Recirculated Draft
Environmental Impact Report

Z-Best Composting Facility Modifications

SCH 2018102041

April 17, 2023

Prepared for:

County of Santa Clara
Department of Planning and Development
70 West Hedding Street, 7th Floor East Wing
San Jose, CA 95110

Prepared by:

AECOM
4 North Second Street, Suite 675
San Jose, CA 95113
aecom.com

County of Santa Clara
Department of Planning and Development
70 W. Hedding Street, 7th Floor, E. Wing
San Jose, CA 95110

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Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
A-40ac	Exclusive Agriculture, 40-acre Combining District
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ABAG	Association of Bay Area Governments
Act	Native American Graves Protection and Repatriation Act
AECOM	AECOM Technical Services, Inc.
AFY	acre feet per year
Alternative GSP	Groundwater Management Plans
AMBAG	Association of Monterey Bay Area Governments'
ASP	aerated static pile
BAAQMD	Bay Area Air Quality Management District
Basin Plan	*Water Quality Control Plan for the Central Coastal Basin*
BEES	Building Energy Efficiency Standards
BMPs	best management practice
BOD	biochemical oxygen demand
CAAQS	California Ambient Air Quality Standard
CalEEMod	California Emission Estimator Model
CalGreen	California Green Building Standards
CalRecycle	California Integrated Waste Management Board
CalRecycle	California's Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
Caltrans Manual	Caltrans Transportation and Construction Vibration Guidance Manual
CARB	California Air Resources Board
CASP	covered aerated static pile
CBC	California Building Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CH_4	methane
CMP	congestion management program
CNPS	California Native Plant Society
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Santa Clara
CTI	Compost Technologies, Inc.
CWA	Clean Water Act
CY	cubic yards
dB	decibel
DB	Detention Basin #1
dBA	A-weighted decibel
DOC	Department of Conservation

DWR	California Department of Water Resources
EA	Enforcement agency
eASP	extended bed aerated static pile
ECS	Engineered Composting System
EIR	Environmental Impact Report
EMC	EMC Planning Group
EMFAC	Emissions Factor Model
EPA	U.S. Environmental Protection Agency
EPA	United States Environmental Protection Agency
EV	electric vehicle
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
General Plan	Santa Clara County General Plan
GHG	greenhouse gas
GIS	geographic information system
GSP	groundwater sustainability plans
GWMP	Groundwater Management Plan
Habitat Plan	Santa Clara Valley Habitat Plan
in/sec PPV	inches per second peak particle velocity
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
lbs/day	pounds per day
L_{dn}	day-night noise level
LEA	local enforcement agency
LED	Light emitting diode
L_{eq}	Equivalent Sound Level
LID	low impact development
LOS	level of service
lux	measurement of light level intensity or illumination
MEI	Maximally Exposed Individual
MM5	5th-generation Mesoscale Model or
MMRP	Mitigation Monitoring and Reporting Program
MMT	million net metric tons
mph	miles per hour
MRFs	Material Recovery Facilities
MS4s	small municipal separate storm sewer systems
MSW	Municipal Solid Waste
MTC	Metropolitan Transportation Commission
MWh	megawatt per hour
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NRCS	Natural Resources Conservation Service
NH_3	ammonia
NHTSA	National Highway Traffic Safety Administration
NO_2	Nitrogen Dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxide

NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
O_3	Ozone
OPR	Governor's Office of Planning and Research
OU/m^3	odor units per cubic meter of air
Pb	Lead
PFAS	Per- and Polyfluoroalkyl Substances
PFRP	Process to Further Reduce Pathogens
PG&E	Pacific Gas & Electric Company
PM_{10}	particulate matter with aerodynamic diameter less than 10 microns
$PM_{2.5}$	particulate matter with aerodynamic diameter less than 2.5 microns
POC	precursor organic compounds
PRC	Public Resources Code
proposed project	Z-Best Composting Facility Modifications Project
RCNM	Roadway Construction Noise Model
Report	Odor Best Management Practice Feasibility Report
RJA	Ruggeri-Jensen-Azar
ROGs	Reactive organic gases
RWQCBs	Regional Water Quality Control Boards
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SF	square feet
SFBAAB	San Francisco Bay Area Air Basin
SGMA	Sustainable Groundwater Management Act
SO_2	Sulfur Dioxide
SR-25	State Route 25
SVIP	Strada Verde Innovation Park
SWCV	Solid Waste Collection Vehicle
SWFP	Solid Waste Facility Permit
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TMDLs	total maximum daily loads
TPD	tons per day
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USCC	U.S. Composting Council
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Valley Water	Santa Clara Valley Water District
VMT	vehicle miles traveled
VOC	volatile organic compound
VTA	Valley Transportation Authority
Williamson Act	California Land Conservation Act
WOTUS	waters of the United States
WRA	WRA Environmental Consultants
Zoning Ordinance	County of Santa Clara Zoning Ordinance

1 Introduction

This document constitutes the Recirculated Draft Environmental Impact Report (EIR) for the proposed Z-Best Composting Facility Modifications Project (the project). This document has been prepared in accordance with, and complies with, all criteria, standards, and procedures of the California Environmental Quality Act (CEQA) of 1970 as amended (Public Resources Code [PRC] Section 21000 et seq.) and CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000 et seq.). Per Section 21067 of CEQA and Sections 15367 and 15050 through 15053 of the CEQA Guidelines, the County of Santa Clara (County) is the lead agency under whose authority this document has been prepared. As an informational document, this EIR is intended for use by the County decision makers and members of the public in evaluating the potential environmental effects of the project.

1.1 Project Overview

The project proponent, Zanker Road Resource Management Ltd., (hereafter referred to as Z-Best or the applicant) has applied to the County of Santa Clara for a modification of its Use Permit, and an Architectural Site Approval, for its existing composting facility at 980 State Route 25 (SR-25) in the unincorporated area approximately 5 miles southeast of Gilroy. The facility currently processes two types of materials:

- Green waste, which includes organic materials, yard trimmings, and agricultural waste; and
- Municipal Solid Waste (MSW), which includes postconsumer food waste and dewatered grease trap screenings.

The proposed modification would allow an upgrade of the facility's existing MSW composting process from the current windrow method to an aerated static pile process and associated modifications to existing operations and site conditions to accommodate the new processing technology. The purpose of the proposed project is to enable faster and more efficient composting of MSW.

The proposed technology and operations modifications would enable Z-Best to increase its current permitted composting capacity from a total of 1,500 tons per day (TPD) with up to 15 days per year at 2,500 TPD, to 2,750 TPD with up to 20 days per year at 3,500 TPD. The additional capacity is consistent with state mandates and the State of California's Department of Resources Recycling and Recovery (CalRecycle) goals to increase waste diversion from landfills. The proposed increase in intake volume would come from increased MSW. Z-Best is not proposing to modify its existing green waste intake volume as part of the proposed project.

1.2 Environmental Review Process

CEQA requires that before a decision can be made to approve a project with significant environmental effects, an EIR must be prepared that fully describes the significant environmental effects of the project. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate environmental consequences of a proposed project, and to identify feasible alternatives or mitigation measures to lessen or eliminate significant adverse impacts. The information contained in the EIR is reviewed and considered by the lead agency prior to the decision to approve the proposed project.

1.2.1 Original Draft Environmental Impact Report

On October 15, 2018, the County of Santa Clara, as Lead Agency responsible for the EIR, sent a Notice of Preparation (NOP) to governmental agencies, organizations, and persons interested in the proposed project to initiate the public scoping period for the EIR, which ended on November 16, 2018. The County also held a public scoping meeting at the City of Gilroy Library in Gilroy on October 30, 2018, to receive oral comments on the scope of the EIR. The NOP is contained in Appendix A-1 and the scoping comments are contained in Appendix A-2.

The County, with assistance from consultant EMC Planning Group (EMC), prepared a Draft EIR for the proposed project and circulated it for a 45-day public review period from January 15 to March 1, 2021. The County's Planning Commission also held a public meeting on February 25, 2021, to receive oral comments on the Draft EIR. The document that was publicly released in 2021 is referred to hereafter as the original Draft EIR. Comments received on the original Draft EIR are available on the County's website at: https://plandev.sccgov.org/development-projects/current-projects.

