontact or historic-period physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, roads, districts), or landscapes). A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe.

One comment letter regarding cultural resources was received in response to the NOP (see Appendix A). The Native American Heritage Commission (NAHC) requested Assembly Bill (AB) 52 and Senate Bill (SB) 18 compliance information. SB 18 does not apply to the project because Merced County has not approved a General Plan amendment associated with the project (which is the trigger for SB 18 compliance), it is not a CEQA requirement, and therefore SB 18 is not discussed in this section. AB 52 compliance is described below.

3.2.1 Regulatory Setting

FEDERAL

National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic properties. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:

   Criterion A Is associated with events that have made a significant contribution to the broad patterns of history (events).

   Criterion B Is associated with the lives of persons significant in the past (persons).

   Criterion C Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).

   Criterion D Has yielded, or may be likely to yield, information important in prehistory or history (information potential).

For a property to retain and convey historic integrity, it must possess most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Location is the place where the historic property was constructed or the place where a historic event occurred. Integrity of location refers to whether the property has been moved since its construction. Design is the combination of elements that create the form, plan, space, structure, and style of a property. Setting is the physical environment of a historic property that illustrates the character of the place. Materials are the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration to form a historic property. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. Feeling is a property's expression of the aesthetic or historic sense of a particular period. This intangible quality is evoked by physical features that reflect a sense of a past time and place. Association is the direct link between the important historic event or person and a historic property. Continuation of historic use and occupation help maintain integrity of association.

Listing in the NRHP does not entail specific protection or assistance for a property, but it does guarantee consideration in planning for federal or federally assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. In addition, project effects on properties listed in the NRHP must be evaluated under CEQA.

The National Register Bulletin series was developed to assist evaluators in the application of NRHP criteria. For example, National Register Bulletin #36 provides guidance in the evaluation of archaeological site significance. If a property cannot be placed within a particular theme or time period, and thereby lacks "focus," it will be unlikely to possess characteristics that would make it eligible for listing in the NRHP.

STATE

California Register of Historical Resources

All properties in California that are listed in or formally determined eligible for listing in the NRHP are also listed in the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant in the context of California's history. It is a statewide program with a scope and criteria for inclusion similar to those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

California Historical Landmarks—buildings, structures, sites, or places that have been determined to have statewide historical significance—are also automatically listed in the CRHR. California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR.

A historical resource must be significant at the local, state, or national level under one or more of the criteria defined in CCR Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are tied to CEQA because any resource that meets the criteria listed below is considered a significant historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

Criterion 1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or to the cultural heritage of California or the United States.

Criterion 2. Is associated with the lives of persons important to local, California, or national history.

Criterion 3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.

Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a historical resource must meet one of the above criteria and retain integrity to be listed in the CRHR. The CRHR uses the same seven aspects of integrity used by the NRHP.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on "historical resources," "unique archaeological resources," and "tribal cultural resources." Pursuant to CEQA Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." CEQA Section 21083.2 requires agencies to determine whether projects would have effects on unique archaeological resources. CEQA Section 21084.2 establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."

Historical Resources

"Historical resource" is a term with a defined statutory meaning (CEQA Section 21084.1; State CEQA Guidelines Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR is considered a historical resource (PRC Section 5024.1).

2) A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1).

4) The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1[k]), or not identified in a historical resources survey (meeting the criteria in PRC Section 5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects would affect unique archaeological resources. CEQA Section 21083.2(g) states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following criteria:

1. Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Mitigation of Unique Archaeological Resources Under CEQA Section 21083.2

Treatment options under CEQA Section 21083.2(b) to mitigate impacts to archaeological resources include activities that preserve such resources in place in an undisturbed state. CEQA Section 21083.2 states:

(a) As part of the determination made pursuant to Section 21080.1, the lead agency shall determine whether the project may have a significant effect on archaeological resources. If the lead agency determines that the project may have a significant effect on unique archaeological resources, the environmental impact report shall address the issue of those resources. An environmental impact report, if otherwise necessary, shall not address the issue

of nonunique archaeological resources. A negative declaration shall be issued with respect to a project if, but for the issue of nonunique archaeological resources, the negative declaration would be otherwise issued.

(b) If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

(1) Planning construction to avoid archaeological sites.

(2) Deeding archaeological sites into permanent conservation easements.

(3) Capping or covering archaeological sites with a layer of soil before building on the sites.

(4) Planning parks, greenspace, or other open space to incorporate archaeological sites.

(c) To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required as provided in this subdivision.

(d) Excavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project.

(e) In no event shall the amount paid by a project applicant for mitigation measures required pursuant to subdivision (c) exceed the following amounts:

(1) An amount equal to one-half of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a commercial or industrial project.

(2) An amount equal to three-fourths of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a housing project consisting of a single unit.

(3) If a housing project consists of more than a single unit, an amount equal to three-fourths of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of the project for the first unit plus the sum of the following:

(A) Two hundred dollars ($200) per unit for any of the next 99 units.
(B) One hundred fifty dollars ($150) per unit for any of the next 400 units.
(C) One hundred dollars ($100) per unit in excess of 500 units.

(f) Unless special or unusual circumstances warrant an exception, the field excavation phase of an approved mitigation plan shall be completed within 90 days after final approval necessary to implement the physical development of the project or, if a phased project, in connection with the phased portion to which the specific mitigation measures are applicable. However, the project applicant may extend that period if he or she so elects. Nothing in this section shall nullify protections for Indian cemeteries under any other provision of law.

Tribal Cultural Resources

CEQA also requires lead agencies to consider whether projects would affect tribal cultural resources. CEQA Section 21074 states:

a) "Tribal cultural resources" are either of the following:

1) Sites, features, places, cultural landscapes, 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.

B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) 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.

b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Mitigation of Tribal Cultural Resources Under CEQA Section 21084.3

If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource and measures are not otherwise identified in the consultation process, provisions under CEQA Section 21084.3(b) describe mitigation measures that may avoid or minimize the significant adverse impacts. Examples include:

(1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

(2) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

(A) Protecting the cultural character and integrity of the resource.

(B) Protecting the traditional use of the resource.

(C) Protecting the confidentiality of the resource.

(3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

(4) Protecting the resource.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (PRC Section 5097.9) applies to both state and private lands. The act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify NAHC, which notifies and has the authority to designate the most likely descendant of the deceased. The act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Health and Safety Code, Section 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be those of a Native American, the coroner must contact NAHC.

Public Resources Code, Section 5097

PRC Section 5097 specifies the procedures to be followed if human remains are unexpectedly discovered on nonfederal land. The disposition of Native American burials falls within the jurisdiction of NAHC. Section 5097.5 of the code states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

LOCAL

Merced County General Plan

The following goals and policies of the *2030 Merced County General Plan* (Merced County 2013a) are applicable to the proposed project.

GOAL RCR-2: Protect and preserve the cultural, archeological, and historic resources of the County in order to maintain its unique character.

- Policy RCR-2.1: Archeological Site and Artifact Protection. Require development projects that affect archeological sites and artifacts to avoid disturbance or damage to these sites.
- Policy RCR-2.2: Historical Area Preservation. Support the preservation of historical structures and areas, particularly those listed on the National Registrar of Historic Places and California Registrar of Historic Places.
- Policy RCR-2.5: Human Remains Discovery. Require that, in the event of the discovery of human remains on any project construction site, all work in the vicinity of the find will cease and the County Coroner and Native American Heritage Commission will be notified.
- Policy RCR-2.8: Historical Preservation Area/Site Designations. Allow sites of historical and archeological significance to be designated as historical preservation areas or sites during the Community Planning process or on individual sites in rural areas.
- Policy RCR-2.9: Historical and Cultural Resources Investigation, Assessment, and Mitigation Guidelines. Establish and adopt mandatory guidelines for use during the environmental review processes for private and public projects to identify and protect historical, cultural, archaeological, and paleontological resources, and unique geological features.
- Policy RCR-2.10: Tribal Consultation. Consult with Native American tribes regarding proposed development projects and land use policy changes consistent with Planning and Zoning Law at Government Code Section 65351, and the OPR Tribal Consultation Guidelines (2005).

3.2.2 Environmental Setting

The primary sources of information for this section are the *2030 Merced County General Plan* (Merced County 2013a) and the *2030 Merced County General Plan Background Report* (Merced County 2013b).

REGIONAL PRECONTACT HISTORY

During the early Holocene (approximately between 12,000 and 8,000 years before present [BP]), the area was probably populated by hunters of large game. Surface finds in the Tulare Basin, far to the south, have yielded some projectile points similar to particular Paleoindian variants (i.e., the Clovis point), which may indicate an even earlier initial occupation predating 11,000 BP. A chronology was devised for the San Joaquin Valley based on western valley sites and consists of four temporally distinct archaeological complexes (formed from remains in the same strata that were deposited over time).

- The Positas Complex ranges from 3300 to 2600 BC and is characterized by small, shaped mortars; short cylindrical pestles; milling stones; perforated flat cobbles; and spire-lopped Olivella beads.
- The Pacheco Complex, beginning in approximately 2600 BC and ending in roughly AD 300, has been divided into two phases. The Pacheco, Phase B is characterized by foliated bifaces, rectangular Haliotis ornaments, and thick, rectangular Olivella beads. The Pacheco, Phase A is represented by more varied types of shell beads. Other artifacts characteristic of this phase are perforated canine teeth; bone awls, whistles, and grass saws; large stemmed and side-notched points; and an abundance of milling stones, mortars, and pestles.

- The Gonzaga Complex (AD 300 to 1000) is characterized by extended and flexed burials; bowl mortars and shaped pestles; squared- and tapered-stem projectile points; few bone awls and grass saws; and a shell industry composed of distinctive Haliotis ornaments and rectangular, split-punched, and oval Olivella beads.
- The Panoche Complex (AD 1 500 to European contact) is characterized by the presence of few milling stones, and varied mortars and pestles; small side-notched arrow points; clamshell disc beads; Haliotis epidermis disc beads; Olivella lipped, side-ground, and rough disc beads; and bone awls, whistles, saws, and tubes. Flexed burials and primary and secondary cremations are found.

ETHNOHISTORY

Merced County was part of the former territory of the Penutian-speaking Northern Valley Yokuts. Their territory extended from the foothills of the Coast Range east into the foothills of the Sierra Nevada, north to the Calaveras River, and south to the San Joaquin River. Yokuts villages, consisting of a few families to several hundred people, were usually located along principal watercourses. The Yokuts may have been fairly recent arrivals in the San Joaquin Valley, perhaps arriving after being pushed out of the foothills about 500 years ago.

Population estimates for the Northern Valley Yokuts vary from 11,000 to more than 31,000 individuals. Populations were concentrated along waterways and on the more hospitable east side of the San Joaquin River. Villages, or clusters of villages, made up "miniature tribes" (tribelets) lead by headmen. The number of tribelets is estimated at 30 to 40; each tribe spoke its own dialect of the Yokuts language. Combined with the Southern Valley Yokuts and the Foothill Yokuts dialects, these tongues formed the Yokutsan linguistic family of the Penutian stock.

Principal settlements were located on the tops of low mounds, on or near the banks of the larger watercourses. Settlements were composed of single-family dwellings, sweathouses, and ceremonial assembly chambers. Dwellings were small and lightly constructed, semisubterranean, and oval. The public structures were large and earth covered. A more sedentary way of life was fostered by the abundance of riverine resources in the area.

One of the primary sources of food for California Native Americans, the acorn, is scarce in many parts of the Yokuts territory, including Merced County, but there were other sources of food, including nuts, seeds, and roots. Acorns and other seeds were processed in bedrock mortars or portable mortars made of stone or white oak. River-cobble pestles were used to pulverize vegetal materials. Yokuts made pottery by simply smoothing or pressing out a lump of clay obtained from riverbanks. Unmodified rocks or cobbles of suitable size and shape were used as "cooking or culinary stones" to heat processed vegetal foods, such as acorn mush. When rocks were not locally available "baked clay globules" were substituted. The Yokuts used flaked-stone tools (arrowheads and knives) made of chert or obsidian, the latter obtained from sources east of the Sierra Nevada by trading with neighboring Paiute or Miwuk.

HISTORIC REGIONAL SETTING

American exploration of the Central Valley began with the arrival of explorers and traders, including Jedediah Smith in 1827, Ewing Young in 1830, and J. R. Walker in 1834. In 1844, John Frémont and his party, heading south, crossed present-day Merced County. Following John Marshall's epochal discovery of gold in the tailrace of Sutter's Mill in January of 1848, hordes of hopeful miners flocked to California. By June, news of the find brought thousands of argonauts to the valley en route to the Sierra Nevada "Mother Lode" region. One of the indirect, but far-reaching consequences of the Gold Rush was the presence in the Central Valley of ferry operators, storekeepers, innkeepers, and others who supplied miners with goods and services. Numerous ferries operated along the San Joaquin River and its tributaries, most of them appeared overnight and disappeared just as rapidly when the flow of Sierra-bound miners and prospectors dwindled. Spanish influence persisted in the valley, however, through the establishment of Mexican land grants, four of which were located in present-day Merced County. They are Orestimba, Panocha de San Juan y los Carrisalitos, San Luis Gonzaga, and Zanjon de Santa Rita.

During the early 1850s, the more productive parts of the Central Valley were settled along the rivers and creeks. Merced County was formed from a part of Mariposa County in 1855, and the county seat was established in the Bear Creek area. Several larger farms prospered because they were situated along the numerous roads leading to Sierra

Nevada mining towns. Stock, as well as wheat and other "dry-farmed" grains, were the primary products. By the early 1870s, "dry-farmed" wheat was the dominant agricultural focus. Likewise, the newly arrived railroad provided a more efficient means of transport to various marketplaces. In 1872, the new railroad stop in Merced became the county seat and many businesses moved there from the former county seat, which was 2 miles south at Bear Creek.

The key to intensive agriculture was a means of overcoming seasonal aridity and the equally damaging seasonal floods produced when valley fields were inundated by melt water from the Sierra Nevada snowpack. Seasonal floods were controlled by constructing reservoirs from which water was gradually released during the growing season. By the early 1880s, Charles H. Huffman, a prominent businessman and landowner instrumental in the formation of the railroad town of Merced, controlled the irrigation system through the Merced Canal and Irrigation Company. This company further expanded the irrigation system, forming agricultural settlements known as "colonies." These "colonies" served as ready-made irrigated farmsteads and enticed new settlement and increased real estate values throughout the area.

In 1888, the Merced Canal and Irrigation Company was reorganized and refinanced to form the Crocker-Huffman Land and Water Company. With the financial backing of wealthy landowner Charles Crocker, this new entity organized the First National Bank, which financed numerous development projects in the county including a large creamery, new canals, and the dam that created Lake Yosemite. By the 1890s, the Crocker-Huffman Company had organized sixteen colonies comprising approximately 30,000 acres, with roughly 6,000 acres cultivated. A wide variety of crops were grown in the colonies, including fruits, nuts, and alfalfa, an important feed crop for dairy cattle in Merced and surrounding areas. In 1919, Merced County voters approved the creation of the Merced Irrigation District, a publicly owned entity that purchased the Crocker-Huffman irrigation system in 1922.

State Route 99 was paved through the county in about 1913, and other roads, such as the "Yosemite-to-the-Sea Highway," were constructed in the 1920s.

RECORDS SEARCHES AND CONSULTATION

On October 24, 2023, a records search of the project site and the area within 0.25 miles of the site was conducted at the Central California Information Center (CCIC) (CCIC Records Search Number: 12697I). The following information was reviewed as part of the records search:

- NRHP and CRHR,
- California Office of Historic Preservation Historic Property Directory,
- Built Environment Resource Directory,
- Archaeological Determinations of Eligibility,
- California Inventory of Historic Resources,
- California State Historic Landmarks, and
- California Points of Historical Interest.

The records search revealed one previously recorded cultural resource (historic feature P-24-001909) within the project site and no additional resources within a 0.25-miles radius of the site. The records search also revealed one cultural report covering the project site and four additional cultural reports within the search radius.

Historic Features

P-24-001909

Historic feature P-24-001909 is the Merced Irrigation District. The historic district is located throughout much of the northeast portion of the County of Merced, including the landfill, and contains ditches, canals, laterals, wells, pumping plants, dams, reservoirs, and hydroelectric facilities. This resource was originally recorded in 2007 and was last updated in 2021. The Merced Irrigation District, as a whole, has been recommended eligible for the NRHP under

criteria A, C, and D. Elements of this district are Melvin Canal Creek, Main Ashe Lateral, East Ashe Lateral, Canal Creek Lateral Headgate, Bear Creek, Meadowbrook Lateral, Black Rascal Creek, Hess Lateral, Buhach Lateral, Drainage Ditch, Henderson Lateral, Mason/Curtis Lateral, Livingston Canal, and Livingston Canal Headgate. The Henderson Lateral, a 13-mile long canal, borders the northern portion of the existing landfill. It is an earthen channel with shallow berms that are heavily overgrown with vegetation.

Tribal Cultural Resources

Sacred Lands File Search

NAHC was contacted with a request to search its Sacred Lands File database, and negative results were returned on November 21, 2023.

Native American Consultation

Pursuant to CEQA Section 21080.3.1, MCRWMA notified representatives indicated on NAHC's tribal list on November 28, 2023. The specific details of the consultations are confidential pursuant to California law; however, a summary of events related to communication between the tribes and MCRWMA is provided in Table 3.2-1.

Table 3.2-1 AB 52 Consultation

Native American Tribe and Contact	Date of Initial Response	Follow-Up Response	Comment
Valentin Lopez, Chairperson Amah Mutsun Tribal Band	No Response Received	No Response Received	None
Ed Ketchum, Vice-Chairperson Amah Mutsun Tribal Band	No Response Received	No Response Received	None
Robert Ledger, Chairperson Dumna Wo-Wah Tribal Government	No Response Received	No Response Received	None
Erolinda Perez, Tribal Administrator North Valley Yokuts Tribe	No Response Received	No Response Received	None
Timothy Perez, Tribal Compliance Officer North Valley Yokuts Tribe	No Response Received	No Response Received	None
Jessica Murga, Tribal Secretary North Valley Yokuts Tribe	No Response Received	No Response Received	None
John Murga, Tribal Historian North Valley Yokuts Tribe	No Response Received	No Response Received	None
Michael Wynn, Tribal Administrator Picayune Rancheria of the Chukchansi Indians	No Response Received	No Response Received	None
Janet Bill, Chairperson Picayune Rancheria of the Chukchansi Indians	No Response Received	No Response Received	None
Heather Airey, Tribal Historic Preservation Officer Picayune Rancheria of the Chukchansi Indians	No Response Received	No Response Received	None
Sandra Chapman, Chairperson Southern Sierra Miwuk Nation	December 11, 2023	December 18, 2023	Communications between MCRWMA and the Tribe continued through February 2024. Upon request from the Tribe, MCRWMA provided CCIC and SLF search results and the cultural resources section of the Valley Fill Project EIR. The Tribe subsequently requested revisions to the Valley Fill Project EIR mitigation measures.
Brenda Lavell, Chairperson Table Mountain Rancheria	No Response Received	No Response Received	None

Native American Tribe and Contact	Date of Initial Response	Follow-Up Response	Comment
Joey Garfield, Tribal Archaeologist Tule River Indian Tribe	No Response Received	No Response Received	None
Kerri Vera, Environmental Department Tule River Indian Tribe	No Response Received	No Response Received	None
Neil Peyron, Chairperson Tule River Indian Tribe	No Response Received	No Response Received	None
Kenneth Woodrow, Chairperson Wuksachi Indian Tribe/Eshom Valley Band	No Response Received	No Response Received	None

Source: Data compiled by Ascent in 2024.

3.2.3 Impacts and Mitigation Measures

METHODOLOGY

The impact analysis for archaeological and historical resources is based on the findings of the records search conducted for the project by CCIC and NAHC. The impact analysis for tribal cultural resources is informed by the outcome of tribal consultation under AB 52. The analysis is also informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources.

CEQA Section 21083.2(g) defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following CRHR-related criteria: (1) that it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; (2) that it as a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) that it is directly associated with a scientifically recognized important prehistoric or historic event or person. An impact on a resource that is not unique is not a significant environmental impact under CEQA (State CEQA Guidelines Section 15064.5[c][4]). If an archaeological resource qualifies as a resource under CRHR criteria, then the resource is treated as a unique archaeological resource for the purposes of CEQA.

CEQA Section 21074 defines "tribal cultural resources" as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are listed or determined eligible for listing in the CRHR, listed in a local register of historical resources, or otherwise determined by the lead agency to be a tribal cultural resource.

For the purposes of the impact discussion, "historical resource" is used to describe built-environment historic-era resources. Archaeological resources (both precontact and historic era), which may qualify as "historical resources" pursuant to CEQA, are analyzed separately from built-environment historical resources.

SUMMARY OF VALLEY FILL PROJECT EIR IMPACTS AND MITIGATION MEASURES

Historical Resources

The Valley Fill Project EIR concluded that the project would result in a less-than-significant impact to historical resources. Because implementation of the proposed project would not involve the Henderson Lateral and the Merced Irrigation District had not been determined eligible for listing as a historical resource, the proposed project would not result in a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5. No mitigation was required.

Archaeological Resources

The certified Valley Fill Project EIR concluded that previous disturbance of the project site and the lack of previously recorded resources does not preclude the possibility that significant subsurface archaeological resources or human remains could be discovered during project-related earth-moving activities during construction. Project impacts on previously undocumented significant archaeological resources or human remains are therefore considered potentially significant. Mitigation Measure 4.4-2 required ground-disturbing activity to be halted upon discovery of subsurface archaeological features.

Tribal Cultural Resources

AB 52 (Chapter 532, Statutes of 2014) established a formal consultation process for California Native American tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts (CEQA Section 21084.2). AB 52 consultation requirements went into effect on July 1, 2015, for all projects that had not already published a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration or published an NOP of an EIR prior to that date (Section 11 [c]). Therefore, the Valley Fill Project EIR was prepared prior to AB 52 requirements, and the Draft EIR does not include a specific discussion of tribal cultural resources.

<u>Valley Fill Project EIR Mitigation Measure 4.4-2: Halt Ground-Disturbing Activity upon Discovery of Subsurface Archaeological Features</u>

1. In the event that any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during construction, all ground-disturbing activity within 100 feet of the resources shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because it is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall develop appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.

2. If the archaeologist determines that some or all of the affected property is a Native American cultural place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (Public Resources Code Section 5097.9) or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Public Resources Code Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (Public Resources Code Section 5097.993), the applicant shall implement potentially feasible procedures recommended by the archaeologist that would preserve the integrity of the site or minimize impacts to it, including any or a combination of the following:

   - Avoidance, preservation, and/or enhancement of all or a portion of the Native American Cultural Place as open space or habitat, with a conservation easement dedicated to the most interested and appropriate tribal organization. If such an organization is willing to accept and maintain such an easement, or alternatively, a cultural resource organization that holds conservation easements;
   - An agreement with any such tribal or cultural resource organization to maintain the confidentiality of the location of the site so as to minimize the danger of vandalism to the site or other damage to its integrity; or
   - Other measures, short of full or partial avoidance or preservation, intended to minimize impacts on the Native American Cultural Place consistent with land use assumptions and the proposed design and footprint of the development project for which the requested grading permit has been approved.

     After receiving such recommendations, the Authority shall assess the feasibility of the recommendations and impose the most protective mitigation feasible in light of land use assumptions and the proposed design and footprint of the development project. The Authority shall,

in reaching conclusions with respect to these recommendations, consult with both the project applicant and the most appropriate and interested tribal organization.

3. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, MCRWMA's contractor shall immediately halt potentially damaging excavation within 50 feet of the burial and notify the County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the archaeologist, and NAHC-designated Most Likely Descendent shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section 5097.94.

Implementation of Mitigation Measure 4.4-2 reduced impacts associated with archaeological resources and human remains to a less-than-significant level because it requires professionally accepted and legally compliant procedures for the discovery of previously undocumented significant archaeological resources and human remains.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, the project would result in a significant impact on cultural resources if it would:

- cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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; or
- disturb any human remains, including those interred outside of dedicated cemeteries.

ISSUES NOT DISCUSSED FURTHER

All potential archaeological, historical, and tribal cultural resources issues identified in the significance criteria are evaluated below.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource

The records search revealed one element (Henderson Lateral) of a historic district (Merced Irrigation District) adjacent to the Highway 59 Landfill. However, project activities would occur 3,000 feet south of the Henderson Lateral, and this element of the historical resource would not be physically altered. Therefore, implementation of the proposed project would not result in a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5, and impacts would be **less than significant**.

The records search completed for the project identified one element of the NRHP-eligible Merced Irrigation District proximate to the project site. The Henderson Lateral, an earthen channel, borders the northern portion of the existing

landfill. All activities associated with the project would be located approximately 3,000 feet south of the Henderson Lateral, and therefore, this element of the historical resource would not be physically altered, damaged, or destroyed. Project-related activities would not result in a substantial adverse change to a known historical resource, and impacts would be **less than significant**. No new significant or substantially more severe significant impacts to historical resources would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.2-2: Cause a Substantial Adverse Change in the Significance of Archaeological Resources or Human Remains

Project-related ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5 or human remains. This would be a **potentially significant** impact.

The CCIC records search revealed that no prehistoric or historic-period archaeological sites have been previously documented within the project site or within a 0.25-mile radius. Based on documentary research, no evidence suggests that any prehistoric or historic-period marked or unmarked human interments are present within or in the immediate vicinity of the project site. However, the location of grave sites and Native American remains can occur outside identified cemeteries or burial sites. Therefore, there is a possibility that unmarked, previously unknown Native American or other graves could be present within the project site and could be uncovered by project-related construction activities.

Nonetheless, project implementation could encounter previously undiscovered or unrecorded archaeological materials or human remains during ground disturbing activities. These activities could damage or destroy previously undiscovered unique archaeological resources. This would be a **potentially significant** impact.

Mitigation Measures

Implementation of adopted Mitigation Measure 4.4-2 from the Valley Fill Project EIR, as stated above, constitutes feasible mitigation that would reduce potentially significant impacts to previously undiscovered or unrecorded archaeological resources or human remains.

Significance after Mitigation

Continued implementation of Mitigation Measure 4.4-2 from the Valley Fill Project EIR would reduce impacts associated with archaeological resources to a **less-than-significant** level because it requires the implementation, under the direction of a qualified archaeologist, of professionally accepted and legally compliant procedures upon the discovery of previously undocumented significant archaeological resources or human remains. With continued implementation of the aforementioned mitigation, no new significant or substantially more severe significant impacts related to archaeological resources would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Impact 3.2-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource

Tribal consultation under AB 52 has not resulted in the identification of tribal cultural resources on the project site. However, excavation activities associated with project construction may disturb or destroy previously undiscovered significant subsurface tribal cultural resources. This would be a **potentially significant** impact.

Pursuant to AB 52, MCRWMA notified representatives indicated on NAHC's tribal list on November 28, 2023. Only the Southern Sierra Miwuk Nation responded to the notification. Although the tribe did not identify specific tribal cultural resources, they did note that on historic maps there is a creek running parallel to Highway 59. Because waterways are a source of life for Native peoples in the area, this is cause for concern in unearthing previously undisturbed tribal

cultural resources. The Southern Sierra Miwuk Nation subsequently requested revisions to the Valley Fill Project EIR mitigation measures, which are captured below.

Project implementation could encounter previously undiscovered or unrecorded archaeological materials or human remains during ground disturbing activities. These activities could damage or destroy previously undiscovered tribal cultural resources, which would be a **potentially significant** impact.

Mitigation Measures

Implementation of adopted Mitigation Measure 4.4-2 from the Valley Fill Project EIR, as stated above, contributes to feasible mitigation that would reduce potentially significant impacts to tribal cultural resources.

Mitigation Measure 3.2-3: Retain a Native American Monitor

The project applicant shall retain and compensate for the services of a Tribal monitor or consultant who is listed under the Native American Heritage Commission's tribal contact list for the area in which the proposed project is located. The project applicant shall contact the tribal representatives a minimum of 7 days prior to beginning earthwork or other ground-disturbing activities; construction activities will proceed if no response is received 48 hours prior to ground-disturbing activities.

Prior to the start of any ground-disturbing activities, the tribal monitor shall present a Worker Environmental Awareness Program, pertaining to cultural resources, to all on-site construction crew. The topics to be addressed in the Worker Environmental Awareness Program shall include, at a minimum:

- types of cultural resources expected in the project area;
- what to do if a worker encounters a possible resource; and
- what to do if a worker encounters bones or possible bones.

The Tribal monitor shall only be present onsite during the construction phases that involve ground disturbing activities. The Tribal monitor shall complete daily monitoring logs that describe each day's activities, including construction activities, locations, soil, and any cultural materials identified. Onsite monitoring shall conclude when the site grading and excavation activities are completed, or when the Tribal representatives and monitor have indicated that the site has a low potential for impacting tribal cultural resources.

Significance after Mitigation

Implementation of adopted Mitigation Measure 4.4-2 from the Valley Fill Project EIR would halt ground-disturbing activity upon the discovery of any subsurface archaeological features, and if those featured were determined to be a Native American cultural place, archaeologist-recommended procedures would be implemented to preserve the integrity of the site or minimize impacts to it. In addition, if human remains uncovered during ground-disturbing activities were determined by the county corner to be those of a Native American, NAHC shall be contacted, and NAHC representative shall determine the treatment of the remains and take appropriate steps to ensure that additional human interments are not disturbed. Furthermore, Mitigation Measure 3.2-3 would further reduce impacts associated with tribal cultural resources to a **less-than-significant** level by requiring a tribal monitor and appropriate treatment and proper care of significant tribal cultural resources, in accordance with the wishes of the geographically and culturally affiliated tribe. Although additional mitigation is applicable to the project, this is attributable to new information associated with updated tribal consultation, and no known resources are located within the project site. As a result, the project would not result in a new significant or substantially more severe significant impact compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

3.3 BIOLOGICAL RESOURCES

This section addresses common and sensitive biological resources that could be affected by implementation of MCRWMA's CASP project. This evaluation is based primarily on data collected from a review of aerial photographs of the project site; a search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (2024), a biological resources assessment reviewed during preparation of the Valley Fill Project EIR (MCRWMA 2016), and a biological reconnaissance survey of the landfill site conducted on March 14, 2024.

During the public scoping period for the Notice of Preparation (NOP), a letter was submitted CDFW that recommended focused surveys and habitat assessments of the project site, specifically for bald eagle, Swainson's hawk, special-status plant species, Crotch's bumble bee, and tricolored blackbird. These comments are addressed, as appropriate, in this section (CDFW 2023a). The NOP and comments received in response to it are presented in Appendix A.