1.2.2 Recirculated Draft Environmental Impact Report

In response to comments received on the original Draft EIR, the County determined that additional analysis was required, and retained AECOM Technical Services, Inc. (AECOM) to provide the analysis. This resulted in new information pertaining to the project and its environmental impacts. In addition, during the intervening period, several changes to the project were proposed by the Applicant which required revisions to the analysis and conclusions of the original Draft EIR.

CEQA requires a lead agency to recirculate all or portions of a Draft EIR when "significant new information" is added to the EIR after the public review period begins but prior to certification (CEQA Guidelines Section 15088.5).

Public notice and circulation of a Recirculated Draft EIR is subject to the same notice and consultation requirements that applied to the original Draft EIR, per CEQA Guidelines Sections 15086 and 15087.

The County has determined that the revisions and additions to the original Draft EIR for the Z-Best project since the original public review period do constitute "significant new information" as defined by CEQA. Furthermore, the County has

determined that the revisions are not limited to a few chapters or portions of the EIR and therefore has determined to recirculate the entire document. This document constitutes the Recirculated Draft EIR for the proposed Z-Best Composting Facility Modifications Project.

When an EIR is substantially revised and the entire document is recirculated, the lead agency may require reviewers to submit new comments and, in such cases, need not respond to those comments received during the earlier circulation period (Section 15088.5(f)(1)). The lead agency need only respond to the comments submitted in response to the recirculated revised EIR. That is the approach that is being taken by the County in this instance. **As detailed below, the County will only respond in writing to those comments submitted in response to this Recirculated Draft EIR.**

1.2.3 Public Review of the Recirculated Draft EIR

CEQA requires a minimum public review period of 45 days for a Draft EIR subject to State Clearinghouse review (CEQA Guidelines Sections 15086 and 15105); this same minimum 45-day review period also applies to and will be used for the Recirculated Draft EIR. Notice of the Recirculated Draft EIR, with required content, will be sent directly to each commenter that commented on the original Draft EIR (CEQA Guidelines 15088.5(f)(3)).

In accordance with CEQA Guidelines Section 15088.5(f)(1), the County advises reviewers that although the previous comments on the original Draft EIR are still part of the administrative record, those comments do not require a written response in the final EIR, and that new comments on this Recirculated Draft EIR must be submitted during the public review period. The County will only respond to comments submitted in response to this Recirculated Draft EIR.

The County will provide public notice of availability of the Recirculated Draft EIR consistent with CEQA Guidelines Section 15087. Copies of the Recirculated Draft EIR, the original Draft EIR, and referenced documents therein, are available for public review at the following locations:

- County of Santa Clara Planning Office, County Government Center, 70 West Hedding Street, 7th Floor, East Wing, San Jose, California; and
- City of Gilroy Library, 350 W 6th Street, Gilroy, California.

The Recirculated Draft EIR and original Draft EIR are also available on the County of Santa Clara's website at: https://plandev.sccgov.org/development-projects/current-projects.

Written comments on the Recirculated Draft EIR should be sent by mail to the address below, or via email to valerie.negrete@pln.sccgov.org.

Valerie Negrete, Senior Planner
County of Santa Clara Planning Office
County Government Center
70 West Hedding Street, 7th Floor, East Wing
San Jose, California 95110

During the public review period for the Recirculated Draft EIR, the County will conduct a public meeting as part of the Planning Commission meeting at the following date, time, and location:

6 PM on Thursday, May 25, 2023
Board of Supervisors' Chambers
County Government Center
70 West Hedding Street, 1st Floor
San Jose, California 95110

Information on this meeting is available on the County Planning's website at: https://plandev.sccgov.org/development-projects/current-projects.

1.2.4 Final EIR and EIR Certification

The Final EIR will consist of the Recirculated Draft EIR and a Response to Comments document that will respond to substantive comments received on the Recirculated Draft EIR, and any revisions to the Recirculated Draft EIR made in response to comments received.

Prior to considering the project for approval, the County, as lead agency and the decision-making entity, is required to certify that the EIR has been completed in compliance with CEQA, that the information in this EIR has been considered, and that the EIR reflects the independent judgment of the County. If environmental impacts are identified as significant and unavoidable, the lead agency may still approve the project if it finds that social, economic, legal, technological, or other benefits outweigh the unavoidable impacts. The lead agency would then be required to state in writing the specific reasons for approving a project, based on information in the EIR and other information sources in the administrative record. This reasoning is called a "statement of overriding considerations" (PRC Section 21081 and CEQA Guidelines Section 15093).

In addition, the County as lead agency must adopt a Mitigation Monitoring and Reporting Program (MMRP) describing the measures that were made a condition of project approval to avoid or mitigate significant effects on the environment (PRC Section 21081.6; CEQA Guidelines Section 15097). The MMRP is adopted at the time of project approval and is designed to ensure compliance with the project description and mitigation measures of the EIR during and after project implementation. If the County decides to approve the project, it would be responsible for verifying implementation of the MMRP.

The County's Planning Commission will hold a public hearing regarding the proposed project, and will consider the adequacy of the Final EIR, make all required findings, adopt the MMRP, and take any other actions required to comply with CEQA if it decides to approve the project. The Planning Commission's decision may be appealed to the County Board of Supervisors.

1.3 Document Organization and Summary of Changes

As described in above, consistent with CEQA Guidelines Sections 15088.5, the County is recirculating the entire Draft EIR. Some sections of the original Draft EIR have been revised substantially, while others have only had minor revisions to describe and analyze changes in the project description that have occurred since the original Draft EIR was prepared, and/or to reflect current requirements of CEQA.

As required by CEQA Guidelines Sections 15088.5(g), this section contains a summary of the revisions made to the original Draft EIR. This section also explains the layout of this document and identifies which sections of this Recirculated Draft EIR correspond to the various chapters of the original Draft EIR. To avoid confusion between the numbering system used, the different parts of this document are referred to as Sections, whereas the different parts of the original Draft EIR are referred to as Chapters.

Section 1, Introduction of this document replaces in its entirety Chapter 1 of the original Draft EIR. It provides a project overview, a description of the environmental review process for recirculated CEQA documents, and a description of the organization and content of this document, including a summary of the revisions to the previously circulated Draft EIR, in accordance with 15088.5(g) of the CEQA Guidelines.

Section 2, Summary of this document is an updated version of Chapter 2 of the original Draft EIR. It contains a summary of the project, summary of significant impacts, summary of alternatives, areas of known controversy, and issues to be resolved. Revisions are limited to updating the original summary to reflect the revised content of this Revised Draft EIR.

Section 3, Existing Setting of this document is an updated version of Chapter 3 of the original Draft EIR. It contains additional information describing changes to environmental conditions and site operating conditions since the original Draft EIR was published, as well as information on the general plan and zoning designations of the site.

Section 4, Project Description of this document is an updated version of Chapter 4 of the original Draft EIR. It has been updated to reflect the latest project application submitted to the County in April 2022 and re-organizes some of the information from the original Draft EIR to improve readability.

Section 5, Aesthetics of this document is an updated version of Chapter 5 of the original Draft EIR. Minor revisions have been made to the original text to account for additional project features that were not analyzed in the original Draft EIR.

Section 6, Agriculture and Forestry Resources of this document is a completely new section, as the original Draft EIR contained only a brief analysis relating to this topic within Chapter 14, Effects Found Not Significant.

Section 7, Air Quality and Odors of this document is a highly revised version of Chapter 6 of the original Draft EIR. Several subsections of the original chapter have been removed and replaced with updated text to reflect new modeling undertaken

based on updated project details and assumptions, new technical reports relating to bioaerosol emissions, and mitigation options for nitrogen oxide (NOx) emissions.

Section 8, Biological Resources of this document is an updated version of Chapter 7 of the original Draft EIR. Minor revisions have been made to the original text to account for additional project features that were not analyzed in the original Draft EIR and to update the analysis based on the latest available information.

Section 9, Cultural Resources of this document is an updated version of Chapter 8 of the original Draft EIR. Minor revisions have been made to the original text to explain why the original analysis and conclusions are still valid. Analysis of impacts to paleontological resources has been moved to the subsection discussing geological resources (within Section 15, Effects Found Not Significant), in line with the most recent version of Appendix G of the CEQA Guidelines. The section has also been expanded to address impacts to tribal cultural resources (previously addressed in Chapter 14, Effects Found Not Significant) to reflect recent outreach and consultation efforts by the County in relation to the project.

Section 10, Greenhouse Gases of this document is a highly revised version of Chapter 9 of the original Draft EIR. Several subsections of the original chapter have been removed and replaced with updated text to reflect new modeling undertaken based on updated project details and assumptions, and new technical reports relating to greenhouse gas (GHG) offsets.

Section 11, Hydrology and Water Quality of this document is a highly revised version combining both Chapter 10 (Hydrology and Water Quality) and Chapter 13 (Water Supply and Groundwater Sustainability) of the original Draft EIR into one section. Several subsections of the original chapters have been heavily edited to reflect updated project details and assumptions and updated technical reports relating to floodplain storage, water supply and groundwater drawdown.

Section 12, Noise of this document is a new section to replace Chapter 11 of the original Draft EIR. New noise modeling has been undertaken to reflect the updated project construction and operation details.

Section 13, Transportation of this document is an updated version of Chapter 12 of the original Draft EIR. Some subsections of the original chapter have been removed and replaced with updated text to reflect updated project details and a new technical report relating to traffic safety. Other subsections have had only minor revisions to explain why the original analysis and conclusions are still valid and/or to provide additional clarification.

Section 14, Effects Found Not Significant of this document is an updated version of Chapter 14 of the original Draft EIR. As noted above, the subsection relating to agriculture and forestry resources has been removed (replaced by Section 6 of this Recirculated Draft EIR), and the subsection relating to geological resources now includes discussion of impacts to paleontological resources (previously in Chapter 8, Cultural Resources). The subsection relating to tribal cultural resources has been removed from this section and incorporated into Section 9, Cultural Resources. Other subsections have had minor revisions to reflect updated project details and to explain why the original analysis and conclusions are still valid.

Section 15, Cumulative Impacts of this document is an updated version of Chapter 15 of the original Draft EIR. The list of cumulative projects has been updated and edits have been made to the analysis to reflect the new cumulative projects, current conditions, and updated details of the Z-Best project.

Section 16, Significant Unavoidable Impacts of this document is an updated version of Chapter 16 of the original Draft EIR. The section has been revised to identify the significant and unavoidable impacts of the proposed project as documented within the preceding sections of the Recirculated EIR.

Section 17, Growth Inducement of this document is an updated version of Chapter 17 of the original Draft EIR. Minor revisions have been made to reflect updated project details and existing conditions.

Section 18, Alternatives of this document is an updated version of Chapter 18 of the original Draft EIR. Minor edits have been made to the analysis of the same three alternatives analyzed in the original Draft EIR, and additional discussion of alternatives considered but rejected has been added in response to comments received on the original Draft EIR.

Section 19, References of this document is an updated version of Chapter 19 of the original Draft EIR. Source documents that were cited in the original Draft EIR, but which are not cited in this document have been removed; whilst new source documents that are referred to within the revised sections of this Recirculated Draft EIR have been added.

Section 20, Report Authors of this document is a new section listing the County and consultant staff that have contributed to the preparation of this Recirculated EIR.

Appendices provide additional information to support the analysis within this document. Some of the appendices are unchanged from those included in the original Draft EIR, some have been replaced with updated versions, while others are new documents, as indicated below.

- Appendix A: NOP and Scoping Comments
    - A-1: NOP (unchanged)
    - A-2: Scoping Period Comments (unchanged)
- Appendix B – Air Quality and GHG Supporting Information
    - B-1: 2019 Air Quality and GHG Emissions Report by SCS Engineers and associated 2020 peer review by EMC (unchanged)
    - B-2: 2019 Health Risk Assessment for Increased Truck Traffic by Illingworth and Rodkin (unchanged)
    - B-3: 2020 Toxic Air Contaminant Emissions Evaluation for Proposed Capacity Expansion by Yorke Engineering (unchanged)
    - B-4: 2019 Air Dispersion Modelling Report by Englobe and associated 2019 peer review by Yorke Engineering (unchanged)
    - B-5: 2020 GHG Offset Memorandum by SCS Engineers and associated 2023 peer review by AECOM (new)

- B-6: 2022 Bioaerosols Memorandum by AECOM (new)
- B-7: 2023 NOx Emissions Mitigation Memorandum by AECOM (new)
- B-8: 2023 Updated Air Quality and GHG Modeling by AECOM (new)

- Appendix C – Biological Resources Supporting Information
  - C-1: 2014 California Red-Legged Frog Habitat Assessment by WRA Environmental Consultants (WRA) (unchanged)
  - C-2: 2017 Verification of Absence of Sensitive Species and Habitat by WRA (unchanged)
  - C-3: 2020 Biological Report for Site Access and State Highway 25 Improvements by EMC (unchanged)
  - C-4: 2022 Updated Biological Records Searches by AECOM (new)
- Appendix D – Energy Supporting Information
  - D-1: 2022 Power Use Comparison: covered aerated static pile (CASP) and extended bed aerated static pile (eASP) versus Compost Technologies, Inc. (CTI) Composting by Engineered Composting System (ECS) (updated)
- Appendix E – Hydrology and Water Quality Supporting Information
  - E-1: 2020 Peer Review of Select Hydrology and Water Quality Technical Analyses by Tetra Tech (unchanged)
  - E-2: 2022 Updated Floodplain Storage Analysis for Z-Best Compost Facility by Schaaf and Wheeler (updated)
  - E-3: 2022 Clarification of Previous Hydrology and Water Supply Analyses by Golder Associates (updated)
  - E-4: 2022 Further Clarification, and revised Water Supply Evaluation by Golder Associates (updated)
  - E-5: 2022 Groundwater Drawdown Evaluation Memorandum by Golder Associates (new)
  - E-6: 2023 Detention Basin Analysis by AECOM (new)
  - E-7: 2023 Flood Event Recurrence by AECOM (new)
- Appendix F – Noise Supporting Information
  - F-1: 2022 Noise Memorandum by AECOM (new)
- Appendix G – Transportation Supporting Information
  - G-1: 2020 Z-Best Traffic Operations and Site Access Analysis by Hexagon and associated 2020 peer review by Keith Higgins and 2020 response by Hexagon (unchanged)
  - G-2: 2020 Supplemental Vehicle Miles Traveled Clarification and Analysis by Hexagon (unchanged)

  G-3: 2023 Traffic Safety Memorandum by AECOM (new)

2 Summary

2.1 CEQA Requirements

California Environmental Quality Act (CEQA) Guidelines Section 15123 requires an Environmental Impact Report (EIR) to contain a summary of the proposed Z-Best Composting Facility Modifications Project (the project) and its consequences. This summary identifies each significant effect and the proposed mitigation measures and alternatives to reduce or avoid that effect; areas of controversy known to the lead agency; and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects.

This section also includes a summary of the project description. Detailed project description information, including figures illustrating the project location and components, is included in Section 4, Project Description.

2.2 Proposed Project Summary

Z-Best is requesting that it be allowed to modify its existing Solid Waste Facilities Permit to increase its daily intake of total inbound material, comprised of feedstock (municipal solid waste and green waste) and other material used for blends and site road maintenance, from 1,500 tons per day (TPD) to 2,750 TPD, and from 2,500 TPD up to 15 days per year to 3,500 TPD up to 20 days each year to accommodate seasonal spikes in feedstock. Z-Best's existing feedstock is comprised of Municipal Solid Waste (MSW) and green waste. The components of the MSW waste stream include postconsumer food waste and dewatered grease trap screenings. No increase in green waste or other material intake is proposed as part of the project. The proposed increase in MSW feedstock is approximately 875 TPD maximum with a proposed total (existing plus proposed) of 1,575 TPD. The monthly design capacity of the proposed new Engineered Composting System (ECS) (described in further detail in Section 4.1.3) is 48,000 tons per month. Seasonal spikes in feedstock would be accommodated but limited to 20 days per year with a maximum total daily inbound tonnage (feedstock plus other material) of 3,500 TPD. Total MSW feedstock would be limited to 48,000 tons per month including material received on peak days.

To accommodate the request to increase MSW composting, Z-Best proposes to replace its existing MSW composting process/technology with a new technology that reduces MSW composting time and increases MSW composting capacity. These changes are being driven by recent state regulation that requires greater diversion of organic waste from landfills. Composting the waste and reusing it as finished products helps to achieve the state's regulatory mandate.

The existing Detention Basin #1 would be modified to ensure it complies with water quality protection requirements embedded in state regulations regarding operations of composting facilities. Z-Best's existing flood water storage facility would also be enlarged to increase flood storage capacity. The entire Z-Best property is within a 100-

year floodplain, and the proposed increase in flood storage capacity will compensate for the loss of flood storage associated with Z-Best's elevation of the existing pad on which the new composting technology would be placed.