3.3.1 Regulatory Considerations

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Endangered Species Act

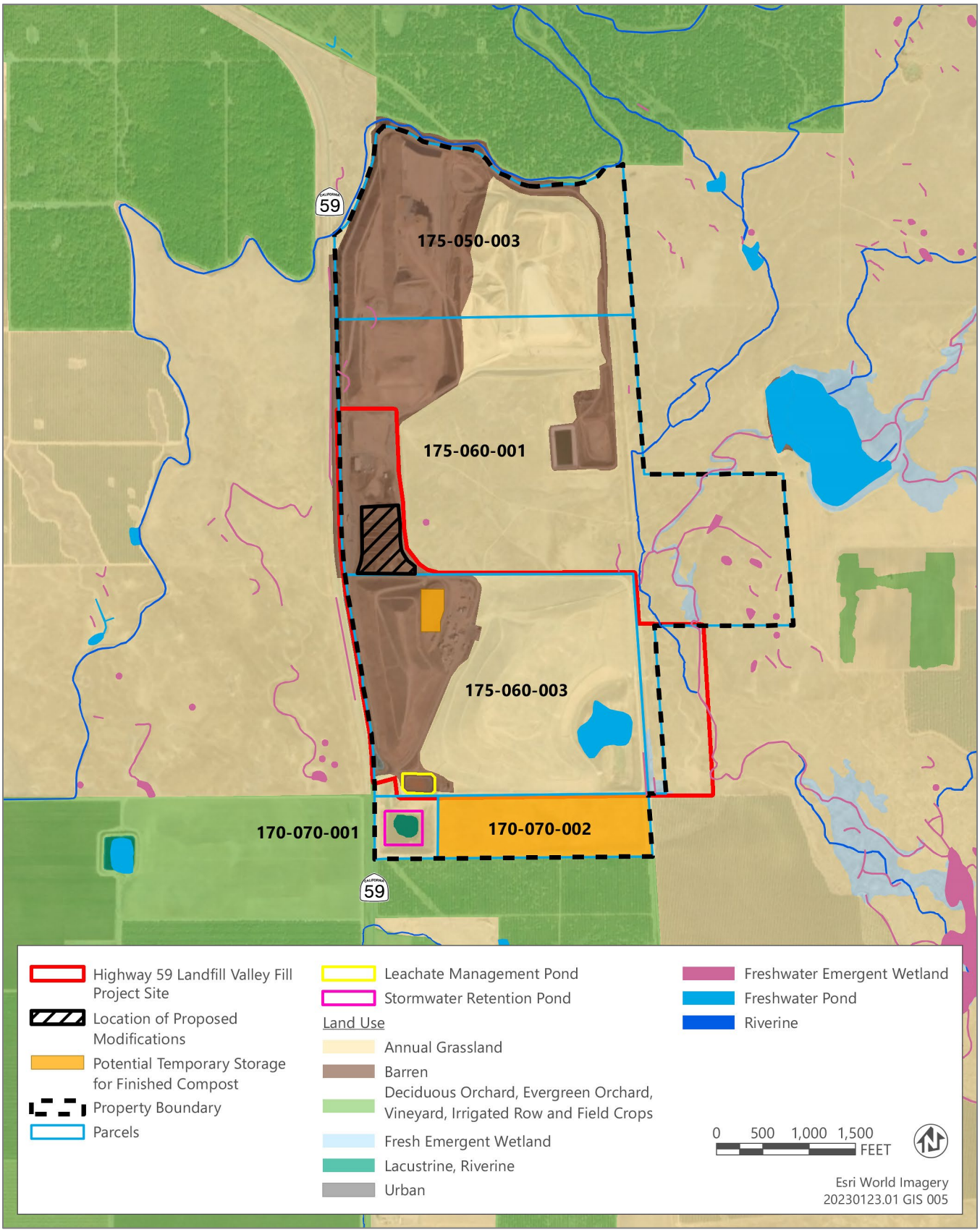
Pursuant to the federal Endangered Species Act (ESA) (16 USC Section 1531 et seq.), the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service regulate the taking of species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take.

Section 10 of the ESA applies if a nonfederal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting or funding the action. Section 7 of the ESA applies if a federal discretionary action is required (e.g., a federal agency must issue a permit), in which case the involved federal agency consults with USFWS.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the secretary of the interior to regulate the taking of migratory birds. The MBTA provides that it will be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

Vegetation within each of the biological communities is discussed in detail below.



Source: Data downloaded from CDFW in 2022 and USFWS in 2023; adapted by Ascent in 2024.

Figure 3.3-1 Land Cover Types and Potential Temporary Storage Areas

Clean Water Act

Section 404 of the Clean Water Act (CWA) requires project applicants to obtain a permit from US Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States that has the effect of replacing any portion of waters of the United States with dry land or changing the bottom elevation of any portion of waters of the United States. Waters of the United States include navigable waters of the United States, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, relatively permanent tributaries to any of these waters, and wetlands adjacent to these waters. Wetlands are defined in the CWA as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate state agency, which in California is the State Water Resources Control Board or designated regional water quality control board (RWQCB) indicating that the action would uphold state water quality standards.

Bald Eagle and Golden Eagle Protection Act

The Bald Eagle and Golden Eagle Protection Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions. Under the act, it is a violation to "take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof." *Take* is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, and disturb. *Disturb* means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, injury to an eagle; a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits and causes injury, nest abandonment, or death.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA), a permit from CDFW is required for projects that could result in the "take" of a plant or animal species that is listed by the state as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species but does not include "harm" or "harass," as does the federal definition. As a result, the threshold for take is higher under CESA than under the federal ESA (i.e., habitat modification is not necessarily considered take under CESA). Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2081 incidental take permit.

California Fish and Game Code Sections 3503 and 3503.3—Protection of Bird Nests and Raptors

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.3 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs or young.

Fully Protected Species under the California Fish and Game Code

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take.

California Environmental Quality Act

In addition to the other state regulations that may trigger the need for specific permitting actions discussed above, CEQA affords protection to biological resources. Resources that are not covered by permitting actions but that would be addressed by CEQA requirements include species that are defined as special-status species but not covered under ESA, sensitive natural communities, and wildlife nurseries.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), waters of the state fall under the jurisdiction of the appropriate regional water quality control board (RWQCB). The RWQCB must prepare and periodically update water quality control plans (basin plans). Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control point and nonpoint sources of pollution to achieve and maintain these standards. The RWQCB's jurisdiction includes federally protected waters as well as areas that meet the definition of "waters of the state," including waters meeting the state definition of a wetland. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Under the state definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both, (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate, and (3) the area either lacks vegetation or the vegetation is dominated by hydrophytes (i.e., wetland plants).

RWQCB has the discretion to take jurisdiction over areas not federally protected under Section 401 of the CWA provided they meet the definition of waters of the state. The California Water Code generally regulates more substances contained in discharges and defines discharges to receiving waters more broadly than does the CWA. In addition, waters of the state cover a broader range of aquatic habitats than the CWA, including ephemeral streams and wetlands that do not have a connection to waters of the United States. Actions that affect waters of the state, including wetlands, must meet the RWQCB waste discharge requirements. Stormwater retention ponds and infiltration ponds do not fall under the jurisdiction of the RWQCB under the Porter-Cologne Act, and therefore, the leachate management pond and a stormwater retention pond are not waters of the state under Section 401 of the CWA.

California Fish and Game Code Section 1602—Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports fish or wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do any of the following without first notifying CDFW:

- substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation (CCR Title 14, Section 1.72). CDFW regulation within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A streambed alteration agreement must be obtained for any diversion or alteration that would substantially adversely affect a fish or wildlife resource in a river, stream, or lake.

LOCAL PLANS, POLICIES, AND ORDINANCES

Merced County General Plan

The *2030 Merced County General Plan* (2013) identifies biological resources goals and policies to provide further protection to biological resources within Merced County's limits. The goals and policies that are applicable to the proposed project are identified below:

GOAL NR-1: Preserve and protect, through coordination with the public and private sections, the biological resources of the County.

- Policy NR-1.1: Habitat Protection. Identify areas that have significant long-term habitat and wetland values including riparian corridors, wetlands, grasslands, rivers and waterways, oak woodlands, vernal pools, and wildlife movement and migration corridors, and provide information to landowners.
- Policy NR-1.2: Protected Natural Lands (Regulation and Development Review [RDR]/Planning Studies and Reports [PSR]). Identify and support methods to increase the acreage of protected natural lands and special habitats, including, but not limited to, wetlands, grasslands, vernal pools, and wildlife movement and migration corridors, potentially through the use of conservation easements.
- Policy NR-1.5: Wetland and Riparian Habitat Buffer (PSR/RDR). Identify wetlands and riparian habitat areas and designate a buffer zone around each area sufficient to protect them from degradation, encroachment, or loss.
- Policy NR-1.6: Terrestrial Wildlife Mobility (County Services and Operations [SO]). Encourage property owners within or adjacent to designated habitat connectivity corridors that have been mapped or otherwise identified by the CDFW or USFWS to manage their lands in accordance with such mapping programs. In the planning and development of public works projects that could physically interfere with wildlife mobility, the County shall consult with the CDFW and USFWS to determine the potential for such effects and implement any feasible mitigation measures.
- Policy NR-1.8: Use of Native Plant Species for Landscaping (SO). Encourage the use of native plant species in landscaping, and, where the County has discretion, require the use of native plant species for landscaping.
- Policy NR-1.11: On-Going Habitat Protection and Monitoring (PSR). Cooperate with local, State, and federal agencies to ensure that adequate on-going protection and monitoring occurs adjacent to rare and endangered species habitats or within identified significant wetlands.
- Policy NR-1.12: Wetland Avoidance (RDR/PSR/Infrastructure and Service Master Plans, Strategies, and Programs [MPSP]). Avoid or minimize loss of existing wetland resources by careful placement and construction of any necessary new public utilities and facilities, including roads, railroads, high speed rail, sewage disposal ponds, gas lines, electrical lines, and water/wastewater systems.
- Policy NR-1.13: Wetland Setbacks (RDR). Require an appropriate setback, to be determined during the development review process, for developed and agricultural uses from the delineated edges of wetlands.
- Policy NR-1.20: Conservation Easements (SO/IGC/Joint Partnerships with the Private Sector [JP]). Encourage property owners to work with land trusts and State and federal agencies to pursue voluntary conservation easements.
- Policy NR-1.21: Special-Status Species Surveys and Mitigation (RDR/SO/IGC). Incorporate the survey standards and mitigation requirements of State and federal resource management agencies for use in the County's review processes for both private and public projects.

3.3.2 Environmental Setting

The project site is located in northeastern Merced County in the San Joaquin Valley Subregion of the Great Central Valley Region. The Great Central Valley Region is comprised predominantly of agricultural land but also supports grasslands, marshes, vernal pools, riparian woodlands, alkali sinks, and valley oak (*Quercus lobata*) woodlands. The

San Joaquin Valley Subregion comprises the southern larger, drier, hotter area of the Great Central Valley Region. The project site is bordered by SR 59 and a vernal pool preserve to the west; by the wetland preserve and northern portion of the active landfill, Henderson Lateral (an irrigation ditch), and orchards to the north; by an abandoned railroad grade, vernal pools, and annual grassland to the east; and by the southern portion of the active landfill and orchards to the south.

The Highway 59 Landfill is an active landfill and includes infrastructure associated with landfill activities. In the southern end of the property, there is a leachate management pond and a stormwater retention pond. Ongoing operational activities at the landfill include routine earth-moving, rodent control, chipping and sorting of compost material, and erosion control. Rodent control includes perimeter bait stations and ongoing burrow removal. The eastern side of the property includes the landfill gas migration buffer area and the wetland preserve area, which consist of annual grassland and vernal pool and swale complexes that are currently used for cattle grazing.

The wetland preserve on the eastern half of the Highway 59 Landfill was established in 2000 to mitigate for impacts of the landfill expansion to the north, as identified in the July 1996 *Revised Final Environmental Impact Report* (1996 FEIR) for the SR 59 Landfill Expansion Project (Merced County Planning Department 1996). The approximately 166.5-acre wetland preserve was set aside in perpetuity. The *Revised Vernal Pool Mitigation, Management, and Monitoring Plan* was prepared and implemented to create a minimum of 5.67 acres of vernal pools and to preserve approximately 11.34 acres of historic vernal pools and associated uplands under a conservation easement (MCRWMA 2016). A total of 6.42 acres of functioning vernal pools were created. As part of implementation of the plan, vernal pool monitoring was conducted in the western portion of the wetland preserve from 2002 to 2013 (MCRWMA 2016). Vernal pool fairy shrimp (*Branchinecta lynchi*) were observed within the vernal pools. No special-status plants were observed over 12 years of formal and informal monitoring. The created pools met the success criteria identified in the plan.

Topography within the project site is relatively level to steeply sloped, depending on location and ongoing landfill practices. The northern potential temporary storage area is located on a previous fill site and is higher elevation than the surrounding area. Elevations range from approximately 152 feet (46 meters) to approximately 312 feet (95 meters) in the project area.

VEGETATION

Figure 3.3-1 shows the vegetation and habitat types within the landfill property, including water features (e.g., stormwater retention pond). The Highway 59 Landfill property is composed primarily of barren land use in the west and annual grassland in the east. Further east, natural streams and wetlands are present in the wetland preserve. The stormwater retention basin is located in the southwest corner of the property. The property is surrounded by agricultural fields (orchards) to the north and south and annual grassland with scattered wetlands to the east and west.

The majority of the project site (7.5-acre area for composting and northern 2.5-acre area for temporary storage) consists of barren land in the center of the active landfill (see Figure 3.3-1). Both of these areas are located on the active landfill property and currently experience high levels of ground moving and noise disturbance. These areas are characterized as barren. The parcel that contains the southern temporary storage area is located in annual grassland that has experienced a moderate level of past disturbance. This area is located approximately 300 feet east of the stormwater retention basin and is bordered by an orchard approximately 200 feet south. Surrounding vegetation (outside of the active landfill area) also includes developed areas, riparian habitat, drainage ditches, the leachate management area, a stormwater retention basin, and vernal pools and swales.

Barren

The location of proposed expansion of the composting facility and the northern of the two potential temporary storage areas consist of areas characterized as barren in the California Habitat Wildlife Relationships (CWHR 1988). "Barren" typically is used to describe land that is devoid of vegetation. While recently excavated portions of these areas are truly barren, much of this area could be better described as disturbed or ruderal, where previous land uses

have regularly disrupted the soil and excluded native vegetation cover, but where ruderal vegetation has colonized previously disturbed lands. All areas mapped as barren in the Highway 59 Landfill are manipulated by human activities as a result of the ongoing landfill operations. The location of proposed expansion of the composting facility is truly barren with a narrow strip of ruderal vegetation along the margins. The northern potential temporary storage area appears to have been disturbed prior to the last wet season and has been fully colonized by ruderal vegetation. The vegetated portions of these areas have previously experienced high levels of ground disturbance, and there is minimal native vegetative cover. They support cheeseweed mallow (*Malva parviflora*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), rattail six weeks grass (*Festuca myuros*), wild oat (*Avena* sp.), milk thistle (*Silybum marianum*), yellow star-thistle (*Centaurea solstitialis*), winter vetch (*Vicia villosa*), and prickly lettuce (*Lactuca serriola*). All areas mapped as barren are referred to as barren in this SEIR, including those supporting some ruderal vegetation.

Annual Grassland

The southeastern portion of the landfill property including the southern potential temporary storage area consists of annual grassland. Dominant vegetation includes soft chess, ripgut brome, Butter n' eggs (*Triphysaria eriantha),* small-flowered fiddleneck (*Amsinckia menziesii*), burclover (*Medicago polymorpha*), filaree (*Erodium cicutarium*), cheeseweed mallow, rattail six weeks grass, wild oat, wall barley (*Hordeum murinum*), and Italian rye grass (*Festuca perennis*). A stormwater retention basin is located approximately 300 feet west of the proposed storage area, which is in annual grassland, in the southwest corner of the landfill property. The stormwater retention basin is an unlined feature constructed for the purpose of managing stormwater runoff to prevent flooding in the landfill. The stormwater basin is separated from the annual grassland by a steep slope and a gravel road. Dominant vegetation observed along the perimeter of the stormwater retention basin includes wild oat, cheeseweed mallow, and curly dock (*Rumex crispus*).

COMMON WILDLIFE SPECIES

The following wildlife were observed foraging within the vicinity of the project site during the 2024 reconnaissance survey: house sparrow (*Passer domesticus*), Eurasian collared dove (*Streptopelia decaocto*), western meadowlark (*Sturnella neglecta*), killdeer (*Charadruis vociferus*), American kestrel (*Falco sparverius*), mallard (*Anas platyrhynchos*), common goldeneye (*Bucephala clangula*), turkey vulture (*Cathartes aura*), black phoebe (*Sayornis nigricans*), black-necked stilt (*Himantopus mexicanus*), lesser yellowlegs (*Tringa flavipes*), American coot (*Fulica americana*), bufflehead (*Bucephala albeola*), northern mockingbird (*Mimus polyglottos*), American widgeon (*Mareca americana*), savannah sparrow (*Passerculus sandwichensis*), red-tailed hawk (*Buteo jamaicensis*), white-crowned sparrow (*Zonotrichia leucophrys*), red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), European honeybee (*Apis mellifera*), and cabbage white butterfly (*Pieris rapae*). One domestic house cat (*Felis catus*) print was also observed.

Common bird species, including Brewer's blackbird and house sparrow, were observed foraging within the project site during the March 14, 2024, reconnaissance survey. Red-winged blackbirds were also observed defending territories in the tall cheeseweed fields in the northern proposed storage area. Common ground-nesting birds, including western meadowlark and killdeer, may nest in portions of the project site that contain annual grassland vegetation. Aquatic birds, such as lesser yellowlegs, mallard, and American coot, may forage in the retention basin 300 feet west of the proposed storage area but are not expected to nest due to the lack of suitable nesting habitat in the area. The wetland preserve to the east of the landfill property may support populations of common amphibians, such as pacific tree frog (*Pseudacris regilla*), which may incidentally forage or disperse through the project site.

Although the nearby wetland preserve provides high-value habitat for a variety of common wildlife species, the habitat value of the project site is much lower due to the ongoing level of disturbance related to landfill maintenance activities. Nonetheless, vegetated portions of the site may provide marginal habitat for a number of wildlife species. Areas where weeds grow tall, such as the cheeseweed mallow patches in the northern storage area, provide moderate-quality breeding habitat for some bird species, such as red-winged blackbird and Brewer's blackbird. While

no trees suitable for nesting raptors (i.e., red-tailed hawk, great horned owl) are present in the project site, the property may provide suitable hunting ground for these species.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources addressed in this section include those that are afforded consideration or protection under CEQA, California Fish and Game Code, CESA, ESA, CWA, and the Porter-Cologne Act, which are described in Section 3.3.1.

Special-Status Species

Special-status species are defined as species that are legally protected or that are otherwise considered sensitive by federal, state, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- officially listed by California or the federal government as endangered, threatened, or rare;
- a candidate for state or federal listing as endangered or threatened;
- taxa (i.e., taxonomic category or group) that meet the criteria for listing, even if not currently included on any list, as described in State CEQA Guidelines Section 15380 ;
- species identified by CDFW as species of special concern;
- species listed as fully protected under the California Fish and Game Code;
- species afforded protection under local planning documents; and
- taxa considered by the CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B, which are defined as follows:
  - CRPR 1A—plants presumed to be extinct in California
  - CRPR 1B—plants that are rare, threatened, or endangered in California and elsewhere
  - CRPR 2A—plants presumed to be extinct in California but that are more common elsewhere
  - CRPR 2B—plants that are rare, threatened, or endangered in California but more common elsewhere

The term "California species of special concern" is applied by CDFW to animals not listed under ESA or CESA, but that are considered to be declining at a rate that could result in listing or that historically occurred in low numbers and known threats to their persistence currently exist. CDFW's fully protected status was California's first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as threatened or endangered under CESA; however, some species remain listed as fully protected but do not have simultaneous listing under CESA. Fully protected species may not be taken or possessed at any time, and no take permits can be issued for these species except for scientific research purposes or for relocation to protect livestock.

Appendix C provides a comprehensive list of special-status species analyzed as having potential to occur in the project vicinity. These lists were developed through a review of biological studies previously conducted in the area and observations made during the March 14, 2024, site survey. CDFW's CNDDB (CNDDB 2024), a statewide inventory of the locations and conditions of the state's rarest plant and animal taxa and vegetation types, was also reviewed for specific information on documented observations of special-status species previously recorded in the project vicinity. A search of nine USDA quadrangles around the project site was used to identify potential special-status species. The nine-quad search included the following USGS 7.5' quadrangles: Yosemite Lake, Turlock Lake, Snelling, Merced Falls, Haystack Mountain, Planada, Merced, Atwater, and Winton quads. The CNDDB is based on actual recorded occurrences and does not constitute an exhaustive inventory of every resource.

Several regionally occurring special-status species were dismissed from further consideration because the study area that includes the project site lacks suitable habitat or lies outside of the potential geographic distribution of the species (Appendix C). Special-status species determined not to have the potential to occur are not discussed further. Table 3.3-1 (plants) and Table 3.3-2 (wildlife) summarize special-status species that occur or have the potential to occur on the project site. Potentially occurring special-status species are discussed in detail below.

The species lists include special-status species with both scientific and common names, legal status, description of habitat preference, and the potential for the species to occur on the project site. There are no sensitive natural communities present on-site. Most of the special-status species reviewed in Appendix C do not occur on the project site or have a low potential for occurrence because the project site is highly disturbed by ongoing landfill operations and fall entirely within barren or weedy and disturbed annual grassland vegetation types.

Special-Status Plants

Two special-status plants have potential to occur in the grassland habitat in the project site, which occurs in the southernmost of the two potential storage areas for finished compost. No special-status plants have the potential to occur within the proposed expanded composting area or in the northern proposed compost storage area, which are located in disturbed/barren areas. The following plants have the potential to occur within the southern temporary storage area, which is located on annual grassland habitat: Hoover's calycadenia (*Calycadenia hooveri*) and beaked clarkia (*Clarkia rostrata*).

Table 3.3-1 Special-Status Plants with Potential to Occur in the Project Site

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Survey Area[2]
Hoover's calycadenia *Calycadenia hooveri*	--	--	1B.3	Cismontane woodland, valley, and foothill grassland. On exposed, rocky, barren soil. 230–855 feet in elevation. Blooms July–September. Annual.	**May occur:** The annual grassland within the southern proposed compost storage area has potential to support this species.
Beaked clarkia *Clarkia rostrata*	--	--	1B.3	Cismontane woodland, valley, and foothill grassland. North-facing slopes; sometimes on sandstone. 195–3,000 feet in elevation. Blooms April–May. Annual.	**May occur:** The annual grassland within the southern proposed compost storage area has potential to support this species.

Notes: CRPR = California Rare Plant Rank.

[1] Legal Status Definitions

California Rare Plant Ranks:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA).

Threat Ranks:

0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

[2] Potential for Occurrence Definitions

May occur: Suitable habitat is available within the survey area; however, there are little to no other indicators that the species might be present.

Sources: CNDDB 2024; CNPS 2024.

Special-Status Wildlife

Eight special-status wildlife species have potential to occur on the project site. Four special-status wildlife species have the potential to occur in the grassland habitat in the southernmost of the two potential storage areas for finished compost. They are California tiger salamander–central California DPS (*Ambystoma californiense* pop. 1), western spadefoot (*Spea hammondii*), burrowing owl (*Athene cunicularia*), and Crotch bumble bee (*Bombus crotchii*). One special-status species has the potential to occur in the northern potential temporary storage area because it may nest in mallow fields growing in barren areas during its sensitive period: tricolored blackbird (*Agelaius tricolor*). The three remaining species with potential to occur are avian predators: bald eagle (*Haliaeetus leucocephalus*), northern harrier (*Circus hudsonius*), and Swainson's hawk (*Buteo swainsoni*). These raptor species may forage on the project site; however, nesting habitat for these species is not present on the project site nor the immediate surroundings. Raptors are sensitive to disturbance during the nesting period; noise and physical disturbance may lead to nest abandonment or disruption of development of young. These raptors may nest in the project vicinity and occasionally forage or disperse through the project site, but nesting is not expected to occur on the project site.

While vernal pool branchiopods, including conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp, were addressed in the Valley Fill Project EIR (MCRWMA 2015), these species are not included in this assessment because there is no potential for these species to occur within the project site. The project site does not provide aquatic habitat suitable for these species (vernal pools or similar seasonal wetlands).

The potential for any special-status species to occur within either the annual grassland or barren portions of the project site is low because all areas are heavily disturbed from ongoing landfill operations. Additionally, special-status wildlife species with the ability to disperse are likely to prefer habitat areas in the adjacent wetland preserve to the east or the higher-quality grassland, wetland, and agricultural areas that occur north, west, and south of the Highway 59 Landfill.

Table 3.3-2 Special-Status Wildlife with Potential to Occur in the Project Site

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
Reptiles and Amphibians				
California tiger salamander–central California DPS *Ambystoma californiense* pop. 1	FT	ST	Vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	**May occur:** Vernal pools and swales provide aquatic habitat suitable for California tiger salamander. Existing operations and protocol surveys conducted at and near the project site detected a single CTS metamorph in the stormwater retention pond located 300 feet west of the southern proposed storage area in 2011 (CNDDB 2024). Although the stormwater basin provides low-quality habitat due to the poor water quality and lack of upland mammal burrows due to ongoing mammal control in the surrounding vicinity, this species could potentially disperse in the project site.
Western spadefoot *Spea hammondii*	FPL	SSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pool, and wetlands. Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying. Estivate in burrows created in surrounding uplands.	**May occur:** Although the habitat is low-quality, western spadefoot may breed and disperse from the nearby wetland preserve into the annual grassland portions of the project site during wet events and estivate on-site through the nonbreeding season.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
Birds				
Bald eagle Haliaeetus leucocephalus	FD	SE, FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live trees with open branches, especially ponderosa pine. Roosts communally in winter.	**May occur:** Bald eagle have been documented breeding at Lake Yosemite approximately 3.5 miles east of the project site, and one individual was observed flying over the landfill in 2022 (eBird 2024). Workers at the landfill have observed bald eagles visiting the active landfill and occasionally hunting gulls on the property an estimated once every 2 years in the past (Womble, pers. comm., 2024). Although the survey area does not contain trees or structures suitable for bald eagle nesting and fish-bearing streams that provide typical bald eagle foraging habitat are not present within 1 mile of the project site, bald eagle may forage on the project site.
Burrowing owl *Athene cunicularia*	–	SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**May occur:** One burrowing owl was observed foraging within the wetland preserve north of the project site in 2013 (MCRWMA 2016). The annual grassland in the southern proposed storage area may provide suitable habitat for burrowing owl. No mammal burrows required for burrowing owl denning were observed in the area; however, culverts associated with the nearby stormwater retention basin may provide low-quality but marginally suitable habitat for the species.
Northern harrier *Circus hudsonius*	–	SSC	Nest and forage in grasslands, from salt grass in desert sink to mountain cienegas. Nests on ground in shrubby vegetation, usually at marsh edge; nests are built of a large mound of sticks in wet areas.	**May occur:** The annual grassland in the proposed storage area provides low-quality habitat for this species. Northern harrier may forage in the annual grassland proposed for storage; however, they are unlikely to nest in the project site.
Swainson's hawk *Buteo swainsoni*	–	ST	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas, such as grasslands, or alfalfa or grain fields, supporting rodent populations.	**May occur:** Although the project site does not provide nesting habitat for Swainson's hawk, the ruderal/disturbed and annual grassland areas in the project site provide foraging habitat for this species.
Tricolored blackbird *Agelaius tricolor*	–	ST, SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to	**May occur:** Although the project site does not provide suitable nesting habitat for tricolored blackbird, this

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
			California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony and relatively low levels of disturbance.	species has been documented in grasslands south of the project site (CNDDB 2024), and tricolored blackbird may use the project site for foraging.
Invertebrates				
Crotch's bumble bee *Bombus crotchii*	–	SC	Found primarily in California: mediterranean, Pacific coast, western desert, Great Valley, and adjacent foothills through most of southwestern California. Habitat includes open grassland and scrub. Nests underground.	**May occur:** The project is within the known range of this species (CDFW 2023) and grassland and vernal pools within the vicinity of the project may provide suitable floral resources for Crotch bumble bee foraging.

California Tiger Salamander

California tiger salamander requires suitable aquatic habitat for breeding and upland habitat for estivation (dormancy during hot, dry periods). Aquatic breeding habitat includes vernal pools and seasonal and perennial ponds in grassland and oak savannah plant communities from sea level to approximately 3,835 feet (0 to 1,169 meters). This species breeds in ponds and vernal pools that are wet for at least 10 weeks of the wet season, extending into April (CDFW 2003a). Although California tiger salamander is adapted to breed in vernal pools and ponds, livestock ponds and modified permanent ponds are also frequently used (USFWS 2017). California tiger salamander spend most of their life in upland habitats that consist of grassland and oak savannah that have small mammal burrows. California tiger salamander most commonly use burrows in open grassland or under isolated oaks, and less commonly, in oak woodlands. Breeding occurs from December to February once rains fill pools and ponds. Eggs are laid and hatch after 2 to 4 weeks. It takes approximately 4 months for larvae to metamorphose into adults (USFWS 2017). CNDDB records indicate occurrences of the species within 5 miles of the project site, including one occurrence in the stormwater retention pond located 300 feet west of the southern potential temporary storage area in 2011. No California tiger salamander observations have been documented in the area since 2011 (CNDDB 2024).

The southern potential storage area is in annual grassland approximately 300 feet from the stormwater retention basin where California tiger salamander was previously documented. Several factors make it moderately unlikely that California tiger salamander would disperse into the storage area from the retention basin. The bottom of the basin is more than 100 feet from the top of the slope on the side of the basin facing the potential storage area, and the banks are steep, situated at approximately 45-degree angles. Additionally, no ground squirrel or gopher burrows, which would be ideal refugia for California tiger salamander, were observed on the slopes above the basin, and very few mammal burrows were present in the annual grassland surrounding the potential storage area. The land surrounding the basin is highly disturbed, also with few burrows, including a graded road along the top of the basin and active landfill area just beyond to the east; a paved road and leachate management pond to the north; an orchard to the south; and SR 59 to the west. The land to the west of SR 59 provides suitable habitat for California tiger salamander, and there is terrestrial connectivity through a culvert that runs under SR 59. The 2011 California tiger salamander individual likely entered the stormwater retention basin through drainage pipes beneath SR 59, and the wetland preserve on the opposite side of the culvert from the pond is likely preferred habitat for California tiger salamander over areas in the Highway 59 landfill.

Regardless, because the stormwater retention basin is located only 300 feet away and because some infrequent mammal burrows were observed in the annual grassland, which could potentially serve as California tiger salamander refugia during dispersal events, the annual grassland in the project site provides suitable upland habitat for California tiger salamander,

Western Spadefoot

Western spadefoot toad occurs throughout the Central Valley and adjacent foothills. It also occurs in the Southern Coast Range from Santa Barbara County to the US-Mexico border. This species inhabits washes, floodplains of rivers, alluvial fans, playas, and alkali flats in valley and foothill grasslands, open chaparral, and pine-oak woodlands. This species prefers areas of short grasses where the soil is sandy or gravelly. Western spadefoot toad is almost completely terrestrial, entering water only to breed. Breeding occurs in temporary pools, such as vernal pools or pools in ephemeral waterways, from January to May. One recent study demonstrated that western spadefoot adults may burrow in upland habitat up to approximately 860 feet from breeding ponds (Baumberger et al. 2019).

Western spadefoot toad could potentially breed in aquatic habitat in the wetland preserve in the east side of the Highway 59 Landfill. The annual grassland in the southern temporary storage area may provide low-quality but suitable upland habitat for this species within the project site.

Bald Eagle

Bald eagle is a large eagle that primarily preys on fish but occasionally will hunt as an opportunistic forager, hunting other species or scavenging prey when needed. In California, this species builds extremely large, heavy nests that provide good flight access and visibility to the surrounding area. Nest trees are typically located near a body of water or other foraging area and in areas with low human disturbance (Buehler 2022). Bald eagle occurs year-round in the Merced County region, and a bald eagle pair has been known to nest at Yosemite Lake, approximately 3 miles southeast of the project site (CNDDB 2024). Bald eagles have been observed by staff at the Highway 59 Landfill hunting for gulls in the active landfill area (Womble, pers. comm., 2024), and they have been documented soaring over the area (eBird 2024).

Although bald eagles may occasionally hunt, forage, or soar over the site, there is no suitable nesting habitat for this species in the vicinity of the Highway 59 Landfill.

Burrowing Owl

Burrowing owl inhabits open grasslands, especially prairies, plains, and savannas, and open areas including vacant lots and spoils piles near human habitat. Nesting and roosting occur in burrows dug by mammals (such as California ground squirrels [*Otospermophilus beecheyi*]), but may also occur in pipes, culverts, and nest boxes. Occupied nests can be identified by the lining of feathers, pellets, debris, and grass. Burrowing owls search for prey on the ground or on low perches, such as fence posts and dirt mounds. The species is diurnal, crepuscular (active during twilight), and nocturnal, depending on time of year, and the nesting period is from March to August. Burrowing owls occur throughout California, except in northwestern coastal forests and on high mountains (Poulin et al. 2020). CNDDB records indicate occurrences of the species within 5 miles of the project site (CNDDB 2024).

A burrowing owl was observed foraging during monitoring activities on the wetland preserve to the north and east of the project site in 2013 (MCRWMA 2016). The wetland preserve in the east of the site and the edges of the retention basin may support mammal burrows needed for burrowing owl nesting; however, no burrows suitable for burrowing owl were observed in the project site during the March 14, 2024, reconnaissance survey. Occasional pipes and culverts throughout the property in the barren and annual grassland areas may also provide nesting habitat for this species in the project site. Individual burrowing owls may nest or overwinter in the margins of the retention basin adjacent to the southern potential temporary storage area or in annual grassland.

Northern Harrier

Northern harrier inhabits open wetlands, marshy meadows, lightly grazed pastures, marshes, and dry uplands, including drained grasslands surrounding wetlands. This species breeds in open areas with no more than 30 percent tree cover away from developed areas and roads. They nest on the ground in patches of dense, tall vegetation in undisturbed, often wet areas. This species has undergone population decline in recent decades, primarily because of the loss of wetland and undisturbed grassland in North America, although they have also been affected by impacts from human disturbance including hunting, ingestion of plastic, and impacts from pesticides, rodenticides, and other toxins (Smith et al. 2020).

Although northern harrier may occasionally hunt, forage, or fly over the site, there is no suitable nesting habitat for this species in the vicinity of the Highway 59 Landfill. The barren areas provide low-quality foraging habitat, and the annual grassland provides moderate quality foraging habitat within the project site.

Swainson's Hawk

Swainson's hawks arrive at their breeding grounds in the Central Valley in early March. They often nest along valley riparian systems and in lone trees or groves of trees in agricultural fields. Nests are usually within 1 mile of a riparian zone. This species forages in grassland and cultivated lands, such as wheat and alfalfa fields; however, they cannot forage in perennial croplands that grow taller than native grasses due to the reduced visibility of prey (Bechard 2020).

CDFW considers whether a proposed project will adversely affect at least 5 acres of suitable foraging habitat within a 10-mile radius of a Swainson's hawk nest that has been active within the last 5 years, regardless of whether the nest was occupied in the same year that the lead agency establishes the project's environmental baseline (CDFG 1994). Of primary importance to nest site selection is proximity to high-quality foraging habitat. Swainson's hawks cover large areas in search of prey. However, they do not nest in areas that are not close to suitable foraging habitat (Estep 1989; England et al. 1995). Nest sites are generally located within approximately 2 miles of suitable foraging habitat. CDFW (1994) considers the following vegetation types and agricultural crops suitable foraging habitat for Swainson's hawk: alfalfa, fallow fields, beet, tomato, and other low-growing row or field crops; dry-land and irrigated pasture; rice land (when not flooded); and cereal grain crops (including corn after harvest). There are no CNDDB records of this species within 1 mile of the project site, but there are two records of occurrences within 5 miles of the project site.

Although Swainson's hawk may occasionally hunt, forage, or soar over the area, there is no suitable nesting habitat for this species in the vicinity of the Highway 59 Landfill. Prey abundance (the amount of rodent prey) and accessibility (ability to visually detect and capture the prey) are the most important features determining the suitability of Swainson's hawk foraging habitat. Prey accessibility is based largely on vegetative structure (cover and height) of the foraging habitat with lower vegetative cover providing greater access to prey (Estep 1989). Swainson's hawks feed primarily on small rodents, but also consume insects and birds. Due to the ongoing rodent controls practiced throughout the active Highway 59 Landfill property, prey abundance is low throughout the site, and prey accessibility is low in portions of the grassland where vegetative cover provides more cover for rodents. Overall, both the barren areas and the annual grassland provide low quality foraging habitat within the project site.

Tricolored Blackbird

Tricolored blackbird typically nest in dense thickets of cattails, tules, willow, blackberry (*Rubus* sp.), wild rose (*Rosa* sp.), and other tall herbs near fresh water. As their preferred freshwater wetland habitat has declined in availability in California, this species has increasingly nested in upland habitats and intensively managed wetlands, and they have been documented nesting in agricultural fields, including those comprised of cheeseweed mallow (Beedy et al. 2023). Tricolored blackbird are highly colonial nesters, requiring nesting areas large enough to support at least 50 pairs with relatively low levels of disturbance. They forage in grassy fields, on agricultural lands, on flooded land, and along the edges of ponds up to 4 miles from their nests (Beedy et al. 2023). This species requires denser vegetation for nesting than red-winged blackbird, and emergent vegetation must occur in large, continuous blocks. Additionally, tricolored blackbird select nesting substrates that provide protection from predators, such as flooded, spiny, or thorny vegetation (Shuford and Gardali 2008). During the March 14, 2024, reconnaissance survey, the potential storage area in mapped barren habitat was covered primarily with mallow and contained a large colony of nesting red-winged blackbirds. The nearest known occurrence of a nesting tricolored blackbird colony is 2 miles from the project site (CNDDB 2024).

Although the closely related species red-winged blackbird was observed nesting in stands of cheeseweed mallow in the project area, red-winged blackbird can tolerate much higher levels of disturbance than tricolored blackbird. The southern potential compost storage area where red-winged blackbirds were nesting in cheeseweed mallow experiences high levels of noise and visual disturbance, and these areas are unlikely to support tricolored blackbird nesting. Tricolored blackbird may be nesting in portions of the wetland preserve and agricultural fields within 4 miles of the project area, and the area of the proposed composting facility changes and the annual grassland may provide

low-quality foraging habitat for this species. However, breeding colonies of tricolored blackbird are not expected to occur in the project area.

Crotch's Bumble Bee

Bumble bees have three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony active period (spring, summer, and fall), and suitable overwintering sites for the queens. Although there are no known documented occurrences of Crotch's bumble bee in the Merced area, occurrences are documented approximately 30 miles north, 12 miles west, and 30 miles east of the project site (Bumble Bee Watch 2024), and the Highway 59 Landfill falls within the known range for Crotch's bumble bee (CDFW 2023b). The annual grassland in the southern potential storage area contains habitat suitable for Crotch's bumble bee foraging. Additionally, the wetland preserve likely contains high-quality habitat and may contain overwintering or breeding habitat for this species, and individuals breeding or overwintering in the nearby wetland preserve may incidentally enter portions of the project site while foraging.

Crotch's bumble bee was designated by the California Fish and Game Commission as a candidate for listing as endangered under CESA on June 12, 2019. A November 13, 2020, court decision by the Superior Court of Sacramento ruled that insects are not eligible for listing under CESA and vacated the candidacy of bumble bee species. CDFW appealed this decision, and on May 31, 2022, the Third District Court of Appeal in Sacramento ruled that insects are eligible for listing under CESA, and the candidacy of bumble bee species under CESA has be reinstated. Crotch's bumble bee has recently undergone declines in abundance and distribution and are no longer present across much of their historic range (Xerces 2018).

Nesting Birds Protected by MBTA and California Fish and Game Code

Migratory birds and other birds of prey protected under the Migratory Bird Treaty Act (50 CFR 10) or Section 3503 of the California Fish and Game Code, including killdeer, western meadowlark, and red-winged blackbird, have the potential to nest in the vicinity of the project site, including in tall mallow fields, annual grasslands, and in gravel or unvegetated areas.

Riparian Habitat and Other Sensitive Natural Communities

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the CWA, and the State's Porter-Cologne Act, as discussed in Section 3.3.1, "Regulatory Considerations." Examples include riparian habitats, oak woodlands, and sensitive natural communities designated by CDFW. Sensitive natural habitat may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status or because they provide important habitat to common and special-status species.

CDFW maintains a list of plant communities that are native to California. Within that list, CDFW identifies sensitive natural communities, which CDFW defines as communities that are of limited distribution statewide or within a county or region and often vulnerable to environmental effects of projects (CDFW 2023c). CDFW designates sensitive natural communities based on their state rarity and threat ranking using NatureServe's heritage methodology. Natural communities with rarity ranks of S1 to S3, where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable, are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2018). These communities may or may not contain special-status species or their habitat. Special-status plant communities are tracked in the CNDDB, a statewide inventory of the locations and conditions of the state's rarest plant and animal taxa and vegetation types.

Although sensitive habitats and sensitive natural communities occur within the greater Highway 59 Landfill area (e.g., riparian vegetation along the western bank of a human-made ditch and vernal pools and swales), no sensitive habitats or sensitive natural communities occur within the area of proposed composting facility modifications or within the potential storage areas.

Wetlands and Other Waters of the United States

The project has been designed to avoid all potential direct and indirect effects to wetlands and other waters of the United States or state. There are no wetlands or jurisdictional waters within the project site. Outside the project site, the overall Highway 59 Landfill area includes a 250-foot by 5-foot riparian area in the southeastern portion of the landfill. In addition, two human-made drainage ditches occur in the eastern portion of the landfill and receive water from vernal pools and swales within the wetland preserve north of the landfill. A leachate management area is located in the southwestern portion of the landfill, which is a compost-lined, human-made feature constructed for the purposes of containing leachate generated from the landfill-lined cells. There is also a stormwater retention basin in the southwestern portion of the Highway 59 Landfill approximately 300 feet west of a potential storage area. This basin is an unlined feature constructed to manage stormwater runoff to prevent flooding in the landfill. These water resources are all located outside of the project site, and the project has been designed to avoid all direct and indirect effects to wetlands and waters of the United States. Additionally, wastewater treatment ponds and stormwater retention basins are excluded from regulation as waters of the United States and state.

Federal Recovery Plans and Critical Habitat

USFWS designated a total of 147,638 acres in Merced County as critical habitat for listed vernal pool branchiopods (longhorn fairy shrimp, conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp) and vernal pool plants (Hoover's spurge, fleshy owl's-clover, Colusa grass, Greene's tuctoria, hairy Orcutt grass, and San Joaquin Orcutt grass) on August 11, 2005 (50 CFR part 17) (USFWS 2005). At that time, USFWS also designated 32,963 acres in Merced County as critical habitat for the central population of California tiger salamander. East of the Highway 59 Landfill, portions of the wetland preserve occur within critical habitat for succulent owl's-clover, Colusa grass, San Joaquin Valley Orcutt grass, Green's tuctoria, conservancy fairy shrimp, and vernal pool fairy shrimp; and further east, designated critical habitat for California tiger salamander is present in the region. However, the operational portions of the Highway 59 Landfill including the area of proposed composting facility modifications and the potential storage areas do not overlap with any USFWS-designated critical habitat (USFWS 2022).

Wildlife Movement Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, human disturbance and development, or other biophysical factors. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance, such as fire, mudslide, or grading activities. Wildlife corridors reduce the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby allowing depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on wildlife populations or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The project site is not part of a major or local wildlife corridor or travel route because it does not connect two significant habitats. The project site occurs within an active landfill that is surrounded by fencing and is bordered by orchards to the north and south, SR 59 to the west, and the wetland preserve to the north and east. The project site is not within any portion of an Essential Connectivity Area identified by the California Essential Habitat Connectivity Project, which was commissioned by the California Department of Transportation and CDFW with the purpose of making transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010).

3.3.3 Impacts and Mitigation Measures

METHODOLOGY

This impact evaluation is based on data collected during a reconnaissance-level field survey conducted on Thursday, March 14, 2024, review of aerial photographs, and information from several previously completed documents that address biological resources in the project vicinity.

SUMMARY OF VALLEY FILL PROJECT EIR IMPACTS AND MITIGATION MEASURES

Nesting Birds

The Valley Fill Project EIR concluded that ground-nesting migratory birds and other birds of prey that are protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code could nest on or in the vicinity of the project site. If these protected species are nesting in the construction footprint and construction were to occur during the nesting season (February 15 through August 31), direct mortality could result from removal or damage to eggs or young. Valley Fill Project EIR Mitigation Measure 4.3-1 requires pre-construction surveys and establishment of appropriate buffers, as necessary.

> Valley Fill Project EIR Mitigation Measure 4.3-1: Nesting Birds
> Removal or relocation of existing buildings within the landfill site shall be conducted between September 1 and February 14, if feasible. If infeasible, a qualified biologist shall conduct a pre-construction survey within ten business days before removal or relocation of existing buildings to determine presence or absence of nesting birds. If no nesting birds are observed, no further mitigation is required so long as the building demolition or relocation commences within ten days before the pre-construction survey. If building demolition or relocation does not commence within 10 days of the pre-construction survey or halts for more than 10 days, a new pre-construction survey will be required.
>
> If nesting birds are observed within any buildings proposed for removal/relocation, the biologist shall establish an appropriate buffer to ensure construction activities do not directly affect birds or any active nest and no buildings will be removed or relocated until a qualified biologist verifies that the nestlings have successfully fledged and the nest is no longer occupied.

Implementation of Valley Fill Project EIR Mitigation Measure 4.3-1 would reduce impacts on nesting birds to a less-than-significant level by ensuring no active nests were destroyed or disturbed by construction activities.

Special-Status Bats

The Valley Fill Project EIR concluded that the Valley Fill project involves the demolition and relocation of several existing buildings and outbuildings, which may provide day roosts for potentially occurring special-status bats. As a result, implementation of the proposed project could injure or destroy bats, if they are roosting within the buildings proposed for removal or relocation.

Valley Fill Project EIR Mitigation Measure 4.3-2 was adopted as part of the Valley Fill Project EIR to address significant impacts on special-status bats. The Highway 59 Compost project does not involve any relocation or demolition of buildings that bats could potentially use for bat roosting. In addition, no project activities proposed in this SEIR would occur near any potential roosting habitat for special-status bats. Therefore, because the Highway 59 Composting project would not adversely affect special-status bats, Mitigation Measure 4.3-2 is not applicable to the project.

SIGNIFICANCE CRITERIA

An impact on biological resources is considered significant if implementation of the project would do any of the following:

- 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 CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

ISSUES NOT DISCUSSED FURTHER

Sensitive Habitats including Riparian, Vernal Pools/Swales, and Wetlands

Project implementation would affect approximately 7.5 acres of barren areas in central portion of the landfill, 2.5 acres of barren areas associated with the northern potential temporary storage area for finished compost, and 35.6 acres of annual grassland that would be cleared, of which 2.5 acres would be used for potential temporary storage areas for finished compost. Barren areas and annual grasslands are not considered sensitive biological communities. Project implementation would have no effect on any riparian areas, wetlands, vernal pools/ and swales, the stormwater retention basin, or the leachate management pond in the surrounding landfill property. Project implementation would not affect sensitive habitats, including riparian, vernal pools and swales, or human-made drainage ditches because these features occur outside the proposed changes. This issue is not discussed further in the SEIR.

Wildlife Movement Corridors

Project implementation would not interfere substantially with the movement of any native resident or migratory wildlife species because the project site does not contain any wildlife movement corridors. The project site does not contain any known wildlife nurseries, such as deer fawning sites. This issue is not discussed further in the SEIR.

Consistency with Adopted Conservation Plans

The project site is not located within the boundary of an HCP or NCCP; therefore, the proposed project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state conservation plan. This issue is not discussed further in the SEIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Result in Loss of Nesting Bird Species or Habitat

Construction activities associated with the Highway 59 Compost Project could affect nesting birds, if present, through direct mortality of eggs or young. Impacts to nesting birds would be **potentially significant**.

Ground-nesting birds and birds of prey that are protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code could nest on or in the vicinity of the project site. If these protected species are nesting on-site and project activities would occur during the nesting season (February 15–August 31), direct mortality could result from removal or damage to eggs or young. Because the site is an active landfill, substantially disturbed, and subject to daily landfill operations, any nesting birds in the vicinity are assumed to have established nests during ongoing landfill activities and are tolerant of those activities. The proposed project could affect migratory bird or raptor nests should they be present on the ground or in tall vegetation in the potential compost storage areas. Because of the potential for nesting birds to occur on the ground or in tall vegetation in the potential compost storage areas, impacts to nesting birds would be a **potentially significant** impact through direct mortality as a result of the removal of or damage to eggs or young.

Mitigation Measures

Implementation of adopted Mitigation Measure 4.3-1 from the Valley Fill Project EIR, as stated above, constitutes feasible mitigation that would reduce potentially significant impacts to nesting birds.

Significance after Mitigation

Continued implementation of Mitigation Measure 4.3-1 from the Valley Fill Project EIR would reduce significant impacts associated with nesting birds to a **less-than-significant** level by ensuring no active nests are destroyed or disturbed by construction activities. With continued implementation of the aforementioned mitigation, no new significant or substantially more severe significant impacts related to archaeological resources would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Impact 3.3-2: Result in Loss of Special-Status Plant Species and Habitat

Vegetation clearing and ground disturbance associated with potential temporary storage of compost site in annual grassland areas could affect special-status plants, if present, through direct removal and habitat loss. Impacts to special-status plants would be a **potentially significant** impact.

Two special-status plant species, Hoover's calycadenia and beaked clarkia, may occur in the annual grassland in the southern potential storage location. If these plant species are present in the project site, then habitat fragmentation, habitat loss, and direct mortality could result from removal or damage of plants during project activities. The project could directly affect special-status plants through ground disturbance, vehicle and foot traffic, and temporary storage of compost at the southern potential temporary storage site. This would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.3-2a: Survey Special-Status Plants

Prior to commencement of ground disturbance in the annual grassland potential storage area (southerly potential storage area) and during the blooming period for the special-status plants with potential to occur on the sites (Table 3.3-3), a qualified botanist will conduct protocol-level surveys for the potentially occurring special-status plants that could be removed or disturbed by project activities. Protocol-level surveys will be conducted in accordance with protocols for surveying and evaluating impacts to special-status native plant populations and sensitive natural communities (CDFW 2018). This protocol, which is intended to maximize detectability, includes visiting reference populations to facilitate the likelihood of field investigations during the appropriate period to identify the special-status

plants, typically when they are blooming. If special-status plants are not found, the botanist will document the findings in a letter report to MCRWMA and further mitigation will not be required.

Table 3.3-3 Normal Blooming Period for Special-Status Plants with Potential to Occur within the Project Site

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hoover's calycadenia *Calycadenia hooveri*							X	X	X			
Beaked clarkia *Clarkia rostrata*				X	X							

Mitigation Measure 3.3-2b: Observe Special-Status Plant Buffer

If special-status plants are detected during the protocol-level surveys required by Mitigation Measure 3.3-2a, special-status plant species would be avoided whenever possible by delineating and observing a no-disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If buffers cannot be maintained, then Mitigation Measure 3.3-2c will apply.

Mitigation Measure 3.3-2c: Consult (as Necessary) with CDFW and USFWS

If special-status plants are found during rare plant surveys and cannot be avoided, the implementing party will consult with CDFW and USFWS, as appropriate depending on species status, to determine the appropriate compensation to achieve no net loss of occupied habitat or individuals. Mitigation measures may include preserving and enhancing existing populations, creating off-site populations on mitigation sites through seed collection or transplantation at a 1:1 ratio, and restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat or individuals. The implementing party will develop and implement a site-specific mitigation strategy describing how unavoidable losses of special-status plants will be compensated. Success of the preserved and compensatory populations will include the following criteria:

- The extent of occupied area and plant density (number of plants per unit area) in compensatory populations will be equal to or greater than the affected occupied habitat.
- Compensatory and preserved populations will be self-producing. Populations will be considered self-producing when:
  - plants reestablish annually for a minimum of f5 years with no human intervention, such as supplemental seeding; and
  - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures will be included in the mitigation plan, including information about responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria, such as those listed above, and other details, as appropriate to target the preservation of long-term viable populations.

Significance after Mitigation

Implementation of Mitigation Measures 3.3-2a, 3.3-2b, and 3.3-2c would reduce significant impacts on special-status plants to a **less-than-significant** level because all special-status plants would be detected with implementation of Mitigation Measure 3.3-2a, avoided (if present) with implementation of Mitigation Measure 3.3-2b, or offset with implementation of Mitigation Measure 3.3-2c. Although additional mitigation is applicable to the project, this is due to inclusion of the southern potential temporary storage of compost site location, which is outside of the Valley Fille Project boundary. With implementation of the aforementioned mitigation measures, the project would not result in a new significant or substantially more severe significant impact compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Impact 3.3-3: Result in Loss of Special-Status Amphibian Species or Habitat

If California tiger salamander or western spadefoot are present in the annual grassland in the southern potential storage area, then construction activities associated with vegetation clearing, ground-moving, and storage of compost in that area could affect special-status amphibians by directly crushing amphibians as they move overland or while they are using underground burrows for upland refugia. Impacts to special-status amphibians would be a **potentially significant** impact.

California tiger salamander and western spadefoot have the potential to be present in the southern potential temporary storage area. One intermediate California tiger salamander was observed in the stormwater retention basin 300 feet from this area in 2011, which indicates that this species was breeding in the pond. Western spadefoot and California tiger salamander may also breed in the wetland preserve located adjacent to the project area. Both species disperse into annual grasslands adjacent to breeding pond areas. Although features are present that make the Highway 59 Landfill low-quality habitat for amphibians (poor water quality in the pond, minimal emergent vegetation, steep slopes and roads providing a barrier between uplands and the pond, minimal burrowing mammal activity in the surrounding uplands), the documented history of California tiger salamander breeding in the stormwater retention pond and the close vicinity of the wetland preserve indicates that these species could disperse into the annual grassland habitat, including the southern potential storage area. Both species move overland in annual grassland areas and may estivate or overwinter in burrows created in uplands surrounding aquatic resources. If California tiger salamander and western spadefoot are present in burrows or moving aboveground, project activities conducted in the annual grassland potential storage area, including ground disturbance, vegetation removal, grading, and compost storage, could result in disturbance or direct loss of California tiger salamander or western spadefoot. This would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.3-3a: Implement Special-Status Amphibian Avoidance Practices

Prior to commencement of ground-disturbing activities within suitable habitat for California tiger salamander and western spadefoot (i.e., the southern potential compost storage area located in grassland), the following practices will be implemented to avoid direct loss of California tiger salamanders and western spadefoot:

- **Worker Environmental Awareness Program (WEAP):** A WEAP shall be presented to all construction staff conducting excavation, vegetation removal, and other construction activities in the annual grassland potential storage area. The WEAP will include training that instructs workers to recognize California tiger salamander, western spadefoot, their habitat(s), general behavior and ecology of the species, sensitivity to human activities, legal protection, penalties for violation of state and federal laws, and measures to implement in the event that a sensitive species is found during construction.
- **No Plastic Monofilament Wattles:** If wattles are used for erosion control, straw waddles will be used. Plastic monofilament waddles (which can entrap and injure reptiles and amphibians) will not be used on the site. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
- **Check Equipment:** Prior to beginning work each day, all contractors, their employees, and personnel involved in the implementation of the project will check for the presence of sensitive wildlife under or next to stationary vehicles prior to operating their vehicles. If a special-status reptile or amphibian is found, they will be allowed to move out of the construction area under their own accord.
- **Maintain Trash:** All food and food-related trash will be enclosed in sealed trash containers at the end of each workday and removed completely from the construction site every 3 days to avoid attracting wildlife.
- **Speed Limit:** A speed limit of 15 mph will be maintained on dirt roads.

Mitigation Measure 3.3-3b: Regularly Conduct Special-Status Amphibian Surveys

Prior to commencement of ground-disturbing activities within suitable habitat for California tiger salamander and western spadefoot (i.e., grassland area proposed for potential compost storage), the following measures will be implemented to avoid direct loss of California tiger salamanders and western spadefoot:

- **Pre-Activity Survey:** A pre-activity survey shall be conducted no more than one week prior to commencement of all project activities that involve ground-disturbing work (e.g., excavation, grading) or vegetation removal in the annual grassland potential storage area. A qualified biologist familiar with the life history of California tiger salamander and western spadefoot and experienced in performing surveys for these species will conduct a focused survey within 100 feet of ground disturbance or vegetation clearing that occurs within suitable habitat for these species. The qualified biologist will inspect the area for individual California tiger salamander and western spadefoot as well as suitable burrows for these species.
- **Burrows:** If burrows suitable for use by California tiger salamander or western spadefoot are found, they will either be assumed occupied by sensitive amphibians, or a qualified biologist will use a borescope or similar nonground disturbing methods to determine if California tiger salamander or western spadefoot is present.
  - If presence has been assumed, a 50-foot no-disturbance buffer will be established around burrows that provide suitable upland habitat for California tiger salamander or western spadefoot.
  - If California tiger salamander or western spadefoot are not detected during the pre-activity survey, the qualified biologist will submit a report summarizing the results of the survey to MCRWMA, further avoidance will not be required, and the project activities will proceed.
  - If the 50-foot buffer cannot be maintained around a burrow identified during the survey, all suitable burrows directly impacted by construction will be hand excavated under the supervision of a qualified wildlife biologist. If western spadefoot are found, the qualified biologist will relocate the animal out of harm's way. If California tiger salamanders are found, work activity will cease until a USFWS-approved biologist with a recovery permit for California tiger salamander relocates the organism to the nearest burrow that is outside of the construction impact area.

Mitigation Measure 3.3-3c: Install Wet Season Work and Special-Status Amphibian Exclusionary Fencing

- **Exclusionary Fencing:** If feasible, for work conducted during the California tiger salamander migration season (November 1–May 31), exclusionary fencing will be erected around the construction site during ground-disturbing activities after surveys pursuant to Mitigation Measure 3.3-3b have been conducted and any necessary hand excavation of burrows has been completed. A qualified biologist shall inspect the placement of exclusion fencing prior to initiation of ground-disturbing activities. A qualified biologist will visit the site every other week to ensure that the fencing is in good working condition. Fencing material and design will be subject to the approval of USFWS. If exclusionary fencing is not used, a qualified biological monitor will be on-site during all ground-disturbance activities. Exclusion fencing will also be placed around all spoils and stockpiles.

If exclusionary fencing is infeasible, the following measures will apply:

- **Wet-Season Daily Monitoring:** For work conducted during the California tiger salamander migration season (November 1–May 31), a qualified biologist will survey the active work areas (including access roads) daily in mornings following measurable precipitation events. Construction may commence once the biologist has confirmed that no California tiger salamanders are in the work area.
- **No Work During Rain**: No construction work shall be performed during rain unless wildlife exclusion fencing has been constructed. If a rain event results in accumulation of less than 0.2 inches in a 24-hour period, work may resume after precipitation ceases. If a rain event results in accumulation of 0.2 inches or greater in a 24-hour period, work may resume after precipitation ceases, a drying-out period of 24 hours is observed, and the approved biologist inspects all work areas to verify the absence of California tiger salamanders and western spadefoot.

Significance after Mitigation

Implementation of Mitigation Measures 3.3-3a through 3.3-3c would reduce impacts on California tiger salamander and western spadefoot to a **less-than-significant** level because California tiger salamanders and western spadefoot would be avoided and protected from construction activities through surveys exclusion fencing, monitoring, and avoiding work during rain events when these species would be dispersing. With implementation of these mitigation measures, take of California tiger salamander would be unlikely and an incidental take permit and consultation with USFWS would not be required.

Impact 3.3-4: Result in Loss of Burrowing Owl Habitat

If burrowing owl are overwintering or nesting within the vicinity of the southern potential storage area, then construction activities associated with vegetation clearing, ground-moving, and compost storage in that area could affect burrowing owl through indirect disturbance of active overwintering burrows or nest burrows. Impacts to burrowing owl would be a **potentially significant** impact.