The existing facility driveway would be closed and relocated to become the fourth (southern) leg of the existing State Route 25 (SR-25)/Bolsa Road intersection, and SR-25 along the site frontage would be widened to allow installation of acceleration and deceleration lanes into and out of the new facility entrance. Several previously constructed but unpermitted features at the site, such as the overland conveyor system, wind barrier fence, processing building canopy and storage room, electrical improvements, and interior alterations to the existing office/shop building, would be permitted through the requested use permit modification and associated building permits. Other previously constructed but unpermitted features, such as the pre-processing equipment within the processing building, would be removed and replaced as part of the project. See Section 4 for more details.

2.3 Summary of Significant Impacts and Mitigation Measures

The proposed project would have a range of significant impacts. Each of the significant impacts is identified in Table 2-1, Summary of Significant Impacts and Mitigation Measures, located at the end of this Summary section. The table lists each significant impact by topic area, the level of significance of each impact, mitigation measures to avoid or substantially minimize each impact, and the level of significance of each impact after implementation of the mitigation measures.

2.4 Summary of Alternatives

This EIR evaluates the environmental impacts of three alternatives to the proposed project. The first is the no project alternative, which discusses existing conditions and allows decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. A reduced scale project is the second alternative. This alternative examines impacts wherein the number of truck trips into and out of the site are substantially reduced, resulting in a decrease of associated air emissions. The third alternative eliminates the driveway relocation from the project, resulting in reduced potential impacts to sensitive biological resources. Alternative locations to the proposed project and the use of alternative composting technology were considered but not carried forward for further evaluation because these alternatives were found to be infeasible.

2.5 Areas of Known Controversy

Several issues of concern about potential effects of the project were raised as part of the Notice of Preparation (NOP) process and within comments on the original Draft EIR. These include, but were not limited to:

- Odor and bioaerosol emissions;
- Traffic safety at the Z-Best entrance on SR-25 and at the SR-25 / Bolsa Road intersection;
- Traffic operations/congestion on SR-25;
- Visual impacts related to litter and debris;
- Conflicts with adjacent agricultural land uses;
- Air quality and greenhouse gas (GHG) emissions;
- Noise impacts; and
- Hydrology and flooding impacts.

Comments received during project scoping are contained in Appendix A-2. Comments received on the original Draft EIR are available on the County of Santa Clara's (County's) website at https://plandev.sccgov.org/development-projects/current-projects.

2.6 Issues to be Resolved

A key issue to be resolved is the choice between approving: 1) the proposed project, 2) the reduced scale project alternative, and/or 3) the alternative that eliminates relocation of the driveway. The County could also deny the proposed project and all alternatives. Truck traffic increases that would occur during project operation would cause significant and unavoidable nitrogen oxide (NO_X) air quality and vehicle miles traveled impacts. The reduced scale alternative would reduce the significant and unavoidable air quality impact from project operation to a less-than-significant level and would also reduce several other project impacts. The alternative that eliminates relocation of the driveway would reduce impacts to sensitive biological resources. These tradeoffs between environmental effects should be considered in light of the fact that the proposed project is intended to help implement state regulations regarding organic waste diversion that create environmental benefits, such as an overall reduction in GHG emissions that would result from diverting organic solid waste from disposal at landfills to the Z-Best composting facility with implementation of the proposed expansion.

Table 2-1 Summary of Significant Impacts and Mitigation Measures

Summary of Impacts and Mitigation	Significance
Impact AES-1: The project would not have a substantial adverse effect on a scenic vista. Mitigation: none required	Before Mitigation: NI After Mitigation: N/A
Impact AES-2: The project could degrade existing visual character or quality. Mitigation: ***MM-AES-2: Litter Control*** *Z-Best shall augment its existing litter management activities to ensure that no increase in litter attributable to the increase in composting operations under the proposed project would be visible from SR-25.* *A. On-Site Litter Management Plan: Prior to the County LEA's approval of a revised Solid Waste Facilities Permit, the applicant shall submit an updated on-site litter management plan for the LEA's review and approval that describes how project-generated litter will be managed to avoid visual impact. The plan shall include, but not be limited to, the following measures:* *1) Procedures for minimizing the generation of litter from on-site activities such as unloading/loading and screening.* *2) Regular inspections of the project site to identify and clean up any litter that may be generated by on-site operations.* *3) Increased frequency of current clean-up activities, such as trash removal from the litter fence and on-site street-sweeping to the extent needed to prevent any increase in the visibility from SR-25 of litter along the project frontage.* *The County LEA shall continue to conduct regular monitoring of Z-Best on-site litter management activities to ensure the updated on-site litter management plan is implemented.* *B. Off-Site Litter Management Plan: The modified Use Permit conditions shall require the applicant to comply with an off-site litter management plan. The applicant shall submit a proposed litter management plan to the County Planning Department for review and approval. The plan shall include, but not be limited to, the following measures:* *1) Procedures and penalties to discourage haul trucks arriving on site or transporting non-compostable materials from the facility from failing to properly secure their loads to minimize potential for generation of litter in-transit to or from the facility.* *2) Regular inspections of the SR-25 right-of-way adjacent to the project site and extending at least a half-mile in either direction of the facility to identify and clean up any litter that may be generated by trucks hauling materials to or from the site.* *3) Increased frequency of clean-up activities, such as trash removal from the project site frontage and street-sweeping within the Caltrans right-of-way to the extent needed to prevent any increase in litter along the project frontage.*	Before Mitigation: PS After Mitigation: LTSM
Impact AES-3: The Project would not introduce new sources of substantial light or glare that would adversely affect daytime or night-time views. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact AFR-1: The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Mitigation: none required	Before Mitigation: NI After Mitigation: N/A
Impact AFR-2: The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.	Before Mitigation: NI

Summary of Impacts and Mitigation	Significance
Mitigation: none required	After Mitigation: N/A
Impact AFR-3: The project would not involve other changes in the existing environment which could result in conversion of Farmland to non-agricultural use. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact AIR-1: The project could generate potentially significant fugitive dust (PM_{10} and $PM_{2.5}$) emissions during construction Mitigation: **MM-AIR-1: Fugitive Dust Minimization Measures** Prior to issuance of a grading permit, the project applicant shall ensure that the following measures are included on all construction documents. Additionally, these measures shall be implemented during construction: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.	Before Mitigation: PS After Mitigation: LTSM
Impact AIR-2: Operational traffic would result in NO_X emissions in excess of applicable thresholds Mitigation: **MM-AIR-2: Vehicle Idling Limits** The applicant shall require that the engines of on-road trucks operating within the project site be shut off while queuing for loading and unloading for time periods longer than two minutes. This requirement shall be incorporated by the project applicant into contract specifications for all operators of MSW, finished material, and waste haul trucks and the applicant shall ensure that all contractors comply with this contractual requirement. The applicant shall ensure appropriate signage and training for onsite workers is provided to support effective implementation of this limit. No other feasible mitigation identified.	Before Mitigation: PS After Mitigation: S&U
Impact AIR-3: Operational vehicle trips would not expose sensitive receptors to substantial concentrations of carbon monoxide Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A