Burrowing owl is a California species of special concern. This species has the potential to be present in culverts within the vicinity of the annual grassland potential storage area for compost located in the southern end of the Highway 59 Landfill. Although no burrows suitable for burrowing owl were observed in the project site during the March 14, 2024, reconnaissance survey, occasional pipes and culverts within 500 feet of the project site may provide nesting or overwintering habitat for this species. Ongoing mammal control on the Highway 59 Landfill has limited the mammal activity in the project area, which has resulted in a reduced level of foraging and burrowing habitat for this species within the landfill property. Because there is no suitable habitat for burrowing owl burrows in the project area, burrows will not be destroyed by project activities. However, project activities that involve noise or physical disturbance of vegetation and soil within 660 feet of nests or 165 feet of overwintering burrows have the potential to result in disturbances that cause burrowing owls to abandon their burrows, eggs, or chicks or increased exposure to predation (CDFW 2012) Burrowing owls need burrows at all times to survive and displacing individuals from their burrows can result in indirect impacts, such as predation, increased energetic costs, increased stress, and risks associated with having to find and compete for burrows, all of which can lead to take or reduced reproduction. These impacts would be potentially significant.

Mitigation Measures

Mitigation Measure 3.3-4: Conduct Burrowing Owl Surveys and Avoidance Practices

Prior to ground disturbance, vegetation removal, or compost storage activities in the southern potential storage area, the project applicant will implement the following measures:

- Retain a qualified biologist to conduct focused breeding and nonbreeding season surveys for burrowing owls in areas of suitable habitat on and within 1,500 feet of the southern potential storage area. Surveys shall be conducted prior to the start of construction activities and in accordance with Appendix D of CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).
- If no occupied burrows are found, a letter report documenting the survey methods and results shall be submitted to CDFW and no further mitigation will be required.
- If an active burrow is found during the nonbreeding season (September 1–January 31), a minimum 150-foot buffer will be established around the occupied burrow.
- If an active burrow is found during the breeding season (February 1–August 31), occupied burrows shall not be disturbed and will be provided with a 150- to 1,500-foot protective buffer unless a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer shall depend on the time of year and level disturbance as outlined in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The size of the buffer may be reduced if a broad-scale, long-term, monitoring program acceptable to CDFW is implemented to ensure burrowing owls are not detrimentally affected.

- Once the fledglings are capable of independent survival, the owls will be relocated to suitable habitat outside the project area in accordance with a burrowing owl exclusion and relocation plan developed in consultation with CDFW and in accordance with Appendix E of the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Evacuated burrows will be destroyed to prevent owls from reoccupying them. No burrowing owls will be excluded from occupied burrows until a burrowing owl exclusion and relocation plan is approved by CDFW. Following owl exclusion and burrow demolition, the site shall be monitored by a qualified biologist to ensure burrowing owls do not recolonize the site prior to construction.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-4 would reduce potential loss of burrowing owl and their habitat to a **less-than-significant** level because surveys and avoidance practices would identify the presence of occupied burrows, create a 50-foot buffer around any active burrows identified during the nonbreeding season, protect occupied burrows from disturbance during the breeding season, and relocation individual fledglings in accordance with CDFW's exclusion and relocation plans.

Impact 3.3-5: Result in Loss of Crotch's Bumble Bee

The project site contains potential habitat for Crotch's bumble bee foraging where floral resources are present within grassland areas. Project activities (e.g., ground disturbance, vegetation clearing, heavy equipment use, staging application) could result in take of individual Crotch's bumble bees through trampling or crushing foraging bumblebees. This would be a **potentially significant** impact.

Crotch's bumble bee was designated by the California Fish and Game Commission as a candidate for listing as endangered under CESA on June 12, 2019. A November 13, 2020, court decision by the Superior Court of Sacramento ruled that insects are not eligible for listing under CESA and vacated the candidacy of bumble bee species. CDFW appealed this decision, and on May 31, 2022, the Third District Court of Appeal in Sacramento ruled that insects are eligible for listing under CESA, and the candidacy of bumble bee species under CESA has be reinstated. Crotch's bumble bee has recently undergone declines in abundance and distribution and are no longer present across much of their historic range (Xerces 2018).

Crotch's bumble bees require suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony active period (spring, summer, and fall), and suitable overwintering sites for the queens. The wetland preserve adjacent to the project site likely contains high-quality habitat and may contain overwintering or breeding habitat for this species. Individual Crotch's bumble bees breeding or overwintering in the nearby wetland preserve may incidentally enter portions of the project site while foraging, and therefore, the annual grassland in the southern potential storage area contains habitat suitable for Crotch's bumble bee foraging. If this species is present foraging in the grassland area, project activities including vegetation removal, ground disturbance, and staging of equipment could result in the loss of individual Crotch's bumble bees. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.3-5. Conduct Crotch's Bumble Bee Surveys and Avoidance

Prior to initiation of ground-disturbing, compost storage, or vegetation removal activity in the southern potential compost storage area that occurs in grassland habitat, a qualified biologist will conduct focused surveys for Crotch's bumble bee, and their requisite habitat features following the methodology outlined in the *Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species* (CDFW 2023b). This includes the following practices and guidelines:

- Conduct three on-site surveys to detect foraging bumble bees and potential nesting sites (nesting surveys) during the colony active period and when peak floral resources are present (April–August). Each survey should ideally be spaced 2–4 weeks apart.

- Conduct a habitat assessment evaluating the likelihood of bumble bees occurring within and adjacent to the project area, along with survey results, should be submitted to CDFW prior to initiation of ground-disturbing project activities.
- The habitat assessment shall include quantification of plant species blooming and percent cover of flowering plants, as well as quantification of nesting resources, such as bare ground and rodent burrows.
- Surveys are only valid for the year in which they are conducted. If more than 1 year passes between survey completion and initiation of ground disturbing project activities, presence surveys must be repeated.

If Crotch's bumble bee is detected on the project site, then all small mammal burrows and thatched or bunch grasses will be avoided by a minimum of 50 feet to avoid take of Crotch's bumble bee. MCRWMA may propose site-specific measures to avoid take or consult with CDFW to obtain an incidental take permit (ITP) if take may occur during project activities.

If Crotch's bumble bees are not observed but suitable nesting, foraging, or overwintering habitat is present within the project site, it is recommended that a biological monitor be on-site during vegetation or ground-disturbing activities that take place during the queen flight period (February–March), the gyne flight period (September–October), and the colony active period (April–August).

Significance after Mitigation

Implementation of Mitigation Measure 3.3-5 would reduce significant impacts on Crotch's bumble bee to a **less-than-significant** level because Mitigation Measure 3.3-5 would ensure that surveys would occur to detect any Crotch's bumble bee prior to disturbance, and if Crotch's bumble bees are present, then impacts to individuals would be avoided.

Impact 3.3-6: Result in Loss of Bald Eagle, Swainson's Hawk, and Northern Harrier Nesting Habitat

The project site associated with the Highway 59 Landfill Project is not in or adjacent to habitat suitable for nesting by bald eagle, northern harrier, or Swainson's hawk. No active nests of these species would be adversely affected by project activities (i.e., vegetation clearing, ground disturbance, compost storage). Therefore, impacts to bald eagle, Swainson's hawk, and northern harrier would be **less than significant**.

Project implementation would not affect bald eagle, northern harrier, or Swainson's hawk. These raptor species may occur in the project site when foraging or dispersing through the area; however, habitat suitable for these species to nest is not present on the project site. Raptors are sensitive to disturbance during nesting, when noise and physical disturbance may lead to nest abandonment or disruption of development of young. However, these species are not considered sensitive outside of the nest period because when they are no longer reliant on the nest site, they may fly outside of the area of disturbance and forage elsewhere. The ruderal/disturbed land and the previously disturbed annual grassland, as depicted in Figure 3.1-1, do not include suitable nesting habitat for any of these species. Ongoing rodent control activities in the Highway 59 Landfill limit the abundance of prey for these species, and therefore, the project site would provide low-quality foraging for bald eagle, Swainson's hawk, and northern harrier. Any individual bald eagle, northern harrier, or Swainson's hawk present in the project area would be fully flighted adults; therefore, project implementation would not result in adverse effects on these species. Project activities (i.e., vegetation clearing, ground disturbance, compost storage) would not result in loss of valuable foraging habitat, direct loss of these species, loss of or disturbance to nests, or disturbance leading to abandonment of active nests. Therefore, the impact of the project would be **less than significant** on these species. No new significant or substantially more severe significant impacts to biological resources would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.3-7: Result in Loss of Tricolored Blackbird Habitat

The project site contains suitable tricolored blackbird foraging habitat; however, no habitat suitable for tricolored blackbird nesting colonies is present in the project site. No active tricolored blackbird nests would be adversely affected by project activities (i.e., vegetation clearing, ground disturbance, compost storage), and foraging tricolored blackbirds would avoid areas of active disturbance. Therefore, impacts to tricolored blackbird would be **less than significant**.

Tricolored blackbird may nest in the wetland preserve adjacent to the project area, and if present, they may forage through portions of the project site. Tricolored blackbirds are highly colonial nesters, requiring nesting areas large enough to support at least 50 pairs with relatively low levels of disturbance, and they may forage up to 4 miles from their nests (Beedy et al. 2023). This species requires denser vegetation and lower levels of disturbance for nesting than the red-winged blackbird, and no habitat suitable for tricolored blackbird nesting is present in the project area.

Tricolored blackbird nesting colonies are highly sensitive to disturbance, when noise and physical disturbance may lead to nest abandonment or disruption of development of young. However, these species are not considered sensitive outside of the nest period because when they are no longer reliant on the nest site, they may fly outside of the area of disturbance and forage elsewhere. No nesting habitat is present on site, and therefore, any tricolored blackbird present in the project area would be fully flighted adults; therefore, project implementation would not result in adverse effects on these species. While the project area may be utilized as foraging habitat, the area is low-quality for foraging due to the high levels of baseline disturbance and lack of preferred habitat elements. Project activities (i.e., vegetation clearing, ground disturbance, compost storage) would not result in loss of valuable foraging habitat, direct loss of these species, loss of or disturbance to nests, or disturbance leading to abandonment of active nests. Therefore, the impact of the project would be a **less-than-significant** impact. No new significant or substantially more severe significant impacts to biological resources would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

3.4 ENERGY

This section was prepared pursuant to Section 15126 and Appendix F of the State CEQA Guidelines, which require that EIRs include a discussion of the potential energy impacts of projects. The analysis considers whether implementing the project would result in the inefficient, wasteful, or unnecessary consumption of energy.

No comments were received in response to the Notice of Preparation (NOP) that identified concerns regarding impacts related to energy. A scoping report that contains the NOP and comments received in response to it is presented in Appendix A.

3.4.1 Regulatory Considerations

Energy conservation is embodied in many federal, state, and local statutes and policies. At the federal level, energy standards apply to numerous products (e.g., the US Environmental Protection Agency's [EPA's] EnergyStar™ program) and transportation (e.g., fuel efficiency standards). At the state level, Title 24 of the California Code of Regulations sets forth energy standards for buildings. Further, the state provides rebates/tax credits for installation of renewable energy systems and the Flex Your Power program promotes conservation in multiple areas. At the local level, individual cities and counties establish policies in their general plans and climate action plans (CAPs) related to the energy efficiency of new development and land use planning and to the use of renewable energy sources. The Merced County CAP is under development (Merced County 2024).

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Energy Policy and Conservation Act and CAFE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this act, the National Highway Traffic and Safety Administration (NHTSA), part of the US Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

NHTSA established Corporate Average Fuel Economy (CAFE) standards to regulate how far US vehicles must travel on a gallon of fuel. NHTSA sets CAFE standards for passenger cars and for light trucks (collectively, light-duty vehicles) and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. The CAFE program was established to determine vehicle manufacturers' compliance with the CAFE standards based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. EPA calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance.

Energy Policy Act (1992 and 2005) and Energy Independence and Security Act of 2007

The Energy Policy Act of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. The act includes several parts intended to build an inventory of alternative fuel vehicles in large, centrally fueled fleets in metropolitan areas. The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

The Energy Independence and Security Act of 2007 increased the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly fivefold increase over then-current levels. It also reduces US demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy of 40 percent. By addressing renewable

fuels and CAFE standards, the Energy Independence and Security Act of 2007 will build on progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Energy Action Plan

The California Energy Commission (CEC) is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 2003 California Energy Action Plan (updated in 2008). The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, and it encourages urban design that reduces vehicle miles traveled and accommodates pedestrian and bicycle access.

Senate Bill 100: California Renewables Portfolio Standard Program

SB 100 requires that all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, supply 44 percent of retail sales from renewable resources by December 31, 2024; 50 percent by December 31, 2026; 52 percent by December 31, 2027; and 60 percent by December 31, 2030. The law requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. This act also requires doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with the California Air Resources Board (CARB) and in consultation with other state, federal, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce greenhouse gas (GHG) emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Executive Order S-06-06

Executive Order (EO) S-06-06, signed on April 25, 2006, establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels in California by 2010, 40 percent by 2020, and 75 percent by 2050. The EO also calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and recommends actions to address them so that the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 plan and provides a more detailed action plan to achieve the following goals:

- increase environmentally and economically sustainable energy production from organic waste;

- encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications;
- create jobs and stimulate economic development, especially in rural regions of the state; and
- reduce fire danger, improve air and water quality, and reduce waste.

Executive Order B-30-15

On April 20, 2015, EO B-30-15 was signed into law to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, such as the 28-nation European Union, which adopted the same target in October 2014. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions to 80 percent below 1990 levels by 2050. This goal is in line with the scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions, such as super droughts and continued rising sea levels, are projected.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020, were signed into law. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the 2030 targets established by EO B-30-15, which set the next interim step in the state's continuing efforts to pursue the long-term target expressed in B-30-15 of 80 percent below 1990 emissions levels by 2050. Achievement of these goals will have the co-benefit of reducing California's dependency on fossil fuels and making land use development and transportation systems more energy efficient.

LOCAL PLANS, POLICIES, AND ORDINANCES

Merced County General Plan

The following policies from the Air Quality Element and Natural Resources Element of the *2030 Merced County General Plan* (Merced County 2013) relate to energy efficiency:

- **Policy AQ-1.1: Energy Consumption Reduction.** Encourage new residential, commercial, and industrial development to reduce air quality impacts from energy consumption.
- **Policy AQ-1.2: Business Energy Reduction Strategies.** Encourage all businesses to replace high mileage fleet vehicles with more efficient and/or alternative fuel vehicles; increase the energy efficiency of facilities; transition toward the use of renewable energy instead of non-renewable energy sources; adopt purchasing practices that promote emissions reductions and reusable materials; and increase recycling.
- **Policy NR-2.1: Renewable Energy Use.** Promote the development and use of renewable energy resources to reduce dependency on petroleum-based energy sources.
- **Policy NR-2.2: Clean Alternative Energy Requirement.** Encourage new electricity providers to use only clean alternative energy sources (e.g., solar, thermal, wind).
- **Policy NR-2.3: Biomass-to-Energy Production.** Encourage the use of biomass facilities to capture untapped local energy sources from dairies, farmland, and other industrial sources.
- **Policy NR-2.4: Solar Power.** Encourage on-site solar power use in residential, commercial, and industrial buildings, and utility-scale solar facilities in rural locations that do not harm long-term agricultural productivity and habitat values.
- **Policy NR-2.9: Energy Conservation.** Encourage and maximize energy conservation and identification of alternative energy sources (e.g., wind or solar).

- Policy NR-2.12: Green Practices Education. Encourage recycling, composting, source reduction, and education efforts throughout the County for residents, businesses, industries, institutions, and construction.

3.4.2 Environmental Setting

PHYSICAL SETTING

Energy Facilities and Services in the Project Area

The project site is in the service territory of Pacific Gas and Electric Company (PG&E). PG&E provides electricity and natural gas to approximately 70,000 square miles in northern and central California. According to CEC, total electricity consumption in Merced County in 2022 was 2353.6 gigawatt hours (GWh) for nonresidential uses and 831.9 GWh for residential uses (CEC 2024a). Natural gas consumption in Merced County in 2022 was 104.4 million therms for nonresidential uses and 26.8 million therms for residential uses, for a total of 131.2 million therms (CEC 2024b).

ENERGY USE AND CLIMATE CHANGE

Scientists and climatologists have produced evidence that the burning of fossil fuels by vehicles, power plants, industrial facilities, residences, and commercial facilities has led to an increase of the earth's temperature. For an analysis of greenhouse gas production and the project's impacts on climate change, refer to Section 3.5, "Greenhouse Gas Emissions and Climate Change."

3.4.3 Impacts and Mitigation Measures

METHODOLOGY

Construction- and operation-related energy consumption by the project, measured in megawatt-hours of electricity, gallons of gasoline, and gallons of diesel fuel, were calculated using the proposed phasing of the project, the California Emissions Estimator Model (CalEEMod) version 2022.1.1.20 computer program, and fuel consumption rates obtained from CARB's Emission FACtors (EMFAC) model and OFFROAD model (see Appendix B). The discussion of impacts below addresses how the modifications (i.e., the project) to the approved Valley Fill Project could affect energy resources. Detailed calculations, modeling inputs, and results can be found in Appendix B.

SUMMARY OF VALLEY FILL PROJECT EIR IMPACTS AND MITIGATION MEASURES

Wasteful, Inefficient, or Unnecessary Consumption of Energy

The certified Valley Fill Project EIR concluded that increased energy use related to construction and operation of the Valley Fill Project would not be inefficient, wasteful, or unnecessary. (Note that this topic was addressed in Section 4.11, "Utilities," and in Section 7.2, "Significant Irreversible Environmental Effects," in the Valley Fill Draft EIR.) The significance criterion related to conflicts with or obstruction of a state or local plan for renewable energy or energy efficiency was not a required topic under CEQA when the Valley Fill Project EIR was prepared.

SIGNIFICANCE CRITERIA

The following significance criteria are based on State CEQA Guidelines Appendix F, under which an impact on energy would be potentially significant if implementation of the project would:

- result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation; or

- conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

ISSUES NOT DISCUSSED FURTHER

Conflicts with Plans for Renewable Energy or Energy Efficiency

Implementing the project would increase composting capacity at an existing landfill by increasing compostable throughput and modifying the existing technology from a windrow to a CASP system. Although the project involves extension of an electrical power line to the project site to support new processes, modifications to the facility, including the conversion of existing windrows operations to CASP composting, would not change the type of facility on the site. Because the facility already exists and the proposed changes would not result in new development that could conflict with adopted energy plans, this issue is not discussed further in this EIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy during Project Construction or Operation

Implementation of the project would result in the consumption of energy during construction and operation of the composting facility. However, this energy expenditure would not be considered wasteful, because construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. Because operation of the project is necessary to meet SB 1383 goals, which address emissions of methane, a potent short-lived climate pollutant and GHG, the increase in energy demand at the Highway 59 Landfill associated with the project would not be considered a wasteful, inefficient, or unnecessary consumption of energy. This impact would be **less than significant**.

Energy use would be required during construction and operation of the project. Most of the construction-related energy consumption would be associated with use of off-road equipment and the transport of equipment and materials using on-road haul trucks. Using the construction emissions modeling outputs conducted for the air quality and the GHG analyses, equipment activity data (e.g., equipment use hours, vehicle miles traveled) fuel use, in gallons of gasoline and diesel, was estimated. A total estimated 71,834 gallons of diesel and 11,052 gallons of gasoline would be used during project construction. See Appendix B for modeling details.

The energy needs for construction would be spread out over the duration of construction, which is anticipated to occur over approximately 2 years. Although construction activities would require fuel and other energy sources, the energy needs for construction would be temporary and would not increase energy demand in a wasteful or inefficient manner. There would be no atypical construction-related energy demand associated with the project. Nonrenewable energy would not be consumed in a wasteful, inefficient, or unnecessary manner when compared to other construction activity in the region. In addition, on-road gasoline and diesel fuel consumption associated with construction activity would decrease as the vehicle fleet becomes more fuel-efficient over time.

Operation of the CASP facility would increase energy demand at the Highway 59 Landfill because a new fan would be operated to support aeration of the CASP system (i.e., up to 271 megawatt-hours [MWh] for positive aeration and up to 368 MWh for reversing aeration per year) (Kingsley, pers. comm., 2024). Although operation of new equipment associated with the project would increase overall energy use at the Highway 59 Landfill, it would support compliance with SB 1383 goals that address reduced methane (i.e., a potent short-lived climate pollutant) in the state. (See Section 3.5, "Greenhouse Gas Emissions and Climate Change," for further discussion of SB 1383.) Because electricity associated with the project would support SB 1383 implementation goals at the Highway 59 Landfill, the associated increased energy demand would not be considered wasteful, inefficient, or unnecessary. This impact would be **less than significant.** No new significant or substantially more severe significant impacts related to energy would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

3.5 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section presents a summary of regulations applicable to greenhouse gas (GHG) emissions, a summary of climate change science and GHG sources in California, quantification of project-generated GHG emissions and discussion about their contribution to global climate change, and analysis of the project's resiliency to climate change–related risks. The emissions analysis summarized in this section is based on the Highway 59 Composting Facility Air Quality and GHG Technical Report, prepared by Yorke Engineering (Yorke Engineering 2024). The report is included in Appendix B of this Draft SEIR.

No comments expressing concerns regarding impacts related to GHG emissions were submitted in response to the Notice of Preparation (NOP). A scoping report that contains the NOP and comments received in response to it is presented in Appendix A.

3.5.1 Regulatory Considerations

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Mandatory Reporting Rule

On September 22, 2009, the U.S. Environmental Protection Agency (EPA) issued a final rule for mandatory reporting of GHG emissions from large GHG emissions sources in the United States. In general, this national reporting requirement provides EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of carbon dioxide equivalent (CO_2e) per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective opportunities to reduce emissions in the future. An estimated 85 percent of the total U.S. GHG emissions from approximately 10,000 facilities are covered by this final rule. As of 2010, the Highway 59 Landfill is required to report its GHG emissions to EPA under the federal Mandatory Reporting Rule (MRR). The MRR does not prohibit or limit GHG or other emissions. The MRR requires that the Highway 59 Landfill monitor and report GHG emissions, including calculated methane generation and stationary combustion of fossil fuels. The modified project would not change the status or requirements for the Highway 59 Landfill under the MRR.

Endangerment and Cause or Contribute Findings

On December 7, 2009, EPA adopted its Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act (CAA) (Endangerment Finding). The Endangerment Finding is based on Section 202(a) of the CAA, which states that the administrator (of EPA) should regulate and develop standards for "emission[s] of air pollution from any class or classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." The rule addresses Section 202(a) in two distinct findings. The first addresses whether the concentrations of the six key GHGs (i.e., carbon dioxide [CO_2], methane, nitrous oxide, hydrofluorocarbons, perfluorinated chemicals, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations. The second addresses whether the combined emissions of GHGs from mobile sources contribute to atmospheric concentrations of GHG emissions and therefore the threat of climate change.

The administrator found that atmospheric concentrations of GHG emissions endanger the public health and welfare within the meaning of Section 202(a) of the CAA. The evidence supporting this finding consists of human activity resulting in "high atmospheric levels" of GHG emissions, which are very likely responsible for increases in average temperatures and other climatic changes. Furthermore, the observed and projected results of climate change (e.g., higher likelihood of heat waves, wildfires, droughts, sea level rise, and higher-intensity storms) are a threat to public health and welfare. Therefore, GHG emissions were found to endanger the public health and welfare of current and future generations.

The administrator also found that GHG emissions from mobile sources are contributing to air pollution, which is endangering public health and welfare. EPA's final findings respond to the 2007 US Supreme Court decision that GHGs fit within the CAA definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but rather allow EPA to finalize the GHG standards proposed earlier in 2009 for new light-duty vehicles as part of the joint rulemaking with the US Department of Transportation.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Plans, policies, regulations, and laws established by the state agencies are generally presented in the order they were established.

Statewide GHG Emission Targets and Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately two decades. GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (AB 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (SB 32 of 2016). Executive Order S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. This target was superseded by AB 1279, which codifies a goal for carbon neutrality and a reduction in emissions by 85 percent below 1990 levels by 2045. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2 degrees Celsius, the warming threshold at which major climate disruptions, such as substantial super droughts and rising sea levels, are projected. These targets also pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

The California Air Resources Board (CARB) adopted the final *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on December 16, 2022, which traces the state's the pathway to achieve its carbon neutrality and an 85-percent reduction in 1990 emissions goal by 2045 using a combined top-down, bottom-up approach under various scenarios (CARB 2022). It identifies the reductions needed by each GHG emission sector (e.g., transportation [including off-road mobile source emissions], industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential (GWP), and recycling and waste) to achieve these goals.

Senate Bill 605, Senate Bill 1383, and Assembly Bill 1826

SB 605 (Chapter 523, Statutes of 2014) requires CARB to develop a plan to reduce emissions of short-lived climate pollutants (SLCPs), such as methane, hydrocarbons, black carbon, halocarbons, and tropospheric ozone, because of their high GWP. AB 1826 (Chapter 727, Statutes of 2014) requires businesses to recycle their organic waste beginning in 2016. SB 1383 (Chapter 249, Statutes of 2016) requires CARB to approve and implement a plan by January 2018 to achieve these reductions. SB 1383 also sets a target for reduction of methane emissions to 40 percent below 2013 levels by 2030. Pursuant to SB 605 and SB 1383, CARB subsequently developed the Short-Lived Climate Pollutant Reduction Strategy, adopted in March 2017. As part of this strategy, the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with CARB, was required to develop regulations to reduce the level of statewide disposal of organic waste by 50 percent of 2014 levels by 2020 and 75 percent of 2014 levels by 2025. In addition, by 2025, no less than 20 percent of currently disposed edible food must be recovered for human consumption. CalRecycle adopted these regulations in 2019, and they became effective on January 1, 2022. The project is designed to address SB 1383 goals at the Highway 59 Landfill.

State CEQA Guidelines Section 15064.4

In December 2009, the California Resources Agency, under then-Governor Schwarzenegger, adopted amendments to the State CEQA Guidelines. Among other things, the Resources Agency adopted State CEQA Guidelines Section 15064.4, entitled "Determining the Significance of Impacts from Greenhouse Gas Emissions." The guideline, which took effect in March 2010, states:

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project…

(b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Thus, one threshold that may be used to analyze the project's GHG emissions is whether the project would conflict with or obstruct the goals or strategies of the California Global Warming Solutions Act of 2006 (AB 32) or its governing regulation (Health and Safety Code Sections 38500–38599).

REGIONAL PLANS, POLICIES, AND ORDINANCES

San Joaquin Valley Air Pollution Control District

In August 2008, the San Joaquin Valley Air Pollution Control District (SJVAPCD) adopted its Climate Change Action Plan (CCAP). The CCAP directs SJVAPCD to develop guidance to assist CEQA lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project GHG emissions on global climate change.

On June 25, 2014, SJVAPCD issued a guidance document titled *CEQA Determinations of Significance for Projects Subject to CARB's GHG Cap-and-Trade Regulation* (Policy APR-2025; "CEQA Cap-and-Trade Policy") (SJVAPCD 2014). This policy is to be followed when SJVAPCD is "providing technical guidance to lead agencies and the public regarding significance of project specific GHG emissions." The policy states SJVAPCD's conclusion that "GHG emission increases subject to CARB's Cap-and-Trade regulation would have a less than significant individual and cumulative impact on global climate change." Noting that GHG emissions from combustion of transportation fuels are covered under the Cap-and-Trade Program beginning in 2015, the policy also states that "GHG emission increases caused by fuel use (other than jet fuels) are determined to have a less than significant impact on global climate change under CEQA."

Under SJVAPCD's 2014 policy for stationary source impacts, "the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change" (SJVAPCD 2014). This policy employs a tiered approach to determining the CEQA significance of a project's GHG emissions. The first level is compliance with an approved GHG emission reduction plan that is specified in law and supported by a CEQA-compliant environmental review document. SJVAPCD has determined that GHG emissions covered under the Cap-and-Trade Program cannot constitute significant increases under CEQA for two reasons. First, the Cap-and-Trade Program is an approved GHG mitigation plan that meets the requirements set forth in SJVAPCD's policy on stationary-source GHG emissions impacts (SJVAPCD 2014: 4–5). Second, any increase in GHG emissions from affected sectors must be accounted for under the statewide GHG emissions cap in the Cap-and-Trade Program, and that cap decreases over time. As a result, the Cap-and-Trade Program will fully mitigate any project emission increases for emissions included under the cap (SJVAPCD 2014).

SJVAPCD recommends the use of Best Performance Standards (BPSs) as a basis for assessing the significance of project GHG emissions on global climate change under CEQA (SJVAPCD 2009). BPSs consist of established specifications or project design elements used as a method of determining the significance of project-specific GHG emissions impacts. BPSs are defined as the most effective achieved-in-practice means of reducing or limiting GHG

emissions from a GHG emissions source. BPSs for stationary-source projects include equipment type, equipment design, and operational and maintenance practices for the identified service, operation, or emissions unit class or category (SJVAPCD 2009).

SJVAPCD recommends the use of BPSs for assessing climate change impacts to streamline the process of determining significance under CEQA. BPSs are not intended as a required emission reduction measure. Under SJVAPCD guidance, projects implementing BPSs would be determined to have a less-than-significant impact on global climate change on a cumulative basis.

Projects that do not comply with an approved GHG emission reduction plan or use BPSs must demonstrate a 29-percent reduction in GHG emissions to be determined to have a less than cumulatively significant impact on global climate change. The guidance does not limit a lead agency's authority to establish its own process and guidance for determining the significance of project-related impacts on global climate change (SJVAPCD 2009).

LOCAL PLANS, POLICIES, AND ORDINANCES

Merced County General Plan

Relevant policies and standards from the *2030 Merced County General Plan* (County of Merced 2013) related to GHG emissions and energy consumption are listed below:

Air Quality Element

- **Policy AQ-1.2:** Business Energy Reduction Strategies. Encourage all businesses to: replace high mileage fleet vehicles with more efficient and/or alternative fuel vehicles; increase the energy efficiency of facilities; transition toward the use of renewable energy instead of non-renewable energy sources; adopt purchasing practices that promote emissions reductions and reusable materials; and increase recycling.
- **Policy AQ-2.3:** Cumulative Impacts. Encourage the reduction of cumulative air quality impacts produced by projects that are not significant by themselves, but result in cumulatively significant impacts in combination with other development.
- **Policy AQ-2.5:** Innovative Mitigation Measures. Encourage innovative mitigation measures and project redesign to reduce air quality impacts by coordinating with the San Joaquin Valley Air Pollution Control District, project applicants, and other interested parties.
- **Policy AQ-4.7:** Planning Integration. Require land use, transportation, and air quality planning to be integrated for the most efficient use of resources and a healthier environment.

Health and Safety Element

- **Policy HS-6.1:** Development Restrictions in High Risk Areas. Prohibit development in areas that may be more severely impacted by climate change, including areas at high risk of wildfire or flooding, unless proper design mitigation is included in the project.

3.5.2 Environmental Setting

THE PHYSICAL SCIENTIFIC BASIS OF GREENHOUSE GAS EMISSIONS, CLIMATE CHANGE, AND ENERGY

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead

"trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (IPCC 2014).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern (see Section 3.1, "Air Quality," for a discussion of criteria air pollutants and toxic air contaminants). Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remain stored in the atmosphere (IPCC 2013).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

ATTRIBUTING CLIMATE CHANGE—GREENHOUSE GAS EMISSION SOURCES

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural emissions sectors (CARB 2008: 17). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (CARB 2014). Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) largely associated with agricultural practices and landfills. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.

State Greenhouse Gas Emissions Inventory

In 2021, emissions from statewide emitting activities were 381.3 million metric tons of carbon dioxide equivalent ($MMTCO_2e$), 12.6 $MMTCO_2e$ higher than 2020 levels and 49.7 $MMTCO_2e$ below the 2020 GHG limit of 431 $MMTCO_2e$. In 2014, statewide GHG emissions dropped below the 2020 GHG limit and have remained below the limit since that time. Per capita GHG emissions in California have dropped from a 2001 peak of 13.8 metric tons per person to 9.7 metric tons per person in 2021, a 30.0-percent decrease. Overall trends in the AB 32 GHG Inventory also continue to demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product) is declining. The continuation of the downward trend in GHG emissions from 2021 to 2022 indicates that the increase in emissions from 2020 to 2021 is likely an anomaly caused by broader economic trends related to the COVID-19 pandemic and associated recovery (CARB 2023).

Table 3.5-1 summarizes the statewide GHG inventory for California.

Table 3.5-1 Statewide GHG Emissions by Economic Sector

Sector	Percent
Transportation	39
Industrial	22
Electricity generation (in state)	11
Electricity generation (imports)	5
Agriculture	8
Residential	8
Commercial	6
Not specified	<1

Source: CARB 2023.

As shown in Table 3.5-1, transportation, industry, and electricity generation are the largest GHG emission sectors. Emissions of CO_2 are byproducts of fossil fuel combustion.

EXISTING EMISSIONS

The project involves replacing the current 25,000-ton-per-year (tpy) windrow composting operation with a 75,000-tpy CASP composting operation. Baseline emissions associated with the existing windrow composting facility include emissions from mobile sources necessary for operation of the facility. These sources include trucks transporting organic waste to the facility, employee travel vehicles, support vehicles, heavy equipment for feedstock movement, and vehicles for compost delivery. The emissions from operational mobile sources are summarized in Table 3.5-2, with detailed calculations provided in Appendix B. GHG emissions generated by the windrow composting process are biogenic and naturally occurring and do not contribute to the facility's GHG inventory.

Table 3.5-2 Summary of Existing Mobile Source GHG Emissions

Emission Source	CO_2 (MT/yr)	CH_4 (MT/yr)	N_2O (MT/yr)	CO_2e (MT/yr)
On-road vehicle exhaust	369	0.0	0.1	386
Off-road equipment exhaust	1,027	41	8	1,030
Total	1,395	41	8	1,416

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; MT/yr = metric tons per year; N_2O = nitrous oxide.
Totals may not equal the sum of the numbers because of independent rounding.
Source: Yorke Engineering 2024.

3.5.3 Impacts and Mitigation Measures

METHODOLOGY

Information provided in this analysis is based on *Highway 59 Composting Facility Air Quality and GHG Technical Report*, prepared by Yorke Engineering (Appendix B). The following summary describes the methodology used in the technical report.

Project-generated GHG emissions include those generated by the use of construction equipment and operational mobile sources (waste haul trucks, on-site operational/transport vehicles), as well as biogenic GHG emissions associated with composting. The project emissions were estimated as the sum of operational emissions and 2-year construction emissions amortized over a 30-year lifespan.

Construction GHG emissions were estimated using CalEEMod version 2022.1.1.20 (CAPCOA 2023). The estimated GHG emissions include direct emissions from construction equipment and activities, as well as indirect emissions, such as GHG emissions from energy use and water use. Construction emissions were quantified for each year of construction and amortized over a 30-year period, to allow a comparison with the existing annual operational emissions (Yorke 2024).

Existing operational emissions were also estimated assuming a baseline throughput of 11,330 tpy for composting and 63,670 tpy for the landfill. Methane emissions associated with current landfill operations would be reduced as a result of the increase in CASP operations; thus, these "avoided" emissions were accounted for as reductions in the project's emissions and calculated using EPA's Waste Reduction Model (EPA 2020). In addition, there would be a slight reduction in mobile-source emissions related to reductions in municipal solid waste flow; when the flow of municipal waste decreases, the flow of compost increases. The landfill GHG emissions include three components: methane emissions, biogenic CO_2 emissions, and sequestered carbon. Mobile-source emissions were calculated using EMFAC 2021 for on-road vehicles and published emissions factors for off-road vehicles. A detailed description of the calculation procedure and assumptions is provided in Appendix B.

Consistency with applicable plans and policies adopted for the purpose of reducing GHG emissions was evaluated qualitatively.

SUMMARY OF VALLEY FILL PROJECT EIR IMPACTS AND MITIGATION MEASURES

Increase in GHG Emissions and Consistency with GHG Reduction Plans

The certified Valley Fill Project EIR concluded that implementing the project would result in a less-than-significant impact related to increases in GHG emissions because the project would comply with SJVAPCD BPSs requirements, which would involve the control and reduction of landfill-related GHG emissions through annual reporting and monitoring, as well as implementation of corrective actions. As a result, the project would not conflict with applicable plans, policies, or direction related to the reduction of GHG. No mitigation was required.

SIGNIFICANCE CRITERIA

The issue of global climate change is inherently a cumulative issue because the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, the project's impact on climate change is addressed as a cumulative impact.

State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. Under Appendix G of the State CEQA Guidelines, implementing a project would result in a cumulatively considerable contribution to climate change if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or
- conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As stated in Appendix G, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the above determinations. SJVAPCD has issued guidance for the assessment of GHG significance. Rather than establishing specific numeric thresholds of significance (as in the case of criteria pollutant emissions), the SJVAPCD guidance uses a tiered approach to assess cumulative impacts on global climate change. Consistent with SJVAPCD guidance documents (see the "Regulatory Considerations" section), the *Guide for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015) recommends a three-tier approach:

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program that avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less-than-significant individual and cumulative impact related to GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA-compliant environmental review document adopted by the lead agency.

Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPSs.

- Projects implementing BPSs would not require quantification of project-specific GHG emissions. Consistent with the State CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact related to GHG emissions.

- Projects not implementing BPSs would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29 percent compared to business as usual (BAU), including GHG emission reductions achieved since the 2002–2004 baseline period, consistent with GHG emission reduction targets established in CARB's AB 32 Scoping Plan. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact related to GHG emissions.

ISSUES NOT DISCUSSED FURTHER

All issues pertaining to GHG emissions are evaluated below.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Increase in GHG Emissions

Project construction and operation would result in a net reduction in GHG emissions of 2,315 $MTCO_2e$ per year compared to conditions without the project. Implementing the project would not result in a substantial increase in GHG emissions. This impact would be **less than significant**.

The project involves construction and operation of a 75,000-tpy CASP composting facility that would replace a 25,000-tpy windrow composting facility. The increase in tpy would be related to diversion of compostable materials from the municipal solid waste stream at the Highway 59 Landfill. Organic matter decomposing in landfills produces GHG emissions (i.e., primarily methane, an SLCP). A reduction in the amount of organic waste disposed of at the landfill would avoid the emissions of these pollutants because under aerobic composting conditions, CO_2 is produced instead of methane, which has a much higher GWP than CO_2.

To evaluate GHG impacts associated with the project, construction and operation (mobile and composting) emissions were quantified. In addition, emissions associated with current operations were quantified, and the net change in emissions was determined. Table 3.5-3 summarizes project net GHG emissions. Detailed model inputs and outputs are described in Appendix B.

Table 3.5-3 Summary of Project GHG Emissions

Scenario	CO_2 (MT/yr)	CH_4 (MT/yr)	N_2O (MT/yr)	CO_2e (MT/yr)
Project construction (amortized over 30 years)	9	<0.01	<0.01	9
Project operation (mobile sources)	3,187	70	14	3,260
Landfill diversion	—[1]	—[1]	—[1]	(4,169)
Existing mobile sources	(1,395)	(41)	(8.10)	(1,416)
Net GHG emission change				(2,315)

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; MT/yr = metric tons per year; N_2O = nitrous oxide.
Totals may not equal the sum of the numbers because of independent rounding.
1. GHG emissions associated with diversion are calculated using U.S. EPA's Waste Reduction Model (WARM) and are summarized as CO_2e.
( ) = reduction
Source: Yorke Engineering 2024.

The estimated annual GHG emissions associated with the project would be 2,315 $MTCO_2e$ per year less than under current conditions. This analysis indicates that more GHG emissions would be displaced with operation of the CASP facility compared to the continuation of the existing landfill operations, including the windrow facility. Thus, implementing the project would not result in a substantial increase in GHG emissions. In fact, it would result in a net decrease in emission compared to existing conditions.

Further, in 2013, SJVAPCD sponsored a study comparing CASP composting to windrow composting. The findings highlighted substantial benefits of CASP composting, including saving at least 1 million gallons of water annually for a 100,000-tpy facility, reducing GHG emissions associated with water pumping, achieving an 87-percent reduction in diesel fuel use per ton of production, and ultimately realizing a 70-percent reduction in overall GHG emissions (SJVAPCD 2013). In conclusion, the project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. This impact would be **less than significant**. No new significant or substantially more severe significant impacts would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.5-2: Conflict with an Applicable Plan, Policy, or Regulation

Approximately 30 million tons of solid waste are disposed of in California landfills annually, contributing to the generation of methane emissions, a potent GHG. To mitigate these emissions and comply with legislation such as SB 1383, the project aims to divert organic waste from landfills through composting, aligning with CARB's SLCP Reduction Strategy to decrease GHG emissions. Thus, the project is consistent with the state strategies to reduce GHG emissions and would not conflict with an applicable plan, policy, or regulation. This impact would be **less than significant**.

Californians dispose of approximately 30 million tons of solid waste in landfills each year. Organic wastes decompose in landfills, producing methane, a highly potent GHG. Although landfills are a relatively effective and safe way to manage some waste, disposal-centric activities squander valuable resources, generate landfill gas, and create other risks. A large fraction of the organics in the waste stream could be diverted from landfills to composting or digestion facilities to produce beneficial products.

In March 2017, CARB adopted the SLCP Reduction Strategy, establishing a path to decrease GHG emissions and displace fossil-based natural gas use. Strategies include avoiding landfill methane emissions by reducing the disposal of organics through edible food recovery, composting, in-vessel digestion, and other processes, as well as recovering methane from wastewater treatment facilities and manure at dairies and using the recovered methane as a renewable source of natural gas to fuel vehicles or generate electricity. The project would support the goals of the SLCP Reduction Strategy by providing composting as an alternative to landfilling of organic wastes in Merced County.

The project would also support compliance with SB 1383 (Lara, Chapter 395, Statutes of 2016). SB 1383 targets SLCPs, including methane emissions related to organic waste disposal in landfills. To reduce methane emissions at landfills, SB 1383 requires the reduction of landfill disposal of organic waste to 75 percent below 2014 levels by 2025, including establishing energy infrastructure development and procurement policies needed to encourage in-vessel digestion projects and increase the production and use of renewable gas. The project would support the goals of SB 1383 by providing composting as an alternative to landfilling of organic wastes in Merced County.

The project, in and of itself, is intended to achieve SB 1383 requirements and reduction of GHGs associated with municipal solid waste disposal. By providing the level of composting proposed as an alternative to landfilling of organic waste, the project would be consistent with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. This impact would be **less than significant**. No new significant or substantially more severe significant impacts would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

3.6 NOISE AND VIBRATION

This section describes the potentially new, or substantially more severe, significant adverse impacts on noise and vibration that could result from the project modifications. It also provides an overview of relevant regulations pertaining to noise and vibration. The analysis includes a description of ambient-noise conditions, the methods used for assessment of impacts, and the potential impacts not included in the certified Valley Fill Project EIR. Additional data, including noise modeling results, are provided in Appendix D.

No comments that identified concerns regarding impacts on noise or vibration were received in response to the Notice of Preparation (NOP). A scoping report that contains the NOP and comments received in response to it is presented in Appendix A.

3.6.1 Acoustic Overview

ACOUSTIC FUNDAMENTALS

The following discussion provides an overview of sound, noise, vibration, and common noise descriptors to provide context and an understanding of the technical terms referenced throughout this section.

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a human ear. Noise is defined as loud, unexpected, annoying, or unwanted sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this large range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB).

Addition of Decibels

Because decibels are logarithmic units, SPLs cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness at the same time, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one idling truck generates an SPL of 70 dB, two trucks idling simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level of approximately 5 dB louder than one source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies, as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–5,000 Hz and perceive sounds within this range better than sounds of the same amplitude with frequencies outside of this range. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of A-weighted decibels) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Thus, noise levels are typically reported in terms of A-weighted decibels. Table 3.6-1 describes typical A-weighted noise levels for various noise sources.

Table 3.6-1 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawnmower at 3 feet	90	
Diesel truck moving at 50 mph at 50 feet	80	Food blender at 3 feet, garbage disposal at 3 feet
Noisy urban area, gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet, normal speech at 3 feet
Commercial area, heavy traffic at 300 feet	60	
Quiet urban daytime	50	Large business office, dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library, bedroom at night, concert hall (background)
Quiet rural nighttime	20	Broadcast/recording studio
	10	
Threshold of human hearing	0	Threshold of human hearing

Notes: dB = A-weighted decibels; mph = miles per hour.

Source: Caltrans 2013: 2-20.

Human Responses to Changes in Noise Levels

As described above, the doubling of sound energy results in a 3-dB increase in the sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 Hz and perceives both higher and lower frequency sounds of the same magnitude with less intensity (Caltrans 2013:2-18). In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. A doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness (Caltrans 2013: 2-10).

Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2018: 110; Caltrans 2020: 6).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018: 110; Caltrans 2020: 7).

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground 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 (FTA 2018: 120; Caltrans 2020: 27).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur to fragile buildings. Construction activities can generate ground vibrations sufficient to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2018: 113).

Vibrations generated by construction activity can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations are generated by vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 3.6-2 summarizes the general human response to different ground vibration-velocity levels.

Table 3.6-2 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is annoying.
85 VdB	Vibration tolerable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1 microinch per second and based on the root-mean-square velocity amplitude.

Source: FTA 2018: 120.

Common Noise Descriptors

Noise in our daily environment fluctuates over time. Various noise descriptors have been developed to describe time-varying noise levels. The following noise descriptors are used throughout this section:

- **Equivalent Continuous Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013: 2-48). For instance, the 1-hour equivalent sound level, also

referred to as the hourly L_{eq}, is the energy average of sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by the California Department of Transportation (Caltrans) and the Federal Transit Administration (FTA) (Caltrans 2013: 2-47; FTA 2018: Table 3-1).

- **Percentile-Exceeded Sound Level (L_x):** L_x represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time) (Caltrans 2013: 2-48).
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period (Caltrans 2013: 2-48; FTA 2018: Table 3-1).
- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB "penalty" applied to sound levels occurring during nighttime hours between 10:00 p.m. and 7:00 a.m. (Caltrans 2013: 2-48; FTA 2018: Table 3-1).
- **Community Noise Equivalent Level (CNEL):** CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m. and a 5-dB penalty applied to the sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m. (Caltrans 2013: 2-48).
- **Vibration Decibels (VdB)**: VdB is the vibration velocity level in decibel scale (FTA 2018: Table 5-1).
- **Peak Particle Velocity (PPV)**: PPV is the peak signal value of an oscillating vibration waveform. Usually expressed in inches per second (in/sec) (FTA 2018: Table 5-1).

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which a noise level decreases with distance depends on geometric spreading, ground absorption, atmospheric effects, and shielding by natural or human-made features, described in detail below.

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Roads and highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources, thus propagating at a slower rate in comparison to a point source. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a source to a receiver is usually close to the ground. Noise attenuation from ground absorption and reflective wave canceling provides additional attenuation associated with geometric spreading. Traditionally, this additional attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an additional ground-attenuation value of 1.5 dB per doubling of distance is normally assumed.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels because wind can carry sound. Sound levels can be increased over large distances (e.g., more than 500 feet) from the source because of atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors, such as air temperature, humidity, and turbulence, can also affect sound attenuation.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction (Caltrans 2013: 2-41; FTA 2018: 16). Barriers higher than the line of sight provide increased noise reduction (FTA 2018: 16). Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier unless there are multiple rows of vegetation (FTA 2018: 15, 104, 106).

3.6.2 Regulatory Considerations

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

A discussion of the federal plans, policies, regulations, and laws related to noise and vibration is provided below.

Federal Transit Administration

To address the human response to ground vibration, the FTA has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines are presented in Table 3.6-3. In addition, FTA has established construction vibration damage criteria, shown in Table 3.6-4.

Table 3.6-3 Ground-Borne Vibration Impact Criteria for General Assessment

Land Use Category	GBV Impact Levels (VdB re 1 microinch/second)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 [4]	65 [4]	65 [4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Notes: GBV = ground-borne vibration; VdB = vibration decibels referenced to 1 microinch per second and based on the root mean square velocity amplitude.

[1] "Frequent events" is defined as more than 70 vibration events of the same source per day.

[2] "Occasional events" is defined as between 30 and 70 vibration events of the same source per day.

[3] "Infrequent events" is defined as fewer than 30 vibration events of the same source per day.

[4] This criterion is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

Source: FTA 2018: 126.

Table 3.6-4 FTA Construction Damage Vibration Criteria

Land Use Category	PPV, in/sec
Reinforced-concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Nonengineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Notes: FTA = Federal Transit Administration; PPV = peak particle velocity; in/sec = inches per second.

Source: FTA 2018.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California General Plan Guidelines

The *State of California General Plan Guidelines,* 2017 edition, published by the California Governor's Office of Planning and Research (OPR), provides guidance for the compatibility of projects in areas of specific noise exposure. Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used to derive local noise standards and guidance. Citing US Environmental Protection Agency materials and the State Sound Transmissions Control Standards, the state's general plan guidelines recommend interior and exterior CNEL of 45 and 60 dB for residential units, respectively (OPR 2017: 378).

LOCAL PLANS, POLICIES, AND ORDINANCES

Merced County General Plan

The *2030 Merced County General Plan* (County General Plan) includes noise level standards for new uses, including office building and industrial land uses, affected by traffic, railroad, and airport noise, which are shown in Table 3.6-5. The County General Plan also includes interior and exterior noise level standards for land uses affected by existing non-transportation noise sources, which are shown in Table 3.6-6. These standards apply to the unincorporated areas of Merced County, within which the project is located.

Table 3.6-5 Noise Standards for New Uses Affected by Traffic, Railroad, and Airport Noise

New Land Use	Sensitive Outdoor Area[1] (dB L_{dn})	Sensitive Interior Area[2] (dB L_{dn})
All residential[3]	65	45
Transient lodging[3,4]	65	45
Hospitals and nursing homes[3,4,5]	65	45
Theaters and auditoriums[4]	—	35
Churches, meeting halls, schools, libraries, etc.[4]	65	40
Office buildings[4]	65	45
Commercial buildings[4]	—	50
Playgrounds, parks, etc.	70	—
Industry[4]	65	50

Notes: dB = decibels; L_{dn} = day-night level.

[1] Sensitive outdoor areas include primary outdoor activity areas associated with any given land use at which noise sensitivity exists and the location at which the County's exterior noise level standards are applied.

[2] Sensitive interior areas include any interior areas associated with any given land use at which noise-sensitivity exists and the location at which the County's interior noise level standards are applied. Examples of sensitive interior spaces include all habitable rooms of residential and transient lodging facilities, hospital rooms, classrooms, library interiors, offices, worship spaces, and theaters. Interior noise level standards are applied in noise-sensitive areas of the various land uses with windows and doors in the closed positions.

[3] Railroad warning horn usage shall not be included in the computation of L_{dn}.

[4] Only the interior noise level standard shall apply if there are no sensitive exterior spaces proposed for these uses.

[5] Because hospitals are often noise-generating uses, the exterior noise level standards are applicable only to clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

Source: Merced County 2013: HS-10.

Table 3.6-6 Non-Transportation Noise Standards Median (L_{50}) / Maximum (L_{max})

Receiving Land Use	Sensitive Outdoor Area[1] Daytime	Sensitive Interior Area[2] Nighttime	Sensitive Interior Area[2] Day or Night
All residential	55 / 75	50 / 70	35 / 55
Transient lodging[3]	55 / 75	—	35 / 55
Hospitals and nursing homes[4,5]	55 / 75	—	35 / 55
Theaters and auditoriums[5]	—	—	30 / 50
Churches, meeting halls, schools, libraries, etc.[5]	55 / 75	—	35 / 60
Office buildings[5]	60 / 75	—	45 / 65
Commercial buildings[5]	55 / 75	—	45 / 65
Playgrounds, parks, etc.[5]	65 / 75	—	—
Industry[5]	60 / 80	—	50 / 70

Note: These standards shall be reduced by 5 decibels for sounds consisting primarily of speech or music and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards in this table, then the noise level standards shall be increased at 5-decibel increments to encompass the ambient noise level.

[1] Sensitive outdoor areas include primary outdoor activity areas associated with any given land use at which noise-sensitivity exists and the location at which the County's exterior noise level standards are applied.

[2] Sensitive interior areas include any interior areas associated with any given land use at which noise-sensitivity exists and the location at which the County's interior noise level standards are applied. Examples of sensitive interior spaces include all habitable rooms of residential and transient lodging facilities, hospital rooms, classrooms, library interiors, offices, worship spaces, and theaters. Interior noise level standards are applied in noise-sensitive areas of the various land uses with windows and doors in the closed positions.

[3] Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.

[4] Because hospitals are often noise-generating uses, the exterior noise level standards are applicable only to clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

[5] The outdoor activity areas of these uses (if any) are not typically used during nighttime hours.

[6] When median (L_{50}) noise level data are not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source operates for at least 30 minutes. If the source operates for less than 30 minutes, the maximum noise level standards shown shall apply.

Source: Merced County 2013: HS-11.

The following County General Plan policies related to noise and vibration are applicable to the project.

- Policy HS-7.2: Acoustical and Groundborne Vibration Analysis Requirements (RDR). Require development project applicants to prepare an acoustical analysis as part of the environmental review process when noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels shown in Tables HS-1 and HS-2 [shown in this SEIR as Tables 3.6-5 and 3.6-6, above]. Require an analysis of groundborne vibration for proposed residential and other sensitive projects (including but not limited to hospitals and schools) located within 1,000 feet of a rail line with at least 30 operations per day or an existing industrial groundborne vibration source. The acoustical and groundborne vibration analyses shall:

  a) Be the responsibility of the applicant;

  b) Be prepared by qualified persons experienced in the fields of environmental noise and groundborne vibration assessment and architectural acoustics;

  c) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions;

  d) Estimate projected future (20 year) noise levels relative to the standards shown in Tables HS-1 and HS-2 [Tables 3.6-5 and 3.6-6] at the property line of the proposed use, and, as applicable, estimate project future groundborne vibration levels using a maximum vibration standard of 70 VdB;

e) Recommend appropriate mitigation to achieve compliance with the adopted policies and standards in this element, including setbacks from groundborne vibration sources causing adverse levels of vibration; and

f) Estimate interior and exterior noise, and groundborne vibration exposure after the prescribed mitigation measures have been implemented at the property line.

- Policy HS-7.3: Existing Rural Sources (RDR). Discourage new noise sensitive land uses in rural areas with authorized existing noise generating land uses.
- Policy HS-7.4: New Noise or Groundborne Vibration Generating Uses (RDR). Require new commercial and industrial uses to minimize encroachment on incompatible noise or groundborne vibration sensitive land uses. Also consider the potential for encroachment by residential and other noise or groundborne vibration sensitive land uses on adjacent lands that could significantly impact the viability of the commercial or industrial areas.
- Policy HS-7.5: Noise Generating Activities (RDR). Limit noise generating activities, such as construction, to hours of normal business operation.
- Policy HS-7.7: Noise or Vibration Impacted Residential Area Monitoring (RDR): Consider any existing residential area "noise or vibration impacted" if the exposure to exterior noise exceeds the standards shown in Table HS-2 [Table 3.6-6] or if the groundborne vibration levels exceed 70 VdB. Identify and evaluate potential noise or groundborne vibration impacted areas and identify possible means to correct the identified noise/land use incompatibilities.
- Policy HS-7.8: Project Design (RDR). Require land use projects to comply with adopted noise and vibration standards through proper site and building design, such as building orientation, setbacks, natural barriers (e.g., earthen berms, vegetation), and building construction practices. Only consider the use of soundwalls after all design-related noise mitigation measures have been evaluated or integrated into the project or found infeasible.
- Policy HS-7.12: New Project Noise Mitigation Requirements (RDR). Require new projects to include appropriate noise mitigation measures to reduce noise levels in compliance with the Table HS-2 [Table 3.6-6] standards within sensitive areas. If a project includes the creation of new non-transportation noise sources, require the noise generation of those sources to be mitigated so they do not exceed the interior and exterior noise level standards of Table HS-2 [Table 3.6-6] at existing noise-sensitive areas in the project vicinity. However, if a noise-generating use is proposed adjacent to lands zoned for residential uses, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the standards shown in Table HS-2 [Table 3.6-6] at the property line of the generating use in anticipation of the future residential development.
- Policy HS-7.15: New Project Groundborne Mitigation Requirements (RDR). For residential projects within 1,000 feet of a rail line with at least 30 operations per day, or an existing industrial or commercial groundborne vibration source, require new residential projects to include appropriate groundborne vibration mitigation measures to reduce groundborne vibration levels to less than 70 VdB within structures. However, if a groundborne vibration-generating use is proposed adjacent to lands zoned for residential uses, then the groundborne vibration-generating use shall be responsible for mitigating its groundborne vibration generation to a state of compliance with the 70 VdB standard at the property line of the generating use in anticipation of the future residential development.

Merced County Municipal Code

The Merced County Municipal Code (County Municipal Code) establishes the following standards related to noise and vibration that are relevant to the project:

Section 10.60.030: Sound Level Limitations

A. No person shall cause, suffer, allow, or permit the operation of any sound source on private property in such a manner as to create a sound level that results in any of the following, when measured at or within the real property line of the receiving property:

1. Exceeds the background sound level by at least 10 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) and by at least 5 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). The background sound level for purposes of this section shall be determined as set forth in Section 10.60.060; or
2. Exceeds 65 dBA L_{dn} on residential real property or 70 dBA L_{dn} on nonresidential real property; or
3. Exceeds 75 dBA L_{max} on residential real property or 80 dBA L_{max} on nonresidential real property.

B. The following are exempt from the sound level limits of Section 10.60.030(A):

5. Noise from construction activity, provided that all construction in or adjacent to urban areas shall be limited to the daytime hours between 7:00 a.m. and 6:00 p.m., and all construction equipment shall be properly muffled and maintained.

Section 10.60.040: Specific Prohibited Acts

A. No person shall cause, suffer, allow, or permit to be made verbally or mechanically any noise disturbance.

B. No person shall cause, suffer, allow, or permit to the following acts:

4. Loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, liquids, garbage cans, refuse, or similar objects, or the pneumatic or pumped loading or unloading of bulk materials in liquid, gaseous, powder, or pellet form, or the compacting of refuse by persons engaged in the business of scavenging or garbage collection, whether private or municipal, between 9:00 p.m. and 7:00 a.m. the following day on a weekday and between 9:00 p.m. and 9:00 a.m. the following day on a weekend day or legal holiday except by permit, when the sound therefrom creates a noise disturbance across a residential real property line;
5. Operating or permitting the operation of any tools or equipment used in construction, drilling, earthmoving, excavating, or demolition work between 6:00 p.m. and 7:00 a.m. the following day on a weekday or at any time on a weekend day or legal holiday, except for emergency work, or when the sound level does not exceed any applicable relative or absolute limit specified in Section 10.60.030;
6. Using, operating, or permitting the operation of one or more off-highway vehicles on private property such that the resulting sound creates a noise disturbance across a residential real property line.

Section 10.60.050: Exemptions

A. The provisions of this chapter shall not apply to:

6. Any land use for which a valid discretionary land use permit, such as a conditional use permit or an administrative permit, has been issued by the county prior to the effective date of the ordinance codified in this chapter, or which may be issued by the county, it being the intention of the county that the process for granting discretionary land use permits, including the imposition of conditions, be separate and independent of this chapter.

Section 18.040.050: Noise

A. Applicability. The following noise provisions, standards, and specifications apply to all properties, structures, uses, and activities in all zones, unless an exception is specifically noted. For additional noise standards see Chapter 10.60 (Noise Control) in the Merced County Code.

C. Noise Generated by Mechanical Equipment. Buzzers, bells, loud speakers, or other noise generating devices shall comply with the noise standards below at any boundary line of the parcel, except fire protection devices, burglar alarms, and church bells. Merced County Code Chapter 10.60 (Noise Control) and the 2030 General Plan Standards for unacceptable noise levels shall apply:

1. If the proposed use exceeds the background sound level by at least 10 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) and by at least 5 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). The background sound level for purposes of this section shall be determined as set forth in Merced County Code Section 10.60.060.

2. If the proposed use is adjacent to a residential land use or property that is zoned for residential use, the allowable noise level shall not exceed 65 dBA L_{dn} or 75 dBA L_{max} at the property line.
3. If the proposed use is not adjacent to a residential use or a parcel zoned for residential land use, the allowable noise level at the property line shall not exceed 70 dBA L_{dn} or 80 dBA L_{max} at the property line.

D. Consistency with General Plan. The maximum noise levels for all land uses shall be consistent with Table HS-1 (Noise Standards for New Uses Affected by Traffic, Railroad, and Airport Noise) [shown in this SEIR as Table 3.6-5] and Table HS-2 (Non-Transportation Noise Standards) [shown in this SEIR as Table 3.6-6] in the Health and Safety Element of the 2030 General Plan.

E. Elevated Noise Level During Construction. During construction, the noise level may be temporarily elevated. To minimize the impact, all construction in or adjacent to urban areas shall comply with the following procedures for noise control:

1. Construction hours shall be limited to the daytime hours between 7:00 a.m. and 6:00 p.m. daily;
2. Operating or permitting the operation of any tools or equipment used in construction, drilling, earthmoving, excavating, or demolition work between 6:00 p.m. and 7:00 a.m. on a weekday or at any time on a weekend day, or legal holiday, except for emergency work, or when the sound level exceeds any applicable relative or absolute limit specified in MCC Section 10.60.030 is prohibited; and
3. All construction equipment shall be properly muffled and maintained.