Summary of Impacts and Mitigation	Significance
Impact AIR-4: Operational vehicle trips would not expose sensitive receptors to substantial concentrations of Toxic Air Contaminants. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact AIR-5: Project site operations would not expose sensitive receptors to substantial concentrations of Toxic Air Contaminants. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact AIR-6: The project would not result in increased odor emissions affecting a substantial number of people. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact AIR-7: The project could result in increased bioaerosol emissions affecting a substantial number of people. Mitigation: ***MM-AIR-7a: Dust Monitoring*** *Prior to issuance of an operating permit, the project applicant shall retain a qualified industrial hygienist to design and conduct a fence line dust monitoring program (as a proxy for the monitoring of bioaerosols) to establish baseline conditions at the site under normal (existing) operating conditions. Following installation of the new composting equipment and when the project is fully operational and at maximum composting volume, the industrial hygienist shall perform a second round of dust monitoring during typical project operations to determine if the new technology causes an increase in fugitive dust emissions (which may also indicate an increase in bioaerosol emissions). The monitoring plan shall be submitted to the County Planning Department for review and approval prior to implementation, and results shall be reported to the County Planning Department. If dust emissions under full project conditions are equal to or less than the baseline conditions, then no further monitoring is required. If dust emissions under full project conditions are greater than baseline conditions, then additional dust control measures or other operational practices shall be implemented to reduce dust and bioaerosol concentrations to the extent feasible, and additional monitoring, designed and undertaken by a qualified industrial hygienist, and reviewed and approved by County Planning Department, shall be undertaken to verify the effectiveness of the controls and to determine whether further control measures are warranted.* ***MM-AIR-7b: Equipment Maintenance and Biofilter Replacement*** *To prevent the growth of bacteria and fungi within the biofilter matrix, the matrix shall be maintained and properly replaced in accordance with manufacturer's specifications. All equipment within the ECS system, including monitoring that the proposed ECS system is attaining the appropriate pathogen reduction temperatures within the anticipated timeframe (i.e., 48 hours), shall be checked by a qualified technician and determined to be running in proper condition prior to daily operation. Records of required daily monitoring and maintenance shall be retained by the applicant and provided to the County Planning Department annually, or more frequently upon request.*	Before Mitigation: PS After Mitigation: S&U
Impact AIR-8: The project would be inconsistent with the Clean Air Plan due to NOx emissions from operational truck trips. Mitigation: **MM-AIR-2**: **Vehicle Idling Limits** (see Impact AIR-2 above for details of mitigation). No other feasible mitigation identified.	Before Mitigation: PS After Mitigation: S&U
Impact BIO-1: The project could result in loss or disturbance of special-status wildlife species (California red-legged frog). Mitigation: ***MM-BIO-1: California Red Legged Frog Avoidance and Minimization Measure*** *A. Prior to issuance of a grading permit, the applicant shall consult with the U.S. Fish and Wildlife Service (USFWS) to determine if potential project impacts to California red-legged frog require authorization from USFWS. If such authorization is required, the applicant shall obtain a Biological Opinion and take permit from USFWS and implement all avoidance, minimization, and/or compensatory mitigation measures required by the Biological Opinion and take permit. At a minimum, whether or not a Biological Opinion or take permit is required, the applicant shall implement all of the following avoidance and minimization measures to reduce potential impacts to California red-legged frog:* • *A qualified consulting biologist shall conduct preconstruction surveys following the guidance documented in the Revised Guidance on Site Assessments and Field Surveys for the California*	Before Mitigation: PS After Mitigation: LTSM

Red-legged Frog (USFWS 2005) no more than two weeks (14 days) prior to the start of construction activities. All areas of disturbance from the project, including Area 1, the existing Detention Basin #1, the flood storage expansion area in Area 2, and the access road and SR-25 impact areas shall be surveyed for potential migratory and/or upland activity.

- *A qualified biologist shall be on site during all activities within 200 feet from the outer edge of potential habitat areas that may result in take of the California red-legged frog, including any drainage ditches within Area 1 of the compost facility and within the impact areas along SR-25.*
- *All ground-disturbing work within 200 feet from the outer edge of potential habitat (any drainage ditches within Area 1 of the compost facility and within the impact areas along SR-25) shall be avoided between November 1 and March 31, the time period when California red-legged frogs are most likely to be moving through upland areas. No construction activities shall occur within 200 feet from the outer edge of potential habitat (any drainage ditches within Area 1 of the compost facility and within the impact areas along SR-25) during rain events or within 24-hours following a rain event.*
- *To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, equipment staging, storage, parking, and stockpile areas.*
- *If a California red-legged frog is encountered, all activities which have the potential to result in the harassment, injury, or death of the individual shall be immediately halted. A qualified biologist shall then assess the situation and select a course of action that shall avoid or minimize adverse effects to the animal.*
- *Uneaten human food and trash attracts crows, ravens, coyotes, and other predators of the California red-legged frog. A litter control program shall be instituted at each construction site. All construction workers and operational staff shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers shall be removed from the site at the end of each working day.*
- *Loss of soil from run-off or erosion shall be prevented with straw bales, straw wattles, or similar means provided they do not have the potential to entangle or block escape or dispersal routes of the California red-legged frog.*
- *No insecticides or herbicides listed by the Environmental Protection Agency as potentially harmful to California red-legged frog shall be used within 60 feet of aquatic habitat, such as drainage ditches, wetlands, or ponds within the compost facility or within the impact areas along SR-25 during construction or project operation.*
- *No pets shall be permitted at the construction site, to avoid and minimize the potential for harassment, injury, and death of the California red-legged frog.*
- *For on-site storage of pipes, conduits, and other materials that could provide shelter for special-status species, an open-top trailer shall be used to elevate the materials above ground to reduce the potential for animals to climb into the conduits and other materials.*
- *No night-time grading or construction shall occur between dusk and dawn, which is when the California red-legged frog is most actively moving and foraging.*
- *No plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall be used at the project site because California red-legged frogs can become entangled and trapped in them. Materials utilizing fixed weaves (i.e., strands cannot move),*

polypropylene, polymer, or other synthetic materials shall not be used. Acceptable substitutes would include coconut coir matting or tackifying hydroseeding compounds. • *To prevent inadvertent entrapment of California red-legged frog during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered with plywood or similar materials at the close of each working day, or will be equipped with one or more escape ramps constructed of earth fill or wooden planks.* • *Before the start of work each day, the qualified biologist shall check for animals under any equipment such as vehicles and stored pipes within active construction zones. The qualified biologist shall also check all excavated steep-walled holes or trenches greater than one foot deep for trapped animals. If a California red-legged frog is observed within an active construction zone, all work within 100 feet of the individual shall be halted and all equipment turned off until the individual frog has left the construction area.* B. *Prior to any grading or construction activity at the project site, a qualified biologist shall conduct a training session for all construction personnel involved in ground-disturbing activities throughout the duration of construction. All new construction personnel shall also undergo this mandatory environmental awareness training. This training shall be documented in training records and the applicant shall submit evidence of completion of this training to the County Planning Department prior to any ground-disturbing activities. The training shall include the following, at a minimum:* • *Description of the California red-legged frog and their habitat;* • *General measures that shall be implemented to conserve species as they relate to the project;* • *Boundaries within which construction activities will occur; and* • *Informational handouts with photographs clearly illustrating the species' appearances shall be used in the training session.*	
Impact BIO-2: The project could result in loss or disturbance of special-status wildlife species (nesting raptors and migratory birds) Mitigation: ***MM-BIO-2: Nesting Bird Avoidance and Minimization Measures*** *Any tree removal, pruning, grading, grubbing, or demolition within the compost facility or within the access road and SR-25 impact areas shall be conducted outside of the bird nesting season (January 15 through September 15) to the maximum extent feasible and with express prior approval from the County Planning Department. If these types of activities, or noise resulting from construction activities, occurs during the bird nesting season, then a qualified biologist shall conduct pre-construction surveys for nesting birds to ensure that no active nests would be disturbed during project activities.* *If project-related work is scheduled during the nesting season (January 15 through September 15), or if construction activities are suspended for at least 15 days and recommence during the nesting season, a qualified biologist shall conduct additional nesting bird surveys before any construction activities recommence. Two surveys for active nests of such birds shall occur within 15 days prior to the start of construction, with the second survey conducted within 48 hours prior to the start of construction. Appropriate minimum survey radii surrounding each work area are 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys shall be conducted at the appropriate times of day, as determined by the qualified biologist, to observe nesting activities when birds are most active. Off-site locations where access is not available may be surveyed from within the site or from public areas. A report documenting survey results and plan for active bird*	Before Mitigation: PS After Mitigation: LTSM

nest avoidance (if active nests are found) shall be completed by the qualified biologist and submitted to the County Planning Department prior to initiation of construction activities. *If the qualified biologist documents active nests within the survey areas, an appropriate buffer between each nest and construction shall be established. The buffer shall be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist shall conduct baseline monitoring of each nest to characterize normal bird behavior and establish a buffer distance that allows the birds to exhibit normal behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, all construction work in the area shall cease until the young have fledged and the nest is no longer active.* *Any modifications to this measure, such as encroachment of construction activities into established buffer zones, must be coordinated with CDFW.*	
Impact BIO-3: The project could result in loss or disturbance of special-status wildlife species (western mastiff bat and pallid bat) Mitigation: ***MM-BIO-3: Roosting Bat Avoidance and Minimization Measures*** *The Applicant shall retain a qualified biologist to conduct a bat habitat assessment in all project areas that require tree removal. The qualified biologist shall identify and document the location of potentially suitable bat roosting habitat prior to construction activities. If no suitable bat habitat is observed, the biologist shall inform the County Planning Department, the Applicant and its Construction Contractor, and no further measures are required. If bat roosting habitat is observed, the locations of all such habitat areas shall be provided to the County Planning Department, the Applicant and its Construction Contractor, and all of the following requirements shall be implemented throughout the construction period:* • *Removal of trees that provide suitable bat roosting habitat shall be conducted outside of the bat maternity season (April 15 to August 31) and overwintering season (October 16 to January 15) to the maximum extent feasible and with express prior approval from the County Planning Department.* • *Bat presence/absence surveys shall be conducted 2 to 3 days prior to removal of any trees in suitable bat habitat, at any time of year. If presence/absence surveys are negative, work may proceed with no restrictions. If presence/absence surveys detect bats within trees planned for removal, work should proceed in accordance with all of the following restrictions:* - *If a maternity colony of bats is observed during maternity season (April 15 to August 31), tree removal shall not occur until August 31 or when maternity season has ended as confirmed based on surveys conducted by a qualified biologist.* - *If bats are observed during overwintering season (October 16 to January 15), tree removal shall not occur until January 15 or until bats are no longer present as confirmed based on surveys conducted by a qualified biologist.* - *If bats are present outside of maternity or overwintering seasons, construction shall follow a two-phase tree removal system conducted over 2 consecutive days. On the first day (in the afternoon), any limbs and branches shall be removed using chainsaws or other hand tools. Limbs with cavities, crevices, or deep bark fissures shall be avoided, and only branches or limbs without those features may be removed. On the second day, the entire tree shall be removed.* *Any modifications to this measure, such as bat eviction, must be coordinated with CDFW.*	Before Mitigation: PS After Mitigation: LTSM
Impact BIO-4: The project could result in loss of potential state or federally protected wetlands.	Before Mitigation: PS

Mitigation: ***MM-BIO-4: Delineation of Aquatic Features, Permit Acquisition, and Compliance with Permit Conditions*** *Prior to initiation of ground disturbance or construction activities within the new access driveway, SR-25 impact areas, and Detention Basin #1, the applicant shall retain a qualified biologist to delineate the extent of drainage ditches, potential wetlands, and other waters of the United States regulated by the USACE and RWQCB. If there are jurisdictional features that would be modified by the project, the applicant shall obtain a Clean Water Act Section 404 Nationwide Permit or Individual Permit from USACE and obtain a Clean Water Act Section 401 Water Quality Certification from the RWQCB.* *To compensate for temporary and/or permanent impacts to wetlands and other waters of the U.S. that would be impacted as a result of the proposed project, compensation shall be provided as required by the conditions of the regulatory permits. Compensation shall be provided through one of the following mechanisms:* • *A Wetland Mitigation and Monitoring Plan shall be developed that outlines mitigation and monitoring obligations for temporary impacts to wetlands and other jurisdictional waters from the project. The Wetland Mitigation and Monitoring Plan shall include thresholds of success, monitoring and reporting requirements, and site-specific plans to compensate for wetland losses resulting from the project. The Wetland Mitigation and Monitoring Plan shall be submitted to the appropriate regulatory agencies for review and approval during the Section 404/401 permit application process.* • *To compensate for permanent impacts, the dedication of land to provide suitable wetland restoration or creation shall ensure no net loss of wetland values or functions. For compensation lands or improvements on the project site, the applicant shall comply with all terms and conditions of the regulatory permits, including measures to protect and maintain water quality, restore work sites, and compensatory mitigation to offset temporary and permanent wetland impacts. The Applicant shall prioritize onsite compensation, and dedication of offsite compensation shall only be considered if the County Planning Department determines that onsite compensation is infeasible. The Applicant shall develop, as necessary, a mitigation and monitoring plan, which will include success criteria for waters enhancement or creation on- or off-site. The Applicant shall be responsible for securing funding for the implementation and management of compensatory mitigation prior to issuance of a grading permit, with oversight by the County of Santa Clara.* • *For improvements within the Caltrans right-of-way, the applicant shall comply with terms and conditions of the permits, including measures to protect and maintain water quality, restore work sites, and compensatory mitigation to offset temporary and/or permanent wetland impacts. The applicant shall be responsible for implementation of this mitigation measure prior to issuance of an encroachment permit from Caltrans.*	After Mitigation: LTSM
Impact CUL-1: The project could result in significant impacts to historical resources or unique archaeological resources. Mitigation: ***MM-CUL-1: Accidental Discovery Protocols*** *A. Prior to the start of ground-disturbing activities, the applicant shall retain a qualified archaeologist to implement archaeological awareness training for all construction personnel involved with earthmoving or grading activities. The training shall include information regarding the possibility of encountering buried cultural resources (including tribal cultural resources), the appearance and types of resources likely to be seen during construction, notification procedures, and proper protocol to be followed should resources be encountered. This training shall be provided to all workers involved in ground-disturbing activities throughout the duration of construction and shall be documented in training records that shall be submitted to the County prior to those workers undertaking any ground-disturbing activities at the site.*	Before Mitigation: PS After Mitigation: LTSM

B. A qualified archaeologist shall be on site to monitor project-related ground-disturbing activities. The contract for this work shall be provided to the County prior to issuance of a grading permit. The frequency of monitoring shall be determined by the archaeologist based on the rate of excavation and grading activities, the materials being excavated, the depth and location of excavation, and, if found, the abundance and type of archaeological resources encountered. *C. If buried historic or prehistoric cultural resources or suspected resources (such as chipped stone or groundstone, shell middens, historic debris such as trash dumps, building foundations, or old roadways) are inadvertently discovered during ground-disturbing activities, work shall stop within a 100-foot radius of the find, and the County Planning Department shall be notified, and the qualified archaeologist shall evaluate the find to determine if it meets the definition of a historical, unique archaeological, and/or tribal cultural resource, and all of the following shall be required:* • *If the find(s) does not meet the definition of a historical resource or unique archaeological resource, no further study or protection is necessary prior to resuming project implementation.* • *If the find(s) does meet the definition of a historical resource or unique archaeological resource, then it shall be avoided by project activities. If avoidance is not feasible, as determined by the County Planning Department, the qualified archaeologist, shall make appropriate recommendations regarding the treatment and disposition of such find(s), and significant impacts to such resources shall be mitigated in accordance with the recommendations of the archaeologist, and evidence of such mitigation shall be submitted to the County Planning Department, prior to resuming any construction activities within the 100-foot radius of the find(s).* • *If the find(s) is potentially a tribal cultural resource, then tribal representatives shall be consulted. If, after consultation with tribal representatives, it is determined that the find(s) is a tribal cultural resource, then the find(s) shall be avoided by project activities. If avoidance is not feasible, as determined by the County Planning Department, the qualified archaeologist, in consultation with tribal representatives, shall make appropriate recommendations regarding the treatment and disposition of such finds and significant impacts to such resources shall be mitigated in accordance with the recommendations of the archaeologist, and evidence of such mitigation submitted to the County, prior to resuming construction activities within the 100-foot radius.* • *If the find(s) are human remains or grave goods, the requirements of Public Resources Code Section 5097.98 and County Ordinance Code Sections B6-18 through B6-20 shall be followed.*	
Impact CUL-2: The project would not result in significant impacts to human remains. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact CUL-3: The project could result in significant impacts to tribal cultural resources. Mitigation: ***MM-CUL-1: Accidental Discovery Protocols*** *(see Impact CUL-1 above for details of mitigation)*	Before Mitigation: PS After Mitigation: LTSM
Impact GHG-1: The project would not result in a net increase in greenhouse gas emissions. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact GHG-2: The project would not conflict with applicable plans to reduce greenhouse gas emissions. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact HYD-1: The project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Mitigation: ***MM-HYD-1A: Demonstrate Sufficient Pump Capacity***	Before Mitigation: PS After Mitigation: LTSM