Section 18.40.080: Vibration, Heat, Electrical Disturbance, and Glare

No use shall create any disturbing ground vibration, heat, glare, and electrical disturbances based on typical human reaction beyond the boundaries of the subject parcel. No use shall cause electromagnetic interference with normal radio or television reception or with the function of other electronic equipment beyond the property line of the parcel on which they are located.

3.6.3 Environmental Setting

EXISTING NOISE ENVIRONMENT

Existing Noise- and Vibration-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Additional land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels. These noise-sensitive uses are also considered vibration-sensitive land uses, in addition to commercial and industrial buildings where vibration would interfere with operations within the building.

The sensitive receptor nearest to the project site is a single-family residence located along State Route (SR) 59, approximately 1,200 feet south of the Highway 59 Landfill boundary. Additional clusters of single-family residences are located farther south along SR 59, no closer than approximately 0.50 mile south of the Highway 59 Landfill boundary. No other sensitive land uses are located within 1 mile of the Highway 59 Landfill. Figure 3.6-1 shows the layout of these receptors relative to the project site.

Existing Noise Sources and Ambient Levels

The existing noise environment in the project area is largely influenced by transportation noise from vehicle traffic on the roadway systems (i.e., SR 59). Other noise sources include existing landfill activities, seasonal harvesting activities in adjacent orchards, birds, and livestock. In addition, and to a lesser extent, occasional aircraft noise associated with

the Merced County Castle Airport (approximately 3.5 miles southwest of the project site) and noise associated with commercial and residential land uses (e.g., landscaping equipment) influence the existing noise environment.

To characterize the existing ambient noise environment at the project site, short-term ambient noise level measurements were conducted at four locations in the project area on July 10, 2014. Figure 3.6-1 shows the locations of the noise monitoring sites. A Larson Davis SoundTrack LXT1 Class 1 sound level meter was used for the ambient noise level measurement surveys. The meter was calibrated before and after use with a Larson Davis Laboratories Model CAL200 acoustical calibrator to ensure measurement accuracy. The measurement equipment meets all pertinent specifications of the American National Standards Institute for Class 1 and Class 2. Meteorological conditions during the measurement period were adequate for reliable noise measurements, with clear skies, temperatures ranging from 77 degrees Fahrenheit (°F) to 82°F, light winds averaging 4 miles per hour, and a relative humidity of 53 percent. The results of the ambient noise measurement survey are summarized in Table 3.6-7. Refer to Figure 3.6-1 for the specific locations of noise measurements in relation to the project site.

Table 3.6-7 Summary of Existing Ambient Short-Term Noise Measurements

Location[1]	Date and Time	A-Weighted Sound Level (dBA) L_{eq}	A-Weighted Sound Level (dBA) L_{max}	A-Weighted Sound Level (dBA) L_{min}
Site 1	July 10, 2014, 10:26 a.m. to 10:46 a.m.	43.5	59.3	35.2
Site 2	July 10, 2014, 10:59 a.m. to 11:14 a.m.	32.6	62.6	27.1
Site 3	July 10, 2014, 11:24 a.m. to 11:39 a.m.	60.0	80.2	33
Site 4	July 10, 2014, 11:50 a.m. to 12:05 p.m.	68.2	84.8	35.0

Notes: dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level; L_{max} = maximum sound level; L_{min} = minimum sound level.

[1] Refer to Figure 3.6-1 for ambient noise level measurement locations.

Source: Data collected by Ascent in 2014.

The predominant noise source in the project area is vehicle traffic on SR 59. Existing traffic noise levels on roadway segments in the project area were modeled using calculation methods consistent with Caltrans methodology and using average daily traffic volumes provided in the traffic analysis conducted by KD Anderson & Associates. Truck use and vehicle speeds on study area roadways were estimated from field observations, the project-specific traffic report, and information from existing studies of the project site. Table 3.6-8 summarizes the modeled existing traffic noise levels at 50 feet from the centerline of each roadway segment. It also lists distances from each roadway centerline to the 65, 60, and 55 CNEL/L_{dn} traffic noise contours. For further details on traffic-noise modeling inputs and parameters, refer to Appendix D.

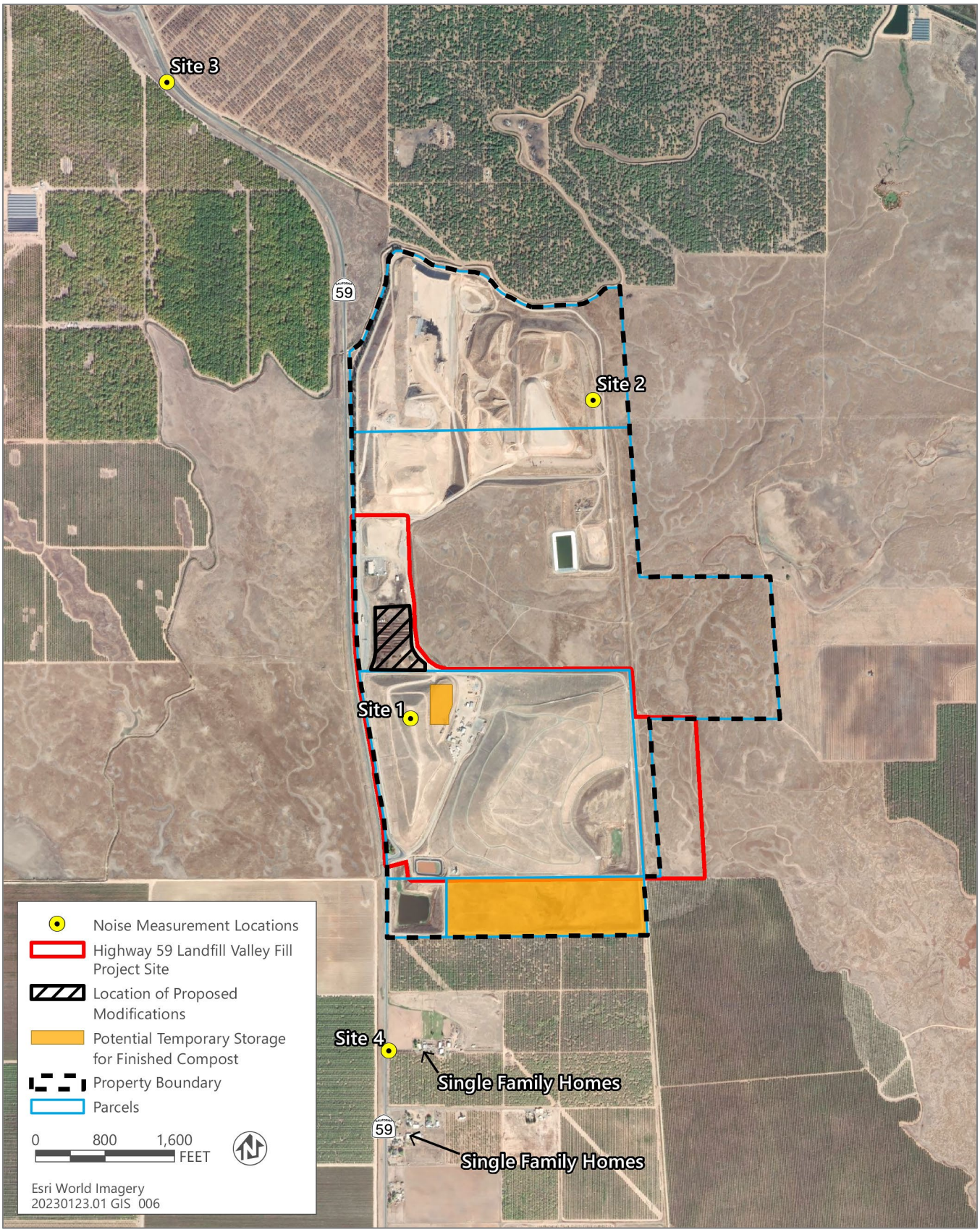
Table 3.6-8 Summary of Modeled Existing Traffic Noise Levels

Roadway Segment	CNEL/L_{dn} at 50 feet from Roadway Centerline	Distance (feet) from Roadway Centerline to CNEL/L_{dn} Contour 65 dBA	Distance (feet) from Roadway Centerline to CNEL/L_{dn} Contour 60 dBA	Distance (feet) from Roadway Centerline to CNEL/L_{dn} Contour 55 dBA
SR 59: Oakdale Road to landfill	62.9	36	78	169
SR 59: Bellevue Road to landfill	63.5	40	86	185
SR 59: Bellevue Road to Cardella Road	64.3	45	97	209

Notes: SR = State Route; CNEL = Community Noise Equivalent Level; L_{dn} = day-night average noise level; dBA = A-weighted decibel.

Refer to Appendix D for detailed traffic data and traffic-noise modeling input data and output results.

Source: Data modeled by Ascent in 2015.



Source: Adapted by Ascent in 2023.

Figure 3.6-1 Noise Monitoring Sites and Sensitive Receptors Near the Highway 59 Landfill

3.6.4 Impacts and Mitigation Measures

METHODOLOGY

Construction Noise and Vibration

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposure were identified. Project-generated construction source noise and vibration levels were determined based on methodologies, reference emission levels, and usage factors from FTA's *Transit Noise and Vibration Impact Assessment Manual* methodology (FTA 2018) and the Federal Highway Administration's *Roadway Construction Noise Model User's Guide* (FHWA 2006). Reference levels for noise and vibration emissions for specific equipment or activity types are well documented and the usage thereof common practice in the field of acoustics. The modeling conducted does not account for any natural or human-made shielding (e.g., the presence of walls or buildings) or reflection off building surfaces.

Operational Noise and Vibration

With respect to non-transportation noise sources (e.g., stationary) associated with project implementation, the assessment of long-term (operation-related) impacts was based on reference noise emission levels, measured noise levels for activities and equipment associated with project operation, and standard attenuation rates and modeling techniques. Implementing the project would not result in additional truck trips and operations above existing conditions; thus, operational mobile source noise is addressed qualitatively.

SUMMARY OF VALLEY FILL PROJECT EIR IMPACTS AND MITIGATION MEASURES

Short-Term Construction Noise and Vibration

The certified Valley Fill Project EIR concluded that, because construction activities would occur only during daytime business hours and would not exceed applicable County, Caltrans, or FTA thresholds at the sensitive receptors closest to the project site, implementing the project would result in a less-than-significant impact related to short-term construction noise and vibration. No mitigation was required.

Operational Stationary Noise and Vibration

The certified Valley Fill Project EIR determined that project operation would not require additional staff or equipment and thus that operational noise and vibration levels would remain the same under post-project conditions. Based on the distance of landfill operations from nearby sensitive receptors, the Valley Fill Project EIR concluded that operational noise and vibration levels would not exceed applicable County, FTA, or Caltrans standards at nearby sensitive receptors. Impacts related to stationary noise and vibration were determined to be less than significant. No mitigation was required.

Traffic Noise

The certified Valley Fill Project EIR determined that implementing the project would result in an incremental increase in daily vehicle trips to and from the landfill. The EIR calculated that the increase in traffic noise as a result of the project would be less than 0.3 dB L_{dn}/CNEL. Because project-generated traffic would not result in a noticeable increase in traffic noise (i.e., 3+ dB), the project was determined to result in a less-than-significant impact related to traffic noise. No mitigation was required.

Airport Noise

The certified Valley Fill Project EIR determined that, because the project site would not be located within 2 miles of an active private airstrip, public airport, or public use airport, the project would not expose people residing or working in the project area to excessive aircraft-related noise levels. The Valley Fill Project EIR concluded that there would be no impact related to airport/airstrip-related noise exposure. No mitigation was required.

SIGNIFICANCE CRITERIA

A noise impact would be significant if implementation of the project would:

- Generate a substantial temporary 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. Based on the adopted County Municipal Code, this criterion is applied in the following way:
  - Result in construction-generated noise that occurs outside the allowable daytime hours (i.e., between 6:00 p.m. and 7:00 a.m.), or
  - Result in a substantial increase in noise over existing ambient levels, defined as a more than 10-dBA increase above background sound levels between the hours of 7:00 a.m. and 10:00 p.m. (County Code Section 18.040.050).
- Generate temporary or permanent excessive groundborne vibration. Based on County General Plan Policy HS-7.7 and applicable FTA guidance, the project could result in a potentially significant vibration impact if the following standards are exceeded:
  - Structural Damage: 0.20 in/sec PPV for buildings of normal conventional construction (Table 3.6-4)
  - Human Annoyance: 70 VdB (County General Plan Policy HS-7.7)
- Result in a substantial permanent increase in ambient noise in the project vicinity above existing levels without the project. Based on the County General Plan and County Municipal Code, this criterion is applied in the following way:
  - Result in noise levels that exceed County daytime exterior noise standards for residential uses of 55 dBA (County General Plan Policy HS-7.7), or
  - Result in a more than 10-dBA increase above existing noise levels (County Code Section 18.040.050).
- 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 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

ISSUES NOT DISCUSSED FURTHER

Airport/Airstrip-Related Noise Exposure

The project site is not located within 2 miles of an active private airstrip, public airport, or public use airport. The Merced County Castle Airport, the closest airport, is located approximately 3.25 miles southwest of SR 59 and the project site. The project site is not located within the 60 dB CNEL airport noise contour or within the training flight pattern (Merced County Airport Land Use Commission 2012: Exhibit CAS 4). Thus, implementing the project would not result in noise impacts related to the exposure of people residing or working in the project area to excessive aircraft-related noise levels. This issue is not discussed further.

Operational Mobile Source Noise

Project implementation would not result in a change in operations or an increase in truck trips beyond what was previously identified in the Valley Fill Project EIR. No increase in maximum daily trips at Highway 59 Landfill beyond that of the Valley Fill Project would occur. Instead, trucks would be routed differently within the landfill (i.e., more would go to the compost than to municipal solid waste). See Section 3.7, "Transportation," for additional details about project vehicle trips. Because the project would not increase vehicle trips or change existing transportation operations, there would be no increase in traffic or operational mobile source noise. Thus, implementing the project would not result in any new or substantially more severe mobile source noise impacts than previously described in the certified Valley Fill Project EIR. This issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Increased Short-Term, Construction-Related Noise at Nearby Sensitive Land Uses

Project implementation would result in short-term construction activity associated with installation of processing equipment associated with the CASP. The County Municipal Code and General Plan limit construction activities to daytime business hours (i.e., between 7:00 a.m. and 6:00 p.m.) and require the proper muffling and maintenance of construction equipment. The project would adhere to these policies and would not conflict with or exceed applicable noise standards at any nearby off-site sensitive receptors. Therefore, this impact would be **less than significant**.

Construction noise levels would fluctuate depending on the specific activities underway and on the type, number, and duration of equipment in use at a given time. Section 10.60.030 of the County Municipal Code limits construction noise in or adjacent to urban areas to daytime hours (between 7:00 a.m. and 6:00 p.m.) and requires that all construction equipment be properly muffled and maintained. County General Plan Policy HS-7.5 also limits noise-generating activities, such as construction, to hours of normal business operation. Project construction would take place during daytime business hours in accordance with the County General Plan, and construction equipment would be properly muffled and maintained, in accordance with Section 10.60.030 of the County Municipal Code. Typical noise levels generated by construction equipment likely to be used in project construction are identified in Table 3.6-9.

Table 3.6-9 Typical Construction Equipment Noise Levels

Equipment	Noise Level (dBA L_{eq}) at 50 feet	Noise Level (dBA L_{max}) at 50 feet
Backhoe	78	74
Bulldozer	82	78
Compressor	78	74
Crane	81	73
Dump truck	77	73
Excavator	81	77
Generator	81	78
Grader	85	81
Front-end loader	79	75
Pneumatic tool	85	82
Roller	80	73
Tractor	84	80

Notes: dBA = A-weighted decibels.

Based on measured instantaneous noise levels (L_{max}), average equipment use rates, and calculated average hourly (L_{eq}) noise levels derived from the FHWA Road Construction Noise Model.

Source: FHWA 2006.

Construction activity would involve the use of heavy-duty construction equipment, such as graders, tractors, loaders, and rubber-tired bulldozers. Based on the reference noise levels listed in Table 3.6-9 and the assumption that two pieces of construction equipment would be operating simultaneously, the loudest phase of construction (i.e., site preparation) could generate noise levels of 83.6 dB L_{eq} and 87.5 dB L_{max} at 50 feet (see Appendix D for noise modeling inputs). Pursuant to Section 10.60.030(B) of the Merced County Code, noise from construction activity between the hours of 7:00 a.m. and 6:00 p.m. is exempt from sound level limitations included in Section 10.60.030(A). The nearest off-site sensitive receptor (i.e., the single-family home located along SR 59) is located approximately 1,200 feet south of the Highway 59 Landfill boundary. Based on the project site plans, the nearest sensitive receptor would be approximately 3,789 feet south of the proposed modifications (see Figure 3.6-1). At this distance, the loudest construction activity would attenuate to 49.9 dB L_{eq}. Section 18.040.050 of the County Municipal Code states

that noise generated by mechanical equipment shall not exceed the background sound level by 10+ dBA during daytime hours (i.e., 7:00 a.m. to 10:00 p.m.). The attenuated noise level of 49.9 dB L_{eq} from the loudest construction activities would be lower than existing noise levels at the nearest sensitive receptor and thus would not conflict with Section 18.040.050 of the County Municipal Code. Therefore, project construction noise would not conflict with applicable County noise standards. This impact would be **less than significant**. Implementation of the project would not result in a new significant or substantially more severe significant impact compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.6-2: Increased Short-Term, Construction-Related Vibration at Nearby Sensitive Land Uses

Project construction would result in short-term vibrations from the use of heavy-duty construction equipment. The most vibration-intensive activity would involve the use of a vibratory roller during the paving phase. The use of a vibratory roller would not exceed the County maximum vibration threshold (i.e., 70 VdB) or FTA standard for structural damage (0.20 in/sec PPV). Because construction vibration levels would not exceed applicable thresholds, this impact would be **less than significant**.

Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment and activities at a given time. The effects of ground vibration can be imperceptible at the lowest levels, result in low rumbling sounds and detectable vibrations at moderate levels, and cause sleep disturbance or annoyance at high levels. Construction activity would use pieces of equipment that generate low levels of ground vibration, such as dozers and pavers. These types of common construction equipment do not generate substantial levels of ground vibration that could result in structural damage, except at extremely close distances (i.e., within 15 feet). Ground vibration levels associated with various types of construction equipment are summarized in Table 3.6-10.

Table 3.6-10 Typical Construction Equipment Vibration Levels

Construction Equipment	PPV at 25 feet, in/sec	VdB at 25 feet
Vibratory roller	0.210	94
Hoe ram	0.089	87
Large bulldozer	0.089	87
Loaded truck	0.076	86

Notes: PPV = peak particle velocity; in/sec = inches per second; VdB = vibration decibels.

Source: FTA 2018: 184.

The most ground vibration–intensive construction activity would be the use of a vibratory roller. As shown in Table 3.6-10, vibratory rollers generate ground vibration levels of 0.210 in/sec PPV and 94 VdB at 25 feet (FTA 2018: 184). Vibration from the use of a vibratory roller would exceed the 0.020 in/sec PPV threshold of significance for structural damage within 26 feet of activity and would exceed the County maximum vibration threshold of 70 VdB within 159 feet of construction activities (see Appendix D for modeling inputs). No structures located within 159 feet of the proposed construction activity. Therefore, construction activities would not exceed FTA-recommended standards for structural damage to normal buildings (i.e., 0.20 in/sec PPV) or the County maximum vibration standard (i.e., 70 VdB). This impact would be **less than significant**. Implementation of the project would not result in a new significant or substantially more severe significant impact compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.6-3: Increased Stationary Source Noise during Operation

The project would include the installation of additional equipment (e.g., grinders, conveyors) for the operation of the CASP green waste and food waste compost facility. However, the project would not place equipment closer to existing receptors such that a substantial increase in operational stationary noise levels would occur. As a result, this impact would be **less than significant**.

The 7.5-acre proposed site is occupied by the existing green waste composting facility and food waste transfer operation at the Highway 59 Landfill. Existing Highway 59 Landfill operations include daily use of heavy equipment. Under existing conditions, the Highway 59 Landfill accepts green waste and allows for the grinding process. The development and operation of a CASP green waste and food waste compost facility would result in the installation of new equipment, such as grinders, conveyors, food waste processers, and a shaker deck, on the project site. In addition, potential temporary storage areas would be used to store finished compost, which would be transported to and from these locations using dump trucks. The operation of this equipment is anticipated to generate noise levels similar to those generated by other pieces of heavy-duty construction equipment used in existing facility operations. Noise levels monitored at Site 1 (see Figure 3.6-1) are representative of noise levels associated with Highway 59 Landfill operations that could be perceived by the nearest sensitive receptors located south of the project site. Based on the conservative assumption that the project would double the amount of on-site operational equipment, and applying the acoustical principle that a doubling of sound energy corresponds to a 3-dB increase, stationary noise levels could increase from 43.5 dB L_{eq} to approximately 46.5 dB L_{eq} as a result of project implementation. As detailed above, the nearest sensitive receptors are located approximately 1,200 feet south of the Highway 59 Landfill boundary. Attenuated to 1,200 feet, project-related operational noise levels at the nearest sensitive receptor could reach 51.5 dBA L_{eq} (see Appendix D for modeling inputs). Thus, project-related operational noise levels would not exceed Merced County General Plan daytime exterior noise standards for residential uses (i.e., 55 dBA) or County Municipal Code standards (i.e., 10+ dBA increase above existing noise levels). This impact would be **less than significant**. Implementation of the project would not result in a new significant or substantially more severe significant impact compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.6-4: Increased Stationary Source Vibration during Operation

The project would include the installation of additional equipment for the operation of the CASP facility. However, the project would not place equipment closer to existing receptors such that a substantial increase in operational vibration levels would occur. As a result, this impact would be **less than significant**.

As described for Impact 3.6-3, the operation of equipment under the project is anticipated to generate noise and vibration levels similar to those generated by other pieces of heavy-duty construction equipment used in existing facility operations. The nearest sensitive receptor is approximately 1,200 feet from the Highway 59 Landfill boundary. At this distance, vibration levels from the most vibration-intensive equipment used in project operations (i.e., a vibratory roller) would be 36.6 VdB and less than 0.0001 in/sec PPV at the nearest sensitive receptor. This level of vibration would not exceed the County maximum vibration standard (i.e., 70 VdB) or the FTA standard for structural damage (i.e., 0.20 in/sec PPV). This impact would be **less than significant**. Implementation of the project would not result in a new significant or substantially more severe significant impact compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

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3.7 TRANSPORTATION/TRAFFIC

This section describes the existing transportation system in the vicinity of the project site and evaluates the potential impacts on the system associated with implementation of the project. Roadway, transit, bicycle, and pedestrian components of the overall transportation system are addressed in the analysis.

Pursuant to SB 743, CEQA Section 21099, and State CEQA Guidelines Section 15064.3(a), a project's effect on automobile delay or level of service (LOS) is generally no longer considered when identifying impacts under CEQA. However, the Valley Fill Project EIR's analysis, which was prepared in 2016, before implementation of SB 743, evaluated roadway LOS in and around the Highway 59 Landfill. Since 2018, the metric known as vehicle miles traveled (VMT) has been the most appropriate measure of transportation impacts. Therefore, this transportation analysis evaluates impacts using VMT and does not include an LOS analysis.

During the public scoping period for the Notice of Preparation (NOP), commenters expressed concerns related to VMT and questioned whether submittal of a formal traffic study to the California Department of Transportation (Caltrans) was necessary before project approval. These comments are addressed, as appropriate, in this section. A scoping report that contains the NOP and comments received in response to it is presented in Appendix A.

3.7.1 Regulatory Considerations

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Highway Administration

The Federal Highway Administration (FHWA), an agency of the US Department of Transportation, provides stewardship over the construction and preservation of the nation's highways, bridges, and tunnels. It also conducts research and provides technical assistance to state and local agencies to improve safety, mobility, and livability and to encourage innovation in these areas. FHWA also provides regulation and guidance related to work zone safety, mobility, and temporary traffic control device implementation.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Department of Transportation

Caltrans is the state agency responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as the segments of the Interstate Highway System that lie in California. Caltrans District 10 is responsible for the operation and maintenance of State Route (SR) 59 in the vicinity of the project site. Caltrans requires a transportation permit for any transport of heavy construction equipment or materials that necessitates the use of oversized vehicles on state highways.

Vehicle Miles Traveled-Focused Transportation Impact Study Guide

Caltrans's *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* (*TISG*) was prepared to provide guidance to Caltrans districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans review of a land use project or plan's transportation analysis using a VMT metric (Caltrans 2020). This guidance is not binding on public agencies; the guide is intended to be a reference and informational document. The *TISG* replaces the *Guide for the Preparation of Traffic Impact Studies* and is for use with local land use projects, not for transportation projects in the State Highway System.

California Manual on Uniform Traffic Control Devices, Part 6, "Temporary Traffic Control"

Part 6, "Temporary Traffic Control," of *The California Manual on Uniform Traffic Control Devices* provides principles and guidance regarding the movement of all roadway users (e.g., motorists, bicyclists, pedestrians) through or

around temporary traffic control zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment. Additionally, this document notes that temporary traffic control plans and devices shall be the responsibility of the authority of an official from the public agency or authority having jurisdiction for guiding road users (Caltrans 2014).

Caltrans Statewide Transportation Improvement Program

The California Statewide Transportation Improvement Program (STIP) is a multiyear, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes and with metropolitan plans. The STIP is prepared by Caltrans in cooperation with the metropolitan planning organizations and regional transportation planning agencies. The STIP contains all capital and noncapital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and Title 23 of the US Code.

Caltrans Interregional Transportation Improvement Program

Caltrans's 5-year Interregional Transportation Improvement Program is prepared pursuant to Government Code 14526, Streets and Highways Code Section 164, and the California Transportation Commission's STIP Guidelines. Regional agencies work with Caltrans to identify projects that will address improvements to the interregional transportation system and improve the movement of people, vehicles, and goods between regions.

Senate Bill 743

SB 743, passed in 2013, requires the California Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address traffic metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any." OPR is currently updating its CEQA Guidelines to implement SB 743 and is proposing that VMT be the primary metric used to identify transportation impacts. The OPR published the *Technical Advisory on Evaluating Transportation Impacts in CEQA* to provide technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures (OPR 2018).

Senate Bill 1383

SB 1383, passed in 2016, directs actions to achieve the statewide organic waste disposal reduction and edible food recover targets. The California Department of Resources Recycling and Recovery, in consultation with the California Air Resources Board, has developed a regulatory approach that requires jurisdictions and other regulated entities to implement a suite of programs and comply with specific requirements to achieve the statute's statewide mandates.

California Fire Code

The 2022 California Fire Code, which is codified as Part 9 of Title 24 of the California Code of Regulations, incorporates by adoption the 2021 International Fire Code and contains regulations related to construction, maintenance, access, and use of buildings. Topics addressed in the California Fire Code include design standards for fire apparatus access (e.g., turning radii, minimum widths), standards for emergency access during construction, provisions intended to protect and assist fire responders, and several other general and specialized fire safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety. The California Building Standards Code, including the California Fire Code, is revised and published every 3 years by the California Building Standards Commission.

LOCAL PLANS, POLICIES, AND ORDINANCES

Regional Transportation Plan/Sustainable Communities Strategy for Merced County

The Merced County Association of Governments is responsible for preparing and updating the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is a long-range planning document with a horizon year of 2046 that provides the framework for investments in roads, freeways, public transit, bikeways, and

other ways people move around the county for the next 25 years. The following goals and objectives of the RTP/SCS are relevant to transportation and circulation adjacent to the Highway 59 Landfill (MCAG 2022):

GOAL 6: Highways, Streets, and Roads. Provide a safe and efficient regional road system that accommodates the demand for movement of people and goods.

- **Objective 6.1:** Maintain safe and efficient operations on all regionally significant roads.
- **Objective 6.2:** Identify and prioritize improvements to the regional road system.
- **Objective 6.3:** Use the existing street and road system in the most efficient possible manner to improve local circulation.
- **Objective 6.4:** Monitor the impact of development on the regional road system.
- **Objective 6.5:** Utilize and maximize the effectiveness of the countywide transportation sales tax measure to expedite the delivery of local and regional transportation improvements.

GOAL 12: Safety for All Roadway Users. Achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

- **Objective 12.2:** Improve safety performance monitoring systems.
- **Objective 12.3:** Coordinate with regional agencies.

GOAL 17: Transit. Provide an efficient, effective, coordinated regional transit system that increases mobility for urban and rural populations, including transportation for disadvantaged persons.

- **Objective 17.1:** Meet all transit needs that are determined to be "reasonable to meet."

Merced County General Plan

The project site is located in the area covered by the *2030 Merced County General Plan* (Merced County 2013). Traffic and transportation are discussed in the "Transportation and Circulation Element" of the General Plan, which includes the following goals and policies that are relevant to the project (Merced County 2013):

GOAL CIR-1: Maintain an efficient roadway system for the movement of people and goods that enhances the physical, economic, and social environment while being safe, efficient, and cost-effective.

- **Policy CIR-1.9: Roadway Maintenance and Improvement (RDR).** Require that roadways are maintained and improved consistent with established peak period level of service.
- **Policy CIR-1.14: Required Structural Improvements (RDR/MPSP).** Require developers of mining, large commercial, agricultural commercial, and industrial projects to either make appropriate roadway improvements and/or provide a funding mechanism for maintenance of the structural sections of County roadways when such projects could result in appreciable increases to commercial truck traffic and/or compromise the integrity of existing road sections.
- **Policy CIR-1.17: Encroachment Permits (RDR).** Require encroachment permits to control access points on public roads.

Merced County Improvement Standards and Specifications

The *Improvement Standards and Specifications* manual was developed by the Merced County Department of Public Works to provide developers and design engineers with minimum design standards for infrastructure improvements subject to the approval of the Department of Public Works. The design policies in this manual will be applicable to most design cases but are not inflexible rules without exceptions. The Department of Public Works may make exceptions where the application of the design policies to a specific situation results in unreasonably difficult requirements (Merced County 2021).

3.7.2 Environmental Setting

This section describes the existing environmental setting, which is the baseline scenario against which project-specific impacts are evaluated. The environmental setting for transportation includes baseline descriptions for roadway, bicycle, pedestrian, and transit facilities.

ROADWAY SYSTEM

The project site is located on the Highway 59 Landfill property, which is owned and operated by MCRWMA and located approximately 6 miles north of the city of Merced, in unincorporated Merced County. The landfill is located immediately east of SR 59.

Roadway Network

The primary roadways in the vicinity of the project site are SR 59 between Bellevue Road and Oakdale Road, and Bellevue Road east and west of SR 59, described below.

State Route 59

SR 59 is a two-lane road connecting SR 120 to the north and SR 152 to the south. The road has varying shoulder widths, ranging from approximately 3 feet (from Cardella Road to just north of the landfill) to approximately 8 feet (from just north of the landfill to Oakdale Road). The posted speed limit between Cardella Road and Oakdale Road is 55 miles per hour.

Bellevue Road

Bellevue Road is a two-lane local arterial running generally east-west from Fox Road to Lake Road.

Highway 59 Landfill Entrance

The existing entrance to the Highway 59 Landfill is a two-lane driveway that trends east from SR 59 for approximately 50 feet then north along the west side of the landfill.

Roadway Intersections

The primary intersections in the vicinity of the project site are the SR 59/Bellevue Road, SR 59/Oakdale Road, and SR 59/landfill access intersections, described below.

SR 59/Bellevue Road Intersection

The SR 59/Bellevue Road intersection is controlled by an all-way stop. All approaches consist of single lanes that provide left-turn, through, and right-turn movements.

SR 59/Oakdale Road Intersection

This unsignalized T intersection has a stop control along Oakdale Road. Northbound SR 59 includes a through lane and a 500-foot-long left-turn lane. Southbound SR 59 includes a through lane and a 500-foot-long free right-turn lane with a yield onto Oakdale Road. Oakdale Road includes a left-turn lane of approximately 35 feet and a free right-turn lane that enters into its own southbound lane along SR 59. A lane drop into a single southbound lane begins approximately 600 feet south of the intersection.

SR 59/Landfill Access Intersection

This unsignalized T intersection has a stop control at the landfill access road. Each approach along SR 59 consists of a single lane, but the landfill access roadway has left- and right-turn lanes. Approximately 150 feet east of the intersection is a secondary intersection directing visitors to either the landfill (left turn) or a controlled gate (straight) that is maintained for MCRWMA and emergency access use.

TRANSIT AND BICYCLE SYSTEM

Merced Transit Authority provides public transit service to the communities of Atwater, Los Banos, and Merced with intercity routes between Merced and Livingston, Los Banos, Planada, Turlock, and Winton. There are no transit routes along SR 59 or in the vicinity of the landfill. Because of the rural nature of the landfill and the surrounding area, there are no bicycle or pedestrian facilities in the project vicinity.

3.7.3 Impacts and Mitigation Measures

METHODOLOGY

Vehicle Miles Traveled

Section 15064.3 was added to the State CEQA Guidelines effective December 28, 2018, as part of a comprehensive guidelines update. The section addresses the determination of significance for transportation impacts, which requires that the analysis be based on VMT instead of a congestion metric (such as LOS). The change in the focus of transportation analysis is the result of legislation (SB 743, Statutes of 2013) and is intended to shift the focus from congestion to, among other things, reducing greenhouse gas (GHG) emissions and encouraging mixed use development. SB 743 requirements are designed to be most relevant to urban travel related to residential and employment-generating land uses, so applying them to special uses, such as waste management, is difficult; nonetheless, the requirements are not limited to residential and employment-generating projects. State CEQA Guidelines Section 15064.3(b) identifies criteria for analyzing the transportation impacts of a project, including land use projects (Section 15064.3[b][1]) and transportation projects (Section 15064.3[b][2]). Although the project includes development and operation of a new and expanded facility, the project would not drive development of urban areas, residential development, major employment generation, or transportation projects.

The VMT metric can support the three statutory goals: "the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (CEQA Section 21099(b)(1)). However, for it to promote and support all three, lead agencies should select a significance threshold that aligns with state law on all three. State law concerning the development of multimodal transportation networks and diversity of land uses requires planning for and prioritizing increases in complete streets and infill development, but it does not mandate a particular depth of implementation that could translate into a particular threshold of significance. Meanwhile, the state has clear quantitative targets for GHG emissions reduction set forth in law and based on scientific consensus, and the depth of VMT reduction needed to achieve those targets has been quantified. Tying VMT thresholds to GHG reduction also supports the two other statutory goals. Therefore, to ensure adequate analysis of transportation impacts, OPR recommends using quantitative VMT thresholds linked to GHG reduction targets when methods exist to do so (OPR 2018). This EIR relies on the calculation of SB 1383 target tons—a statewide goal of 75-percent reduction of organics disposed of in landfills to provide a criterion to determine VMT impacts from project implementation.

SUMMARY OF VALLEY FILL PROJECT EIR IMPACTS AND MITIGATION MEASURES

As noted above, the certified Valley Fill Project EIR assessed transportation impacts in a manner consistent with CEQA at the time the approved project was under consideration. Since 2018, transportation impacts under CEQA no longer consider LOS to be the appropriate metric. The following information summarizes the impacts provided in the Valley Fill Project EIR.

Increased Vehicle Travel During Construction

Impacts related to an increase in traffic related to construction activities were found to be less than significant. Daily commutes by construction workers would primarily increase traffic on SR 59; however, the increase would be temporary and not substantial in relation to existing traffic load and the capacity of roadways in the vicinity of the Highway 59 Landfill. Additionally, no off-haul of materials would be necessary, because construction debris would be

disposed of at the landfill. The Valley Fill Project EIR projected that because of the LOS associated with the landfill, the addition of construction traffic would not be substantial.

Increased Vehicle Travel During Operation

Near-term and long-term intersection LOS impacts were determined to be significant because the SR 59/Bellevue Road intersection was anticipated to operate at unacceptable LOS conditions by 2020, with or without the project. The project did not propose any improvements to the intersection; therefore, the impacts would be significant and unavoidable. Near-term roadway LOS impacts were determined to be less than significant, because SR 59 and Bellevue Road would continue to operate within acceptable Merced County and Caltrans LOS thresholds, even with project implementation. Long-term roadway LOS impacts were determined to be significant because the LOS of SR 59 and Bellevue Road would degrade as a result of long-term increases in traffic along SR 59 associated with project implementation. Because no improvements were proposed and no feasible mitigation was available to reduce the impact to less than significant, the impact would be significant and unavoidable.

Conflicts with Transit, Bicycle, and Pedestrian Facilities

The Valley Fill Project EIR found that significant impacts related to conflicts with plans, policies, or facilities related to public transit, bicycle, or pedestrian use would not occur. This issue was not discussed further in the EIR.

Hazards Associated with Design Features

The impact related to hazards associated with design features was found to be less than significant, because there was no evidence suggesting that additional truck traffic would substantially increase the potential for accidents. Additionally, the Valley Fill Project did not include any design features that could contribute to traffic-related hazards.

Inadequate Emergency Vehicle Access

The Valley Fill Project EIR found that no significant impacts related to emergency vehicle access would occur. This issue was not discussed further in the EIR.

SIGNIFICANCE CRITERIA

An impact on the roadway system would be significant if implementation of the project would:

- conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths;
- conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- result in inadequate emergency access.

ISSUES NOT DISCUSSED FURTHER

Conflict with a Plan, Ordinance, or Policy Addressing the Circulation System, including Transit, Roadways, Bicycle Lanes and Pedestrian Paths

As noted above, no transit routes or bicycle/pedestrian paths currently serve SR 59 or are located adjacent to or in the vicinity of the landfill. Further, no modifications to the ingress/egress of the landfill or landfill frontage would occur as a result of the project. Therefore, conflicts with applicable plans, ordinances, or policies addressing transit, roadways, bicycle lanes, or pedestrian facilities would not occur. This issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Conflict or Inconsistency with CEQA Guidelines Section 15064.3, Subdivision (b)

Development of the expanded compost facility would allow for the facility to accept up to 75,000 tons of green waste and food waste. However, this waste would be diverted from the municipal solid waste (MSW) stream already associated with and disposed of at the Highway 59 Landfill. As a result, the increase in truck trips associated with composting materials would result in a commensurate and equivalent reduction in truck trips associated with MSW, and no significant increase in VMT would occur. Further, because State CEQA Guidelines Section 15064.3, SB 743, and SB 1383 are all intended to reduce GHG emissions, the project would be considered consistent with Section 15064.3(b). This impact would be **less than significant**.

Development of the proposed composting facility would result in truck trips associated with green and food waste travelling to and from the Highway 59 Landfill. However, the compostable materials would be removed and separated at the point of origin from the MSW stream, which is already occurring. As a result, the overall number of truck trips to and from the landfill is anticipated to remain consistent with existing and projected conditions (as evaluated in the Valley Fill Project EIR). No increase in the maximum allowable number of vehicle trips arriving at the Highway 59 Landfill is anticipated as a result of the project. Table 3.7-1 identifies the projected maximum daily traffic volumes evaluated in the Valley Fill Project EIR.

Table 3.7-1 Projected Peak Daily Tonnage and Traffic Volumes Evaluated in Valley Fill Project EIR

Year	Projected Peak Daily Tonnage (Tons)	Projected Maximum Traffic Volumes (vehicles/day)
Existing permit (2014)	1,500	554
2015–2020	2,000	554
2020–2025	2,200	600
2025–2030	2,450	675
2030–2035	2,700	750
2035 to closure	3,000	800

Source: Compiled by Ascent in 2024.

Because implementing the project would not increase the number of vehicle trips to and from the landfill and would not cause the traffic volumes identified and evaluated in the Valley Fill Project EIR to be exceeded, no additional impacts related to vehicle travel and VMT are anticipated. Further, SB 1383 is intended to reduce methane emissions and associated GHG impacts of food waste decomposition. SB 743 targets GHG emission reductions through reduction in vehicle use on local roadways. Therefore, implementation of the project, consistent with SB 1383 and its overarching goal of GHG reduction, would be consistent with the overarching goal of SB 743 and Section 15064.3(b) of the State CEQA Guidelines. Although there would be a change in the manner in which compostable material is delivered to the landfill, the expanded compost facility would aid Merced County in achieving the SB 1383 goal by diverting 39,885 new tons of organic material each year by 2025. Therefore, the proposed project would not conflict with or be inconsistent with State CEQA Guidelines Section 15064.3(b), because it would be consistent with SB 1383 goals. Thus, this impact would be **less than significant**. No new significant or substantially more severe significant impacts would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.7-2: Increased Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment)

Development of the expanded facility could result in the construction of new access roads or alterations to existing internal roadways in the Highway 59 Landfill. However, consistent with existing roadway widths in the landfill, a minimum 20-foot width of internal roadways and one lane of travel in each direction would be maintained. As a result, construction and operation of the compost facility would not increase hazards due to a geometric design feature or incompatible uses. Therefore, this impact would be **less than significant.**

Expansion of the current 25,000-ton-per-year green waste windrow composting facility and development and operation of a CASP green waste and food waste compost facility could result in the construction of new internal access roads or alterations to existing roadways, such as striping. Because implementing the project would not cause the allowable daily vehicle limits established for the landfill (as evaluated in the Valley Fill Project EIR) to be exceeded, no modifications to external access points (i.e., at the landfill ingress/egress point with SR 59) or roadways in the area are anticipated.

Additionally, major alterations to existing internal roadways are not anticipated as part of the project. Modifications to internal roadways (primarily the easterly north-south roadway on the landfill property) could increase hazards if extended queuing results in conflicts between vehicles accessing the composting facility and other parts of the landfill. However, under the project, roadways on the project site would maintain a minimum 20-foot width and one lane of travel in each direction, consistent with existing conditions. Further, any on-site vehicle queues for the deposition or removal of material would be wholly contained on the project site. Therefore, the project would not substantially increase hazards due to a geometric design feature or incompatible uses. This impact would be **less than significant**. No new significant or substantially more severe significant impacts related to transportation hazards would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

Impact 3.7-3: Impact Related to the Provision of Inadequate Emergency Access

Development of the expanded facility could involve modification of internal roadways at the Highway 59 Landfill. However, consistent with California Fire Code requirements, adequate right-of-way would be maintained for emergency vehicles. Therefore, this impact would be **less than significant**.

Implementation of the project could result in the redevelopment of internal roadways to support the expanded compost facility. Current access to the Highway 59 Landfill is provided via SR 59. The landfill is within the service boundary of the Merced County Fire Department substation in the city of Merced, which is approximately 12 miles from the landfill. Development of the expanded compost facility would not result in any changes related to the ingress or egress of the landfill, minimizing impacts related to emergency access to the landfill. However, new internal roadways may be constructed and modifications to internal roadways may occur to support the expanded facility. The project would be required to meet access and other fire safety standards established by the Merced County Fire Department; the Merced County Improvement Standards and Specifications manual; and the California Fire Code, specifically Section D102.1, "Required Access," in Appendix D, which requires that all internal roadways and vehicle circulation routes be all-weather and certified by an engineer and capable of supporting a 75,000-pound load. Appendix D of the California Fire Code provides additional requirements for fire apparatus access roads, including minimum dimensions to allow adequate access and turning radii for emergency vehicles accessing a site during operation. Additionally, the project would be subject to review by the County's emergency services and responsible agencies, ensuring that the compost facility would be equipped to provide adequate access for emergency responders. Thus, project implementation would not result in inadequate emergency access. This impact would be **less than significant**. No new significant or substantially more severe significant impacts related to emergency access would occur compared to the previously approved Valley Fill Project as evaluated in the certified Valley Fill Project EIR.

Mitigation Measures

No mitigation measures are required.

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4 CUMULATIVE IMPACTS

4.1 INTRODUCTION TO THE CUMULATIVE ANALYSIS

This Draft SEIR provides an analysis of cumulative impacts of the Highway 59 Landfill Composting Facility project taken together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. The goal of such an exercise is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant; and second, to determine whether the incremental contribution to any such cumulatively significant impacts by the project would be "cumulatively considerable" (and thus significant). (See State CEQA Guidelines Sections 15130[a]–[b], 15355[b], 15064[h], and 15065[c]; and *Communities for a Better Environment v. California Resources Agency,* 103 Cal. App. 4th 98, 120 [2002].) In other words, the required analysis intends first to create a broad context in which to assess cumulative impacts, viewed on a geographic scale beyond the project site itself and then to determine whether the project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable").

Cumulative impacts are defined in State CEQA Guidelines Section 15355 as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative impact occurs from "the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (State CEQA Guidelines Section 15355[b]).

Consistent with State CEQA Guidelines Section 15130, the discussion of cumulative impacts in this Draft SEIR focuses on significant and potentially significant cumulative impacts. Section 15130(b) of the State CEQA Guidelines provides, in part, the following explanation:

> [t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

A project is considered to have a significant cumulative effect if:

- the cumulative effects of development without the project are not significant and the project's additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- the cumulative effects of development without the project are already significant and the project contributes measurably to the effect.

The term "measurably" is subject to interpretation. The standards used herein to determine measurability are that the impact must be noticeable to a reasonable person or must exceed an established threshold of significance (defined throughout the resource sections in Chapter 3 of this Draft SEIR).

This analysis addresses the seven resource areas that are discussed in detail in this Draft SEIR. Other resource areas pertinent to CEQA have been evaluated sufficiently in the Valley Fill Project EIR or have been otherwise dismissed from detailed evaluation for the reasons described in the introduction to Chapter 3, "Environmental Impacts and Mitigation Measures."

4.2 CUMULATIVE SETTING

4.2.1 Geographic Scope

The geographic area that could be affected by the project and is appropriate for a cumulative impact analysis varies depending on the environmental resource topic, as presented in Table 4-1.

Table 4-1 Geographic Scope of Cumulative Impacts

Resource Topic	Geographic Area
Air Quality	Regional (San Joaquin Valley Air Pollution Control District—pollutant emissions that have regional effects) Local (immediate project vicinity—pollutant emissions that are highly localized)
Archaeological, Historical, and Tribal Cultural Resources	Regional (Central Valley)
Biological Resources	Regional (San Joaquin Valley and Sierra Nevada Foothill region)
Energy	Regional (Pacific Gas & Electric and Merced County)
Greenhouse Gas Emissions and Climate Change	Global (greenhouse gas emissions)
Noise and Vibration	Local (immediate project vicinity—effects are highly localized)
Transportation/Traffic	Regional and local (discussed in Section 3.7, "Transportation/Traffic")

Source: Compiled by Ascent in 2024.

4.3 ANALYSIS OF CUMULATIVE IMPACTS

The CEQA Guidelines state that a previously approved plan may be used in a cumulative impact analysis and that the pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference (Section 15130[d]). Furthermore, no further cumulative impact analysis is required when a project is consistent with a general, specific, master, or comparable programmatic plan when the lead agency determines that the regional or areawide cumulative impacts of the project have already been adequately addressed, as defined in CEQA Guidelines Section 15152(f), in a certified EIR for that plan (Section 15130[d]). CEQA further directs that a tiered EIR may focus on significant environmental effects that were not already analyzed in the previous environmental analysis (CEQA Sections 21068.5 and 21093; see also Section 21094[c]). The related plan or program considered in the analysis of the cumulative impacts of the project is the Valley Fill Project EIR.

The State CEQA Guidelines allow for incorporating by reference all or portions of other documents. Incorporation by reference is useful for including long, descriptive, or technical materials that provide general background but do not contribute directly to the pertinent analysis (Section 15150). Therefore, the Valley Fill Project EIR is incorporated by reference. The portions of this document relevant to this discussion are summarized below and within the respective resource area analyses. This document is available online at https://www.mcrwma.org/215/2255/Valley-Fill-Project.

The following sections contain a summary of the cumulative impacts disclosed in the Valley Fill Project EIR, which included analysis of the project, followed by an analysis of the extent to which the project as it is refined in this Draft SEIR would affect these conclusions. This cumulative analysis assumes that all mitigation measures identified in Chapter 3 of this Draft SEIR to mitigate project impacts are implemented. The analysis herein analyzes whether, after implementation of project-specific mitigation and performance criteria that minimize environmental effects, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing or anticipated (without the project) cumulatively significant effects.

4.3.1 Air Quality

SUMMARY OF CUMULATIVE IMPACTS UNDER THE VALLEY FILL PROJECT EIR

The Valley Fill Project EIR indicated that, through the purchase of offset credits in accordance with San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations, the Valley Fill Project would not result in a cumulatively considerable contribution to cumulative air quality impacts. In addition, the Valley Fill Project EIR indicated that established thresholds for carcinogenic and noncarcinogenic health risks would not be exceeded due to implementation of the Valley Fill Project and would not result in a cumulatively considerable contribution to carcinogenic or noncarcinogenic health risks. Thus, cumulative air quality impacts were determined to be less than significant in the Valley Fill Project EIR.

CUMULATIVE IMPACTS OF THE PROJECT

As discussed in Section 3.1, short-term construction-generated emissions (Table 3.1-4) would not exceed SJVAPCD's regional significance thresholds and, thus, would not contribute to pollutant concentrations that exceed the national ambient air quality standards (NAAQS) or the California ambient air quality standards (CAAQS). Similarly, the long-term operational (regional) emissions would not exceed SJVAPCD's thresholds of significance or substantially contribute to concentrations that exceed the NAAQS or CAAQS. According to the screening analysis conducted, the project would not result in the exposure of sensitive receptors to toxic air contaminant emissions beyond levels that require additional evaluation or a site-specific health risk assessment. In addition, the project would also prepare and maintain a site-specific odor impact minimization plan as required by 14 CCR Section 17863.4 to reduce potential odors. With the implementation of odor minimization design features at the compost facility and considering the distance to sensitive receptors, the project is not expected to contribute to objectionable odors in the area that could affect a substantial number of people. Therefore, the project would not result in a considerable contribution to a significant cumulative impact on air quality. Impacts would be **less than significant**.

4.3.2 Archaeological, Historical, and Tribal Cultural Resources

SUMMARY OF CUMULATIVE IMPACTS UNDER THE VALLEY FILL PROJECT EIR

The Valley Fill Project EIR evaluated the cumulative context for archaeological and historical cultural resources. At the time the Valley Fill Project EIR was prepared, tribal cultural resources analyses were not required under CEQA; thus, no tribal cultural resources cumulative impact analysis was conducted. The cumulative context for historical resources, as established in the Valley Fill Project EIR, is the Central Valley where common patterns of historic-era settlement have occurred over roughly the past two centuries. The cumulative context for archaeological resources and human remains is the former territory of the Penutian-speaking Northern Valley Yokuts. Their territory extended from the foothills of the Coast Range east into the foothills of the Sierra Nevada, north to the Calaveras River, and south to the San Joaquin River.

Generally, significant cultural resources are unique and nonrenewable members of finite classes; thus, all adverse effects to significant cultural resources erode a dwindling resource base. The loss of any one archaeological site affects all others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. As a result, a meaningful approach to preserving and managing cultural resources must focus on the likely distribution of cultural resources, rather than on project or parcel boundaries. The cultural system is represented archaeologically by the total inventory of all sites and other cultural remains in the region. As a result, and if cultural resources were found to be present, the Valley Fill Project (in combination with other development in the region) could cause a substantial adverse change in the significance of an historical resource or unique archaeological resource. However, no known archaeological or historical resources are located within the boundaries of the Valley Fill project site. All ground disturbance associated with the Valley Fill Project would occur

within areas of previous disturbance and refuse disposal. In addition, implementation of Mitigation Measure 4.4-2 was adopted to as part of the Valley Fill Project to ensure that the Valley Fill Project's contribution would not be cumulatively considerable by requiring construction work to cease in the event of an accidental find and requiring an evaluation and treatment of the potential resource. Thus, as identified in the Valley Fill Project EIR, the cumulative impact on archaeological and historical resources would be less than significant.

CUMULATIVE IMPACTS OF THE PROJECT

The cumulative context for the project is the same as identified above for the Valley Fill Project, and the cumulative context for tribal cultural resources is the former territory of the Penutian-speaking Northern Valley Yokuts, whose territory extended from the foothills of the Coast Range east into the foothills of the Sierra Nevada, north to the Calaveras River, and south to the San Joaquin River. As noted above, the Valley Fill Project EIR concluded that the potential cumulative impacts of the Valley Fill Project would be less than significant. As the majority of the project site is located within the Valley Fill project site and (based on the research conducted) unlikely to yield significant buried resources, the project's impacts would not result in a considerable contribution to cumulative cultural resources impacts. In addition, implementation of Mitigation Measure 3.2-3 and continued implementation of adopted Valley Fill Project EIR Mitigation Measure 4.4-2 would ensure that the proposed project's contribution would not be cumulatively considerable by requiring construction work to cease in the event of an accidental find and evaluation and treatment of the potential resource. Implementation of the project would not result in the loss of or substantial adverse changes in the significance of historical, archaeological, or tribal cultural resources. Therefore, the project would not result in a considerable contribution to a significant cumulative impact on cultural resources. Impacts would be **less than significant**.

4.3.3 Biological Resources

SUMMARY OF CUMULATIVE IMPACTS UNDER THE VALLEY FILL PROJECT EIR

The Valley Fill Project EIR evaluated the cumulative impacts of the Valley Fill Project to biological resources. Within the cumulative context (i.e., the San Joaquin Valley and Sierra Nevada Foothill region), habitat for biological resources has been reduced in the region over time as land has been converted for agricultural and urban purposes. It is expected that habitat value would continue to decrease as commercial and residential development progresses in the region. Therefore, the cumulative condition for special-status species and sensitive habitats is already adverse.

The Valley Fill project site provides limited habitat for biological resources. However, sensitive habitats within the landfill include: two human-made drainage ditches at the southeastern boundary of the landfill site; riparian vegetation along the western bank of one of the ditches; and vernal pools and swales within the wetland preserve and landfill gas (LFG) migration buffer area. However, development and operation of the Valley Fill Project would occur within the existing footprint of the landfill and within existing disturbed areas that provide low-quality habitat. Existing landscaping that could provide suitable nesting habitat for common and special-status raptors and other birds would be removed, and special-status plants and bat colonies could also be adversely affected through demolition and removal of structures and habitat modification. However, adopted Valley Fill Project EIR Mitigation Measures 4.3-1 ("Nesting Birds") and 4.3-2 ("Special-Status Bats") would reduce these impacts to a less-than-significant level by identifying and avoiding sensitive biological resources, if present. No other sensitive biological resources would be potentially affected by Valley Fill Project implementation, including vernal pool species or other high-quality habitat important to the long-term conservation of any species. As a result, the proposed project would not result in a considerable contribution to an adverse cumulative condition with respect to biological resources. Thus, cumulative impacts are identified as less than significant with respect to biological resources in the Valley Fill Project EIR.

CUMULATIVE IMPACTS OF THE PROJECT

As discussed in Section 3.3, "Biological Resources" and similar to the Valley Fill Project, project construction could affect nesting birds, if present, through direct mortality of eggs or young. However, continued implementation of the adopted Valley Fill Project EIR Mitigation Measure 4.3-1 ("Nesting Birds") would reduce the project-level impacts to a less than significant level by ensuring that project activities either occur between September 1 and February 14 (if feasible) or that a qualified biologist conducts a preconstruction survey for nesting birds and recommends appropriate buffers to prevent disturbance of active nests. As a result, the contribution of the project would be less than cumulatively considerable with respect to cumulative nesting bird impacts.

While there would be no other impacts to biological resources within the composting area and the northern potential temporary storage area, the southern temporary storage area would involve the disturbance of annual grassland, which could provide habitat for certain sensitive species. However, implementation of Mitigation Measures 3.3-2a, 3.3-2b, and 3.3-2c would require presence/absence surveys and establishment of no-disturbance buffer areas around any sensitive plants, which would reduce project-level impacts. Further, implementation of Mitigation Measures 3.3-3a through 3.3-3c, 3.3-4, and 3.3-5 would reduce project-level impacts on California tiger salamander, western spadefoot, burrowing owl, and Crotch's bumble bee to a less-than-significant level through surveys exclusion fencing, monitoring, and avoidance. With implementation of the aforementioned measures, loss of individuals would be prevented and the project would not contribute to significant adverse effects to sensitive biological resources. As a result, the project would be considered less than cumulatively considerable with respect to cumulative biological resource impacts, and impacts would be **less than significant**.

4.3.4 Energy

SUMMARY OF CUMULATIVE IMPACTS UNDER THE VALLEY FILL PROJECT EIR

The certified Valley Fill Project EIR concluded that increased energy use related to construction and operation of the Valley Fill Project would not be inefficient, wasteful, or unnecessary. (Note that this topic was addressed in Section 4.11, "Utilities," and in Section 7.2, "Significant Irreversible Environmental Effects," in the Valley Fill Draft EIR.) The significance criterion related to conflicts with or obstruction of a state or local plan for renewable energy or energy efficiency was not a required topic under CEQA when the Valley Fill Project EIR was prepared.

CUMULATIVE IMPACTS OF THE PROJECT

Chapter 3.4, "Energy," addresses the potential for the project to result in wasteful, inefficient, or unnecessary consumption of energy. With implementation of the increase in compost throughput, the project operation would require energy related to employee work trip vehicles, trucks delivering raw material and compost, and off-road equipment to move compost through the facility for processing. In addition, operation of the new composting facility would result in additional energy consumption. However, because operation of the project is necessary to meet SB 1383 goals, which address statewide methane emissions, a potent short-lived climate pollutant and greenhouse gas (GHG), the increase in energy demand at the Highway 59 Landfill associated with the project would not be considered a wasteful, inefficient, or unnecessary consumption of energy. Further, because the project is intended to address new regulatory requirements intended to reduce emissions in a manner consistent with statewide goals, no conflicts with respect to state or local plans are anticipated. Therefore, the project would not represent a considerable contribution to cumulative energy impacts, and impacts would be **less than significant**.

4.3.5 Greenhouse Gas Emissions and Climate Change

SUMMARY OF CUMULATIVE IMPACTS UNDER THE VALLEY FILL PROJECT EIR

The certified Valley Fill Project EIR concluded that the project would result in a less-than-significant impact from increases in GHG emissions because the Valley Fill Project would comply with SJVAPCD requirements, which involve the control and reduction of landfill-related GHG emissions through annual reporting and monitoring, as well as implementation of corrective actions. As a result, the Valley Fill Project would not conflict with applicable plans, policies, or direction related to the reduction of GHG. Because impacts related to GHG emissions and climate change are inherently cumulative, the conclusion set forth in the Valley Fill Project EIR indicates that the Valley Fill Project would not represent a considerable contribution to cumulative GHG impacts. Thus, cumulative impacts are identified as less than significant with respect to greenhouse gas emissions in the Valley Fill Project EIR.

CUMULATIVE IMPACTS OF THE PROJECT

The impact of GHG emissions generated by the project, as discussed in Section 3.5, "Greenhouse Gas Emissions and Climate Change," is inherently cumulative. GHG emissions from one project cannot, on their own, result in changes in climatic conditions; therefore, the emissions from any project must be considered in the context of their contribution to cumulative global emissions, which is the basis for determining a significant cumulative impact, as noted in Section 3.5. As a result, the analysis of GHG emissions and climate change provided in this EIR is considered to address both project-specific and cumulative impacts. As noted in Section 3.5, this impact would be **less than significant**, and the project would not result in a considerable contribution to a significant cumulative impact on greenhouse gas emissions and climate change.

4.3.6 Noise and Vibration

SUMMARY OF CUMULATIVE IMPACTS UNDER THE VALLEY FILL PROJECT EIR

The Valley Fill Project EIR evaluated the cumulative impacts related to noise. Because construction noise is exempt from county noise standards and the project's short-term construction-generated noise would not result in a substantial contribution, there would not be a significant cumulative noise impact associated with implementation of the Valley Fill Project. With regard to transportation-related noise, additional truck trips associated with the Valley Fill Project would occur during typical daytime business hours, when people are less likely to be disturbed by traffic noise. Additionally, the modeled 3-dB increase would occur with and without the Valley Fill Project. For these reasons, the Valley Fill Project's potential incremental contribution (less than 0.3 decibels) to this increase would not be cumulatively considerable. Finally, the Valley Fill Project EIR indicated that there would not be a substantial change in the type of operational equipment used at the landfill with implementation of the Valley Fill Project. Therefore, cumulative impacts were identified as less than significant with respect to noise in the Valley Fill Project EIR.

CUMULATIVE IMPACTS OF THE PROJECT

As noted in Section 3.6, "Noise and Vibration," project implementation would result in short-term construction activity associated with installation of processing and composting equipment. However, the project would adhere to the County Municipal Code (Section 10.60.030[B]) and General Plan limitation of construction activities to daytime business hours (i.e., between 7:00 a.m. and 6:00 p.m.). In addition, construction equipment would be properly muffled and maintained. As the nearest sensitive receptor to the project site is approximately 3,800 feet to the south, project implementation (construction and operation) would not result in a substantial increase in ambient noise or vibration levels in the area. Further, no ongoing operations or development in the area would be cumulatively considerable with the project such that a significant cumulative impact may occur. Therefore, the project would not be cumulatively considerable with respect to noise and vibration, and impacts would be **less than significant**.

4.3.7 Transportation/Traffic

SUMMARY OF CUMULATIVE IMPACTS UNDER THE VALLEY FILL PROJECT EIR

The Valley Fill Project EIR assessed transportation impacts in a manner consistent with CEQA at the time the approved project was under consideration. More specifically, the Valley Fill Project EIR, as part of Section 4.10, "Traffic and Transportation," assessed 2035 (cumulative) conditions associated with the Valley Fill Project and determined that future level of service (LOS) at the intersection of State Route (SR) 59 and Bellevue Road, as well as along SR 59 between Highway 59 Landfill and Oakdale Road, would be unacceptable and that impacts would be significant and unavoidable. However, since 2018, transportation impacts under CEQA no longer consider LOS to be the appropriate metric and have been replaced by vehicle miles travelled (VMT). Because the Valley Fill project would not conflict with plans, policies, or facilities addressing the transportation circulation system, include hazardous design features, or result in inadequate emergency vehicle access, there were no associated cumulative impacts identified in the Valley Fill Project EIR.

CUMULATIVE IMPACTS OF THE PROJECT

As discussed in Section 3.7, "Transportation/Traffic," implementation of the project, consistent with SB 1383 and its overarching goal of GHG reduction, would not be considered inconsistent with the overarching goal of SB 743 and Section 15064.3(b) of the CEQA Guidelines. While there would be a change in the manner in which compostable material comes to the landfill, the expanded composting facility would aid the County of Merced in achieving SB 1383 and broader GHG reduction goals by diverting 39,885 new tons of organic material each year by 2025. Further, and as noted in Section 3.7, truck trips to and from the landfill are not anticipated to increase beyond what was previously identified in the Valley Fill Project EIR. While compost-laden trucks would increase as part of the project, a commensurate decrease in municipal solid waste trucks is also anticipated. In addition, construction and operation of the compost facility would not increase hazards due to a geometric design feature or incompatible uses, and adequate right-of-way would be maintained for emergency vehicles. As the project would not result in changes to roadways or operations outside of the landfill boundary, it is not considered cumulative considerable, and impacts would be **less than significant**.

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5 ALTERNATIVES

5.1 INTRODUCTION

The California Code of Regulations (CCR) Section 15126.6(a) (State CEQA Guidelines) requires EIRs to describe "… a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project, and foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis is as follows:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (CCR Section 15126.6[d]).

The State CEQA Guidelines further require that the "no project" alternative be considered (CCR Section 15126.6[e]). The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. If the no project alternative is the environmentally superior alternative, CEQA requires that the EIR "…shall also identify an environmentally superior alternative among the other alternatives." (CCR Section 15126[e][2]).

In defining "feasibility" (e.g., "… feasibly attain most of the basic objectives of the project …"), CCR Section 15126.6(f) (1) states, in part:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's (MCRWMA). (See PRC Sections 21081.5, 21081[a] [3].)

5.2 CONSIDERATIONS FOR SELECTION OF ALTERNATIVES

5.2.1 Attainment of Project Objectives

In determining what alternatives should be considered in the EIR, the objectives of the project must be considered because attainment of most of the basic objectives forms one of the tests as to whether an alternative is feasible (see discussion above). MCRWMA identified the following objectives of the project, as previously described in Chapter 2, "Project Description," of this Draft SEIR:

- Provide capacity for implementation of a transformative organics diversion program in Merced County as required by California legislation;
- Reduce methane emissions from landfills by removing organics from landfills and by composting new feedstocks and reducing greenhouse gas (GHG) emissions by sequestering nutrient-rich compost in soils;
- Modify an existing, strategically integrated waste management facility to accommodate the growing regulatory demand for mixed materials, organic waste, and food waste composting;
- Receive and compost food wastes derived from commercial and residential sources, and increase diversion of organic materials from landfills by expanding the approved feedstock list to include digestates that can be received and processed;
- Provide preprocessing food waste operations at the facility; and,
- Enhance the business community's ability to comply with SB 1383.

5.2.2 Environmental Impacts of the Project

Sections 3.1 through 3.7 of this Draft SEIR address the environmental impacts of implementation of the Highway 59 Landfill Composting Facility project. As described in Section 5.1, "Introduction," potentially feasible alternatives are typically developed with consideration of avoiding or lessening the significant, and potentially significant, adverse impacts of a proposed project. Although no significant and unavoidable impacts are anticipated with project implementation, as described in this Draft SEIR, there would be significant but mitigable impacts associated with the project, including air quality; archaeological, historical, and tribal cultural resources; and biological resources. The analysis presented herein focuses on these impacts as there are no significant and unavoidable impacts to avoid or lessen through implementation of alternatives.

5.3 ALTERNATIVES ADDRESSED IN THE VALLEY FILL PROJECT EIR

As discussed in Chapter 2, "Description of the Proposed Project," the certified Valley Fill Project EIR comprehensively analyzed potential impacts related to implementation of the Valley Fill Project. The Valley Fill Project EIR also included an analysis of project alternatives that could feasibly attain most of the basic objectives of the Valley Fill while reducing or eliminating its significant environmental impacts.

The Valley Fill Project EIR evaluated four alternatives: Alternative 1: No Project, Alternative 2: Reduced Project Alternative; Alternative 3: Lateral Expansion Alternative, and Alternative 4: Billy Wright Landfill Expansion Alternative.

As discussed in the Valley Fill Project EIR, the No Project Alternative would avoid the localized significant environmental impact associated with the proposed project and the other "build" alternatives, but would result in greater overall impacts on air quality, GHG emissions, and traffic. In addition, the No Project Alternative would not meet the need for long-term solid waste disposal capacity in Merced County and elsewhere in the region, would not minimize the net fiscal effects on rate payers and taxpayers, and would not conserve resources while providing a reasonable level of solid waste disposal. Therefore, this alternative was determined to not meet the basic objectives of the Valley Fill Project.

The remaining action alternatives discussed in the Valley Fill Project EIR would meet most of the Valley Fill Project objectives. Of these alternatives, Alternative 2: Reduced Project Alternative was determined be the environmentally superior alternative but was determined to not achieve the project objectives to the degree of the Valley Fill Project.

5.4 ALTERNATIVES EVALUATED

The following discussion presents two "no project" alternatives and two action alternatives to the Highway 59 Landfill Composting Facility project. The ability for each alternative to meet the project objectives is described, and comparative analysis against the project is provided.

- Alternative 1: No Project-No Development Alternative
- Alternative 2: No Project-Transfer Station Alternative
- Alternative 3: Reduced throughput Alternative
- Alternative 4: Expansion to the North Alternative

5.4.1 Alternative 1: No Project–No Development Alternative

CEQA Guidelines Section 15126.6(e)(1) requires that the no project alternative be described and analyzed "to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project." The no project analysis is required to discuss "the existing conditions at the time the notice of preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services (CEQA Guidelines Section 15126.6[e][2]). "If the project is…a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. In certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment (CEQA Guidelines Section 15126[e][3][B].)."

Under Alternative 1, the No Project–No Development Alternative, there would be no changes to the existing compost program at the Highway 59 Landfill. That is, the area occupying the project site would remain as a windrow system, and there would not be an increase in the quantity of compostable materials diverted from the municipal waste stream at the Highway 59 Landfill. No covered aerated static pile (CASP) composting system would be constructed.

Under Alternative 1, the composting program at the Highway 59 Landfill would not be expanded from current conditions. Because composting programs in Merced County would not change under this alternative, SB 1383 goals and other waste diversion goals would not be attained. Thus, Alternative 1 would not meet most of the project objectives.

AIR QUALITY

Under Alternative 1, there would be no construction or operation of the project. Therefore, there would not be short-term construction or long-term operational increases in criteria air pollutants emissions compared to the project. In addition, there would be no increase in exposure of sensitive receptors to TAC or objectionable odors. Thus, impacts to air quality under Alternative 1 would be less than under the project. (*Less impact*)

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Alternative 1 would not involve any construction activities that may disturb cultural resources. Therefore, there would be no potential to cause a substantial adverse change in the significance of a pre-contact or historic-era

archeological resources, tribal cultural resources, or human remains. Thus, impacts to cultural resource impacts under Alternative 1 would be less than under the project. (Less impact)

BIOLOGICAL RESOURCES

Alternative 1 would not involve any construction activities and would not result in any changes to operation at the Highway 59 Landfill. Therefore, there would be no activities that could affect habitat and sensitive species, or otherwise result in impacts on biological resources. Thus, impacts on biological resources under Alternative 1 would be less than under the project. (*Less impact*)

ENERGY

Alternative 1 would not involve any construction or operational changes for the project and therefore would result in no change in energy demand. Thus, impacts to energy under Alternative 1 would be less than under the project. (*Less impact*)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Alternative 1 would not involve any construction or operational changes at the Highway 59 Landfill and would therefore not increase generation of greenhouse gas emissions (GHG) However, the project would result in a reduction in GHG because compostable materials would be removed from the municipal waste portion of the Highway 59 Landfill, thereby decreasing methane and other emissions associated with anerobic decomposition at landfills. In addition, GHG reduction goals under SB 1383, associated with diversion of compostable materials from landfill, would not be met. Therefore, Alternative 1 would result in greater GHG emissions compared to the project. (*Greater impact*)

NOISE

Alternative 1 would not involve any construction or operational changes for the project and therefore would result in no noise and vibration generation. Thus, impacts to noise under Alternative 1 would be less than under the project. (*Less impact*)

TRANSPORTATION

Alternative 1 would not involve any construction or operational changes at the Highway 59 Landfill. Therefore, there would be no changes with respect to the level of consistency with plans or programs addressing the circulation systems, vehicle miles travelled (VMT), roadway design and use, or emergency access. The degree to which these impacts would occur would be similar to the project because there would not be an increase in the number of truck trips associated with green and food waste travelling to and from the Highway 59 Landfill. Thus, under Alternative 1 there would be no substantial change to consistency with plans or programs addressing the circulation systems, vehicle miles travelled, roadway design and use, or emergency access, similarly to the project. Therefore, impacts to transportation under Alternative 1 would be similar to the project. (*Similar*)

5.4.2 Alternative 2: No Project-Transfer Station Alternative

Under Alternative 2, the No Project–Transfer Station Alternative, there would be no changes to the existing composting program at the Highway 59 Landfill. Rather some compostable materials would be hauled off site to a new transfer station. For the purposes of this analysis, it is assumed that the transfer station would be located within approximately 5 miles of the Highway 59 Landfill on lands zoned for such uses. Compostable materials would continue to be diverted from the municipal solid waste stream; however, 25,000 tons per year (tpy) would be processed at the existing windrow facility, in the same manner as under the existing conditions, and 50,000 tpy would

be hauled to a transfer station for processing elsewhere at an existing composting facility. No CASP composting system would be constructed at Highway 59 Landfill.

Under Alternative 2, the composting program at the Highway 59 Landfill would be expanded from current conditions and would be designed to meet SB 1383 goals for diversion of compostable materials from the municipal waste stream (i.e., diversion of 50,000 tpy of compostable materials from the waste stream). This alternative would provide capacity for implementation of a transformative organics diversion program in Merced County, as required by California legislation; reduce methane missions from landfills by removing organics from the Highway 59 Landfill; accommodate the growing regulatory demand for mixed materials, organic waste, and food waste composting; increase the types of processed feedstock; and enhance the business community's ability to comply with SB 1383. While Alternative 2 would not increase preprocessing food waste operations at the facility, it would nonetheless meet most of the project objectives.

AIR QUALITY

Under Alternative 2, a new/expanded composting facility would not be provided at the Highway 59 Landfill. Therefore, there would not be a short-term construction-related increase in criteria air pollutant emissions compared to the project. However, because 25,000 tpy of compost would be hauled from the landfill to a transfer station, and elsewhere for processing, there would be an increase in truck trips and a commensurate increase in mobile source emissions. Exposure of sensitive receptors to TACs and odors would be similar to the project with the exception of potential diesel PM health risks. Thus, due to increased mobile source emissions, Alternative 2 would result in greater air quality impacts than under the project. (*Greater impact*)

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Alternative 2 would not involve any construction activities at the project site that may disturb cultural resources. Therefore, there would be no potential to cause a substantial adverse change in the significance of a pre-contact or historic-era archeological resources, tribal cultural resources, or human remains. Thus, impacts on cultural resource impacts under Alternative 2 would be less than under the project. (*Less impact*)

BIOLOGICAL RESOURCES

Alternative 2 would not involve any construction activities at the Highway 59 Landfill and would not result in any changes to operation at the Highway 59 Landfill. While construction may occur elsewhere to accommodate this alternative, it is assumed that it would occur on existing disturbed land with limited biological resources. Thus, impacts on biological resources under Alternative 2 would be less than under the project. (*Less impact*)

ENERGY

Alternative 2 would not involve any construction and therefore would result in no construction-related energy demand. However, an increase in energy demand would be required to support additional truck trips from the landfill to the transfer station, and elsewhere as needed, under Alternative 2. Thus, impacts on energy under Alternative 2 would be greater than under the project. (*Greater impact*)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Alternative 2 would not involve any construction, thus, there would be no construction-related GHG emissions. The small quantity of compostable materials that would be diverted from the municipal waste stream at the Highway 59 Landfill as under the project; however, there would be more truck trips to and from the Highway 59 Landfill to the transfer station. The greater number of truck trip under Alternative 2 would result in a commensurate increase in GHG emissions compared to the project. However, because methane emissions reduction would be less under

Alternative 2, it would result in greater GHG emissions than the project, and thus would meet GHG reduction goals under SB 1383 to a lesser extent than under the project. (*Greater impact)*

NOISE

Alternative 2 would not involve any construction at the Highway 59 Landfill; thus, there would be no construction-related noise or vibration effects. Increased truck trips associated with conveying compostable material to the transfer station would occur under Alternative 2, which would increase operational noise levels on local roadways. However, it is unlikely that noise from trucks would substantially affect sensitive receptors, because trucking routes would be similar to the project. Thus, because there would be no construction at the Highway 59 Landfill, impacts related to noise under Alternative 2 would be less than under the project. (*Less impact*)

TRANSPORTATION

Alternative 2 would not involve any construction activities at the Highway 59 Landfill and would not result in any changes to operation at the Highway 59 Landfill. There would be no changes to consistency with plans or programs addressing the circulation systems, roadway design and use, or emergency access. However, to meet waste diversion goals, compostable materials would be diverted from the municipal waste stream and transported to a transfer station for processing elsewhere. Therefore, Alternative 2 would result in greater VMT than the project. Thus, impacts to transportation under Alternative 2 would be greater than the project. (*Greater impact*)

5.4.3 Alternative 3: Reduced Throughput Alternative

Under Alternative 3, compost throughput at the Highway 59 landfill would be limited to 50,000 tpy (a 25,000 tpy capacity increase above the existing facility). This reduced throughput would eliminate the need for the southern temporary storage of finished compost site. All other components of Alternative 3 would be the same as for the project, including construction and operation of the CASP system, the number of trucks coming to and from the Highway 59 Landfill, and the need for the northern temporary storage of finished compost location.

Under Alternative 3, the composting program at the Highway 59 Landfill would be expanded from current conditions and would be designed to meet SB 1383 goals for diversion of compostable materials from the municipal waste stream. This alternative would: provide capacity for implementation of a transformative organics diversion program in Merced County, as required by California legislation; reduce methane missions from landfills by removing organics from the Highway 59 Landfill; accommodate the growing regulatory demand for mixed materials, organic waste, and food waste composting; increase the types of processed feedstock; increase preprocessing food waste operations at the facility; and enhance the business community's ability to comply with SB 1383. Thus, Alternative 3 would meet most of the basic project objectives.

AIR QUALITY

All components of Alternative 3 would be the same as for the project, including construction and operation of the CASP system, the number of trucks coming to and from the Highway 59 Landfill, and the need for the northern temporary storage of finished compost site. However, because there would be lower throughput, there would be fewer criteria air pollutant emissions associated with operation of the composting machinery. In addition, no site preparation would be necessary at the southern temporary storage of finished compost site. Therefore, air quality impacts would be less than the project. (*Less impact*)

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Alternative 3 would involve the same level of land development as the project (i.e., construction of the CASP facility); however, Alternative 3 would not include the southern temporary storage area of finished compost site or clearing of

the southerly parcel for vegetation management purposes. Site preparation for the temporary storage of finished compost sites would require light grading, during with there would be potential to encounter cultural resources, and result in a substantial adverse change in the significance of a pre-contact or historic-era archeological resources, tribal cultural resources, or human remains. Because Alternative 3 would require less earth-moving than under the project, potential impacts on cultural resources would be less than for the project. (*Less*)

BIOLOGICAL RESOURCES

Under Alternative 3, the composting facility and northern temporary storage for finish compost location would be same as under the project. However, removal of the southern temporary storage for finish compost location would eliminate potential impacts to special-status plants, special-status amphibians, burrowing owl, and Crotch's bumble bee because habitat for these species only exists within the southern temporary storage location. Therefore, impacts on biological resources would be less under Alternative 3 than under the project. (*Less impact*)

ENERGY

All components of Alternative 3 would be the same as for the project, except for use of the southern temporary storage area for finished compost and overall composting throughput at the Highway 59 Landfill. Because there would be lower throughput, there would be less use of machinery at the landfill, and thus less energy demand than under the project. Therefore, energy impacts would be less than the project. (*Less impact*)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

All components of Alternative 3 would be the same as for the project, including construction and operation of the CASP system, the number of trucks coming to and from the Highway 59 Landfill, and the need for the northern compost pile. However, because there would be lower throughput, there would be a smaller reduction in GHG emissions compared to the project. Therefore, although Alternative 3 would be consistent with statewide goals for composting diversion under SB 1383, it would meet SLCP reduction goals to a lesser extent the under the project. (Greater impact)

NOISE

All components of Alternative 3 would be the same as for the project, including construction and operation of the CASP system, the number of trucks coming to and from the Highway 59 Landfill, and the need for the northern compost pile. The difference would involve a reduced throughput of compostable materials at the Highway 59 Landfill and use of the southern temporary storage of finished compost site. These differing project components would not substantially change noise or vibration levels, compared to the project, because project-related noise and vibration impacts are primarily related to construction, which would be the same under Alternative 3 as under the project. Therefore, construction and operational noise and vibration impacts would be similar under Alternative 3 as under the project. (*Less impact*)

TRANSPORTATION

Because Alternative 3 would not alter the design of the CASP composting facility, compared to the project, there would be no changes to consistency with plans or programs addressing the circulation systems, roadway design and use, or emergency access. In addition, there would be no changes to the number of trucks coming to and from the Highway 59 Landfill under Alternative 3 compared to the proposed project. Thus, Alternative 3 would result in similar impacts to transportation as under the project. (*Similar*)

5.4.4 Alternative 4: Expansion to the North Alternative

Under Alternative 4, compost throughput at the Highway 59 landfill would be the same as under the project (75,000 tpy). Components of Alternative 4 would be the same as for the project, including construction and operation of the CASP system, the number of truck coming to and from the Highway 59 Landfill, and the need for the northern compost storage location; however, instead of the southern temporary storage of finished compost, a storage site would be established to the north of the Highway 59 Landfill in an area currently occupied by orchards. This would require an agreement related to use or purchase of land (approximately 2.5 acres) from the landowner north of Highway 59 Landfill.

Under Alternative 4, the composting program at the Highway 59 Landfill would be expanded from current conditions and would be designed to meet SB 1383 goals for diversion of compostable materials from the municipal waste stream. This alternative would: provide capacity for implementation of a transformative organics diversion program in Merced County, as required by California legislation; reduce methane missions from landfills by removing organics from the Highway 59 Landfill; accommodate the growing regulatory demand for mixed materials, organic waste, and food waste composting; increase the types of processed feedstock; increase preprocessing food waste operations at the facility; and enhance the business community's ability to comply with SB 1383. Thus, Alternative 4 would meet the objective of the project.

AIR QUALITY

All components of Alternative 4 would be the same as for the project, except that the southern temporary storage of finished compost location would be relocated to an area north of the landfill. Thus, construction activities, and thereby construction-related air emissions, would be the same as under the project. With regard to the alternate temporary storage of finished compost location, transport of finished compost would be similar to the project, thus there would not be a substantial difference in mobile source emissions. Therefore, impacts to air quality would be similar to the project. (*Similar*)

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Alternative 4 would involve the same level of land disturbance as the project. Therefore, there would be a similar potential to encounter cultural resources, and result in a substantial adverse change in the significance of a pre-contact or historic-era archeological resources, tribal cultural resources, or human remains. Therefore, impacts on cultural resources would be similar to the project. (*Similar*)

BIOLOGICAL RESOURCES

All components of Alternative 4 would be the same as for the project, except that the southern temporary storage of finished compost location would be relocated to an area north of the landfill. Relocation of the southern temporary storage for finish compost location to the area north of the Highway 59 Landfill would eliminate potential impacts to special-status plans, burrowing owl, and Crotch's bumble bee because habitat for these species only exists within the southern temporary storage location. Because the area north of the landfill is adjacent to a canal, it is considered potential upland habitat for special-status amphibians; thus, impacts to special-status amphibians would be similar under Alternative 4 as under the project. Because there would be less habitat for special-status species under Alternative 4 compared to the project, and fewer special-status species would be affected, impacts on biological resources would be less. (*Less impact*)

ENERGY

All components of Alternative 4 would be the same as for the project, except that the southern temporary storage of finished compost location would be relocated to an area north of the landfill. Thus, construction activities, and thereby construction-related energy demand, would be the same as under the project. With regard to the alternate

temporary storage of finished compost location, transport of finished compost would be similar to the project, thus there would not be a substantial difference in energy demand for mobile sources. Therefore, impacts on energy would be similar to the project. (*Similar*)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

All components of Alternative 4 would be the same as for the project, except that the southern temporary storage of finished compost location would be relocated to an area north of the landfill. Thus, construction activities, and thereby construction-related GHG emissions, would be the same as under the project. With regard to the alternate temporary storage of finished compost location, transport of finished compost would be similar to the project, thus there would not be a substantial difference in mobile source emissions. From an operational standpoint, GHG emission reductions would be the same as under the project because diversion rates would be the same. Therefore, impacts to GHG and climate change would be similar to the project. (*Similar*)

NOISE

All components of Alternative 4 would be the same as for the project, except that the southern temporary storage of finished compost location would be relocated to an area north of the landfill. Thus, construction activities, and thereby construction-related noise levels, would be the same as under the project. With regard to the alternate temporary storage of finished compost location, transport of finished compost would be similar to the project, thus there would not be a substantial difference in noise levels from mobile sources. Therefore, impacts on noise would be similar to the project. (*Similar*)

TRANSPORTATION

All components of Alternative 4 would be the same as for the project, except that the southern temporary storage of finished compost location would be relocated to an area north of the landfill. That is, the overall design of the composting facility and number of truck trips coming to and from the landfill would be the same under Alternative 4 and under the project. Thus, construction and operational activities would be the same under Alternative 4 as the project. Therefore, impacts to transportation would be similar to the project. (*Similar*)

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 5-2 summarizes the environmental analyses provided above for the project alternatives.

Table 5-1 Summary of Environmental Effects of the Alternatives Relative to the Project

Environmental Topic	Project	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Air Quality	Less than significant	Less	Greater	Less	Similar
Archaeological, Historical, and Tribal Cultural Resources	Less than significant (with mitigation)	Less	Less	Less	Similar
Biological Resources	Less than significant (with mitigation)	Less	Less	Less	Less
Energy	Less than significant	Less	Greater	Less	Similar
Greenhouse Gas Emissions and Climate Change	Less than significant	Greater	Greater	Greater	Similar
Noise	Less than significant	Less	Less	Less	Similar
Transportation	Less than significant	Similar	Greater	Similar	Similar

Because the No Project–No Development Alternative (described above in Section 5.4.1) would avoid all adverse impacts resulting from construction and operation of the CASP project analyzed in Chapter 3, it is the environmentally superior alternative. However, the No Project–No Development Alternative would not meet the objectives the project as presented above in Section 5.2.

State CEQA Guidelines Section 15126.6 states that an EIR should identify the "environmentally superior" alternative. All impacts under the proposed project would be less than significant with implementation of mitigation included in this Draft SEIR. No residual significant and unavoidable impacts would occur. Because implementing Alternative 1: No Project Alternative (described above in Section 5.4.1) would avoid all adverse impacts resulting from construction and operation of the project analyzed in Chapter 3, it would be environmentally superior. However, the No Project Alternative would not meet any of the objectives of the project, presented above in Section 5.2.1. When the environmentally superior alternative is the No Project Alternative, the State CEQA Guidelines (Section 15126.6[e][2]) require selection of an environmentally superior alternative from among the other alternatives evaluated.

As described in Section 5.4, implementation of Alternatives 2, 3, and 4 would all result in some impacts of greater severity and lesser severity than under the project. Of these alternatives, Alternative 3 reduces impacts to the greatest number of resource areas, however, it does not result in as large of a GHG reduction as the project. Regardless, as noted above, the project would not result in any significant environmental effects that cannot be mitigated to a less-than-significant level, and therefore no additional alternatives need to be evaluated or considered. Thus, because there would be no significant impacts related to the project that cannot be mitigated to a less-than-significant level, further discussion on an environmentally superior alternative is unnecessary.

6 OTHER CEQA SECTIONS

6.1 GROWTH INDUCEMENT

CEQA Section 21100(b)(5) specifies that the growth-inducing impacts of a project be addressed in an EIR. Section 15126.2(d) of the State CEQA Guidelines provides the following guidance for assessing growth-inducing impacts of a project:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can induce growth directly, indirectly, or both. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may foreseeably lead to environmental effects. If substantial growth inducement occurs, it can result in secondary environmental effects, such as increased demand for housing, demand for other community and public services and infrastructure capacity, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, conversion of agricultural and open-space land to urban uses, and other effects.

6.1.1 Summary of Valley Fill Project EIR Analysis

Section 7.3, "Growth-Inducing Impacts," in the Valley Fill Project EIR evaluated the potential for the Valley Fill Project to result in growth-inducing impacts. Specifically, the analysis considered the potential for the Valley Fill Project to directly induce job creation, which attracts economic or population growth to the area, and removal of an obstacle to growth. The Valley Fill Project did not include construction of new homes, and thus it was determined that there would not be direct population inducement to the project area.

As discussed in the Valley Fill Project EIR, the Valley Fill Project would require a minimal construction workforce of 10–15 people. No relocation of workers is needed to accommodate this construction workforce demand. In addition, no new employees are associated with postconstruction operation and maintenance of the Highway 59 Landfill. Therefore, the Valley Fill Project was not considered to induce new demand for housing and public services or, in turn, spur secondary job growth, such as retail services to serve employees. In addition, landfill capacity issues were not considered a constraint to growth, but instead, expansion of the landfill maintains long-term solid waste disposal

capacity in Merced County. In summary, the Valley Fill Project EIR indicated that the Valley Fill Project is not growth inducing.

6.1.2 Analysis of the Highway 59 Landfill Composting Facility

The project involves an increase in the compostable material throughput at the Highway 59 Landfill. Construction activities would require approximately 10 workers, and operation of the project would increase the overall workforce of the Highway 59 Landfill by 2–4 individuals. These employment opportunities would be accommodated by the existing regional workforce and would not require the construction of new housing or public services or spur secondary job growth, such as retail services to serve employees.

The increase in compost throughput associated with the project would be met by the current and future waste stream in Merced County and would accommodate state-mandated composting requirements (see Section 2.3, "Project Need and Objectives"). Because solid waste management capacity is not considered a constraint to growth in Merced County, as indicated in the Valley Fill Project EIR, the project would not remove an obstacle to growth. Rather, the project would meet composting demands at the Highway 59 Landfill.

Therefore, the project would not directly or indirectly induce growth.

6.2 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

The State CEQA Guidelines Section 15126.2(b) requires EIRs to include a discussion of the significant environmental effects that cannot be avoided if the proposed project is implemented.

6.2.1 Summary of the Valley Fill Project EIR Analysis

The Valley Fill Project EIR concluded that implementation of the Valley Fill Project would have significant and unavoidable impacts on near-term intersection level of service (LOS), long-term intersection LOS, and long-term roadway LOS. As noted in Chapter 3 and Section 3.7, "Transportation," LOS is no longer considered a significant environmental effect under CEQA (see the discussion under subheading, "Vehicle Miles Traveled," in Section 3.7.3, "Impacts and Mitigation Measures").

6.2.2 Analysis of the Highway 59 Landfill Composting Facility

As documented throughout Chapter 3, "Environmental Impacts and Mitigation Measures," and Chapter 4, "Cumulative Impacts," of this Draft SEIR, all impacts associated with the project and the project's contribution to cumulative impacts would be less than significant with implementation of feasible mitigation measures. Therefore, there would be no significant and unavoidable impacts.

6.3 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines require a discussion of any significant irreversible environmental changes that would be caused by the project. Specifically, the State CEQA Guidelines section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generation to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

6.3.1 Summary of the Valley Fill Project EIR Analysis

Section 7.2, "Significant Irreversible Environmental Effects," in the Valley Fill Project EIR evaluated the potential of the Valley Fill Project to result in irreversible and irretrievable commitments of resources. As discussed therein, the Valley Fill Project continues commitment of the landfill to solid waste disposal, thereby precluding any other uses for the lifespan of the project site. Solid waste facilities, including the Valley Fill Project, increase generation of pollutants, and the commitment of nonrenewable or slowly renewable natural and energy resources, such as water and power, during construction. Additionally, the Valley Fill Project EIR states that operations associated with future uses consume water, electricity, and fossil fuels.

6.3.2 Analysis of the Highway 59 Landfill Composting Facility

The project involves conversion of the existing 25,000-tpy windrow composting facility to a 75,000-tpy CASP composting facility. The type of significant irreversible environmental effects of the project would be consistent with those described above for the Valley Fill Project EIR (i.e., typical of waste management operations). That is, the project would commit the project site to composting activities, thereby precluding any other uses for the lifespan of the project, which increases the generation of pollutants and the commitment of nonrenewable or slowly renewable natural energy resources during construction. Operation of the project would also require future consumption of water, electricity, and fossil fuels.

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Chapter 5, Alternatives

No references were cited in this chapter.

Chapter 6, Other CEQA Sections

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