During the grading permit application process, the Applicant shall submit details and calculations to the County Planning Department demonstrating that the proposed pump capacity will be sufficient to transfer stormwater runoff from Area 1 into Detention Basin #1 during a 25-year, 24-hour storm event without causing localized flooding which inundates the southeast corner of the green waste compost area. Note that approximately 8.7 million gallons of stormwater runoff is expected from Area 1 during the 25-year, 24-hour storm event (from 5.8 inches of precipitation). ***MM-HYD-1B: Increase Detention Basin Capacity*** *During the grading permit application process, the Applicant shall submit a revised site plan, design details, and supporting calculations to the County Planning Department for review and approval showing modifications to increase the capacity of Detention Basin #1 and/or Detention Basin #2, such that the combined detention capacity is sufficient to hold at least 22.8 million gallons of water without discharging and maintain a freeboard of at least 2 feet. In addition, the Applicant shall demonstrate compliance with the Compost General Order to detain the 25-year, 24-hour peak storm, assuming normal operating volumes during wet years, or obtain approval from the RWQCB for an equivalent alternative.* *If the modified basin design would require additional fill below the base-flood elevation, consideration must also be given to a corresponding increase in the size of the additional flood storage basin in Area 2, such that no net loss of floodplain shall occur compared to existing conditions.* *If the modified basin design and/or corresponding changes to the flood storage basin would decrease the area of the facility draining to the detention basins, the required detention volume specified in the first paragraph of this measure may be reduced accordingly, provided adequate supporting documentation is provided to the County Planning Department for review and approval. The documentation shall demonstrate that the revised design is sufficient to hold direct precipitation and facility runoff from a 25-year, 24-hour storm event in addition to normal operating volumes during wet years, whilst maintaining the required freeboard.* ***MM-HYD-1C: Investigate and Remediate Contaminated Soils in Detention Basin #1*** *Prior to issuance of grading permits, the applicant shall retain a qualified environmental consultant to prepare and implement a soil investigation plan, that shall be submitted for review and approval by the County Planning Department. The plan shall detail procedures for collection and analysis of soil samples from existing sediments in the floor of Detention Basin #1. Samples shall be analyzed, and concentrations compared to background levels and industry-standard screening levels for groundwater protection (e.g., regional screening levels and/or environmental screening levels). If existing sediments at the bottom of Detention Basin #1 are found to be contaminated, these soils shall be removed prior to new construction activities at Detention Basin #1. Excavated soils shall be re-composted at the facility or hauled off from the site for disposal at an appropriately licensed facility, in accordance with federal, state, and local regulations.*	
Impact HYD-2: The project would not decrease groundwater supplies in a manner that would impede sustainable groundwater management of the basin Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact HYD-3: The project would not decrease groundwater recharge potential in a manner that would impede sustainable groundwater management of the basin Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact HYD-4: The project would not alter existing on-site drainage patterns in a manner that would impede or redirect flood flows. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact HYD-5: The project could result in release of pollutants due to flood inundation.	Before Mitigation: PS

Mitigation: ***MM-HYD-5: Increase Berm Height for Detention Basin #2*** *The Applicant shall increase the berm height of Detention Basin #2 to at least 150.41 feet, so that at least 2 feet freeboard above the 100-year base flood elevation is maintained. Plans for the redesigned detention basin shall be submitted to the County Planning Department for review and approval prior to issuance of grading permits for the project.*	After Mitigation: LTSM
Impact HYD-6: The project could conflict with or obstruct implementation of the Water Quality Control Plan. Mitigation: ***MM-HYD-1A: Demonstrate Sufficient Pump Capacity*** *(see Impact HYD-1 for details of mitigation)* ***MM-HYD-1B: Increase Detention Basin Capacity*** *(see Impact HYD-1 for details of mitigation)* ***MM-HYD-1C: Investigate and Remediate Contaminated Soils in Detention Basin #1*** *(see Impact HYD-1)* ***MM-HYD-5: Increase Berm Height for Detention Basin #2*** *(see Impact HYD-5 for details of mitigation)*	Before Mitigation: PS After Mitigation: LTSM
Impact HYD-7: The proposed project would not conflict with or obstruct implementation of a Sustainable Groundwater Management Plan. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact NOI-1: Project construction would not substantially increase ambient noise levels at the nearest sensitive receptor. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact NOI-2: On-site operations would not substantially increase ambient noise levels at the nearest sensitive receptor Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact NOI-3: Project-related traffic would not substantially increase ambient noise levels. Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Impact NOI-4: The project would not result in substantial ground-borne noise or vibration Mitigation: none required	Before Mitigation: NI After Mitigation: N/A
Impact TRA-1: The project would conflict with CEQA Guidelines Section 15064.3 by exceeding the applicable VMT threshold. Mitigation: no feasible mitigation identified.	Before Mitigation: PS After Mitigation: S&U
Impact TRA-2: Project operation could substantially increase traffic hazards. Mitigation: ***MM-TRA-2: Installation of Traffic Controls or Retention of Driveway in Existing Location*** *A. The applicant shall modify its proposed design for the SR-25 improvements and driveway relocation to include the installation of traffic signals at the intersection of SR-25/Bolsa Road/relocated driveway. The applicant shall obtain an encroachment permit from Caltrans to implement the modified design and shall comply with all conditions of the permit and/or modifications to the design requested by Caltrans as part of their permit review and approval process, including maintenance of a clear recovery zone. The applicant shall contribute its fair share of the cost of the traffic signals, as determined by Caltrans, with the remaining portion to be funded by Caltrans.* *B. The applicant shall not increase processing capacity of the facility (and associated increase in haul-truck and employee traffic) at the site until either (1) the signalized intersection is operational in accordance with MM-TRA-2A above, or (2) alternative improvements are made to the existing project site driveway in accordance with Alternative 3 and mitigation measure MM-TRA-2-Alt3 and no relocation of the project site driveway occurs until the signalized operation is operational in accordance with MM-TRA-2A. The applicant shall obtain an encroachment permit from Caltrans to implement the modified design and shall comply with*	Before Mitigation: PS After Mitigation: LTSM

all conditions of the permit and/or modifications to the design requested by Caltrans as part of their permit review and approval process.	
Impact TRA-3: Project construction could substantially increase traffic hazards. Mitigation: ***MM-TRA-3: Construction Traffic Management Plan*** *The applicant or their contractor shall prepare a Construction Traffic Management Plan (CMP), in accordance with MUTCD requirements and the Caltrans Transportation Management Plan Guidelines. The CMP shall be subject to review and approval by Caltrans and the County Department of Roads and Airport, prior to issuance of a grading permit. The plan shall be implemented during construction and shall include, but not be limited to, the following:* • *Schedule of construction showing each phase of the project, construction hours, and anticipated method of handling traffic for each phase, including drawings identifying lane configurations, haul routes, road and lane closures, detour routes, work areas, staging areas, and worker parking areas. The location of signs, barricades, codes, etc., to warn, direct, and guide traffic shall be shown on the plan, as well as any supplementary traffic control devices that might be required.* • *The repair and restoration of any damaged or deteriorated roadway rights-of-way according to Caltrans requirements after construction is completed.* • *Provide for the appropriate control measures, including barricades, warning signs, speed control devices, flaggers, and other measures to mitigate potential traffic hazards;* • *Ensure coordination with emergency response providers to provide sufficient emergency response access for the surrounding area;* • *Maintain emergency access to the project site throughout construction;* • *Prohibit heavy vehicle traffic to and from the project site during the commute hours of 7:00-9:00 AM and 4:00-6:00 PM;* • *Implement truck haul routes for construction trucks deemed acceptable by Caltrans and the County Department of Roads and Airport with SR-25 and U.S Highway 101 as the assumed routes to and from the north; and* • *Store construction equipment on the project site and outside the Caltrans right-of-way during the construction phase of the project.*	Before Mitigation: PS After Mitigation: LTSM
Impact TRA-4: The project could result in inadequate emergency access. Mitigation: **MM-TRA-3: Construction Traffic Management Plan** (see Impact TRA-3 above for details of mitigation).	Before Mitigation: PS After Mitigation: LTSM
Effects Found Not Significant (Energy): The project would not: • Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation • Conflict with or obstruct a state or local plan for renewable energy or energy efficiency Mitigation: none required	Before Mitigation: LTS After Mitigation: N/A
Effects Found Not Significant (Geology, Soils, and Paleontological Resources): The project would not: • Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic hazards • Result in substantial soil erosion or the loss of topsoil • Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse • Be located on expansive soil, creating substantial direct or indirect risks to life or property	Before Mitigation: NI or LTS

• Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater • Directly or indirectly destroy a unique paleontological resource or unique geologic feature Mitigation: none required	After Mitigation: N/A
Effects Not Found Significant (Hazards and Hazardous Materials): The project would not: • Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials • Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment • Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school • Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment • For a project located within an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or a public-use airport, result in a safety hazard or excessive noise for people residing or working in the project area • Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan • Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fire Mitigation: none required	Before Mitigation: NI or LTS After Mitigation: N/A
Effects Not Found Significant (Mineral Resources): The project would not: • Result in loss of availability of a known mineral resource that would be of value to the region and the residents of the state • Result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land-use plan Mitigation: none required	Before Mitigation: NI After Mitigation: N/A
Effects Not Found Significant (Population and Housing): The project would not: • Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure) • Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere Mitigation: none required	Before Mitigation: NI After Mitigation: N/A
Effects Not Found Significant (Public Services): The project would not: • Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection services, schools, parks, or other public facilities. Mitigation: none required	Before Mitigation: NI After Mitigation: N/A
Effects Not Found Significant (Public Services): The project would not: • Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	Before Mitigation: NI

• Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment Mitigation: none required	After Mitigation: N/A
Effects Not Found Significant (Utilities and Service Systems): The project would not: • Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects • Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years • Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments • Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals • Comply with federal, state, and local management and reduction statutes and regulations related to solid waste Mitigation: none required	Before Mitigation: NI After Mitigation: N/A
Effects Not Found Significant (Wildfire): The project would not: • Substantially impair an adopted emergency response plan or emergency evacuation plan • Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire • Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment • Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes Mitigation: none required	Before Mitigation: NI After Mitigation: N/A

Notes:
(USFWS 2005)
BAAQMD = Bay Area Air Quality Management District
CCR = California Code of Regulations
Caltrans = California Department of Transportation
CDFW = California Department of Fish and Wildlife
CEQA = California Environmental Quality Act
CMP = Construction Management Plan
County = Santa Clara County
ECS = Engineered Composting System
LEA = local enforcement agency
LTS = Less than significant
LTSM = less than significant with mitigation
mph = miles per hour
MSW = Municipal Solid Waste
N/A = not applicable
NI = no impact
NO_X = nitrogen oxide
PM_{10} = particulate matter with aerodynamic diameter less than 10 microns
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns
PS = potentially significant
RWQCB = Regional Water Quality Control Board
S&U = significant and unavoidable

SR-25 = State Route 25
USFWS = U.S. Fish and Wildlife Service
USACE = U.S. Army Corps of Engineers
VMT = vehicle miles traveled

3 Existing Setting

3.1 Project Location and Site Description

The existing Z-Best Composting Facility is located in unincorporated Santa Clara County at 980 State Route 25 (SR-25) southeast of the City of Gilroy and northwest of the City of Hollister. Figure 3-1, Location Map, presents the regional and vicinity location of the facility. Figure 3-2, Aerial Photograph, presents the facility, adjacent agricultural lands, closest residence, and other features in the immediate vicinity of the site. The facility is located west of the Pajaro River, which represents the Santa Clara County/San Benito County line. Land to the west, north, and east is in agricultural row crop production. Farm-related residences are located three-fourths of a mile to the west, one-half mile to the northwest, one-tenth of a mile to the north, and one-half mile to the north. The facility is on the south side of SR-25 and its entrance is approximately 640 feet west of the SR-25/Bolsa Road intersection. Existing Z-Best operations are located on Assessor parcels 841-37-028 (20 acres) and 841-37-029 (137 acres), which total 157 acres.

Z-Best currently operates under a County use permit that allows composting activities within a 105-acre portion of the 157-acre property. The 105-acre area is comprised of approximately 70 acres in the western portion of the site (Area 1), and approximately 35 acres in the center of the property (Area 2) as shown on Figure 3-2, Aerial Photograph. The balance of the property, along the eastern and southern boundary, is used for flood storage and stormwater detention.

Active compost feedstock (e.g., Municipal Solid Waste [MSW] and green waste) sorting, processing and composting activities occur within Area 1. The northern portion of Area 1 (Area 1A, approximately 28 acres) is used for sorting and processing and ancillary activities. Key existing site features present within Area 1A are shown on Figure 3-3, Existing Site Facilities and include:

- Truck scale
- 4,000 square feet (SF) shop/office building, with a 1,600 SF overhang
- Employee parking
- Screening area
- Mulch screening area
- Finished product stockpile (approximately 3 acres)
- Compost overs[1] storage (approximately 0.5 acres)
- 33-foot-high litter control fence along the northern boundary of Area 1A (i.e., parallel to SR-25 between the tree berm and finished product stockpile) and along the eastern boundary of Area 1

[1] Compost overs is the term given to larger material that has not broken down during the composting processing, and is screened out from the finished compost product.

- 20,000 SF processing building (with processing equipment not currently in use)
- 6,250 SF storage room and 3,750 SF canopy, attached to processing building
- 40-foot-high wind barrier fence between the processing building and green waste screening area
- 790-foot long electric overland conveyor system between green waste screening area and Area 2, not currently in use
- Four transformers and associated underground conductors, motor control equipment and 8-foot by 12-foot wood-framed equipment sheds.

Ancillary structures and other support infrastructure, including three water wells, fire pump and pump shed, fire hydrant, and a septic system, are also located within Area 1A. The existing parking lots and vehicle circulation areas around the existing office/shop and processing buildings are paved with asphalt. As a separate action, not requiring CEQA review, the Applicant also intends to install two temporary office trailers to the immediate south of the existing shop/office building, to act as temporary office space for staff until the existing office building improvements have been permitted as part of the current conditional use permit modification application. These temporary trailers are not currently present on-site but are anticipated to have been installed by the time that construction of the proposed project commences. Each trailer is approximately 60 by 24 feet in area and will extend approximately 12 feet above grade, with exterior stairs and accessible ramp (Reid Lerner Architects 2022). Once the permanent office space is fully permitted, office functions would be moved from the temporary trailers into the shop/office building and the temporary trailers would be removed from the site.

The southern portion of Area 1 contains the existing MSW composting pad in the west (Area 1B), and the active green waste composting area in the east (Area 1C), each of which is approximately 21 acres. Area 2 is located to the east of Area 1. Approximately 28 acres of Area 2 is used for compost storage and finishing activities.

Much of the balance of the property has been excavated and serves as a flood storage facility. The site is within a 100-year flood hazard area. Portions of Area 1 were previously filled to accommodate existing composting operation improvements that include the existing green and MSW composting pad area, and a portion of Area 2 was filled to serve as the existing compost storage/finishing area. The flood storage facility was designed and constructed to compensate for the loss of flood storage capacity resulting from the fill. The flood storage facility area is shown on Figure 3-2.

Figure 3-2 also shows the location of two storm water detention basins. Detention basin #1 is a “wedge” shaped basin approximately 1,200 feet long and approximately 375 feet wide at the widest end. This approximately 6.3-acre basin is located to the south of Area 1. Storm water is conveyed from Area 1 through a series of ditches and discharged into detention basin #1. Detention basin #1 is constructed with engineered soil berms and bottom that are designed to reduce potential for stored storm water to migrate out of the basin or percolate to groundwater. The existing capacity of detention basin #1 is approximately 9.14 million gallons.

Detention basin #2 is a rectangular-shaped basin approximately 700 feet long by 130 feet wide. This approximately 2.1-acre basin receives storm water from Area 2 to the north and is constructed with an impermeable geomembrane liner. The existing capacity of detention basin #2 is approximately 3.94 million gallons.

Figure 3-4, Site Photographs, presents representative photos of existing operations. The portions of the site which are actively used (Areas 1 and 2), are heavily disturbed, having been developed with compacted dirt roadways, outbuildings, offices, a parking lot, compacted pads on which existing MSW and green waste composting activities occur and other ancillary improvements. A row of ornamental poplar trees (approximately 25-35 feet tall) is present along the northern edge of Areas 1 and 2, adjacent to SR-25.

Detention basin #1 contains non-native grasses and ruderal vegetation. The north side of the basin is lined with trees of various species with heights ranging to about 40 feet. Additional trees of lower height are scattered along the remining three sides.

Non-native grassland species dominate the portion of the property that is not being used for compost blending and storage.

Natural ground elevations across the property range from about 143 to 151 feet above sea level. More detailed descriptions of site, vicinity and regional setting conditions that are germane to understanding the context for assessing environmental effects of the proposed project are found in the environmental setting section of each chapter in this EIR where specific environmental topics are addressed.

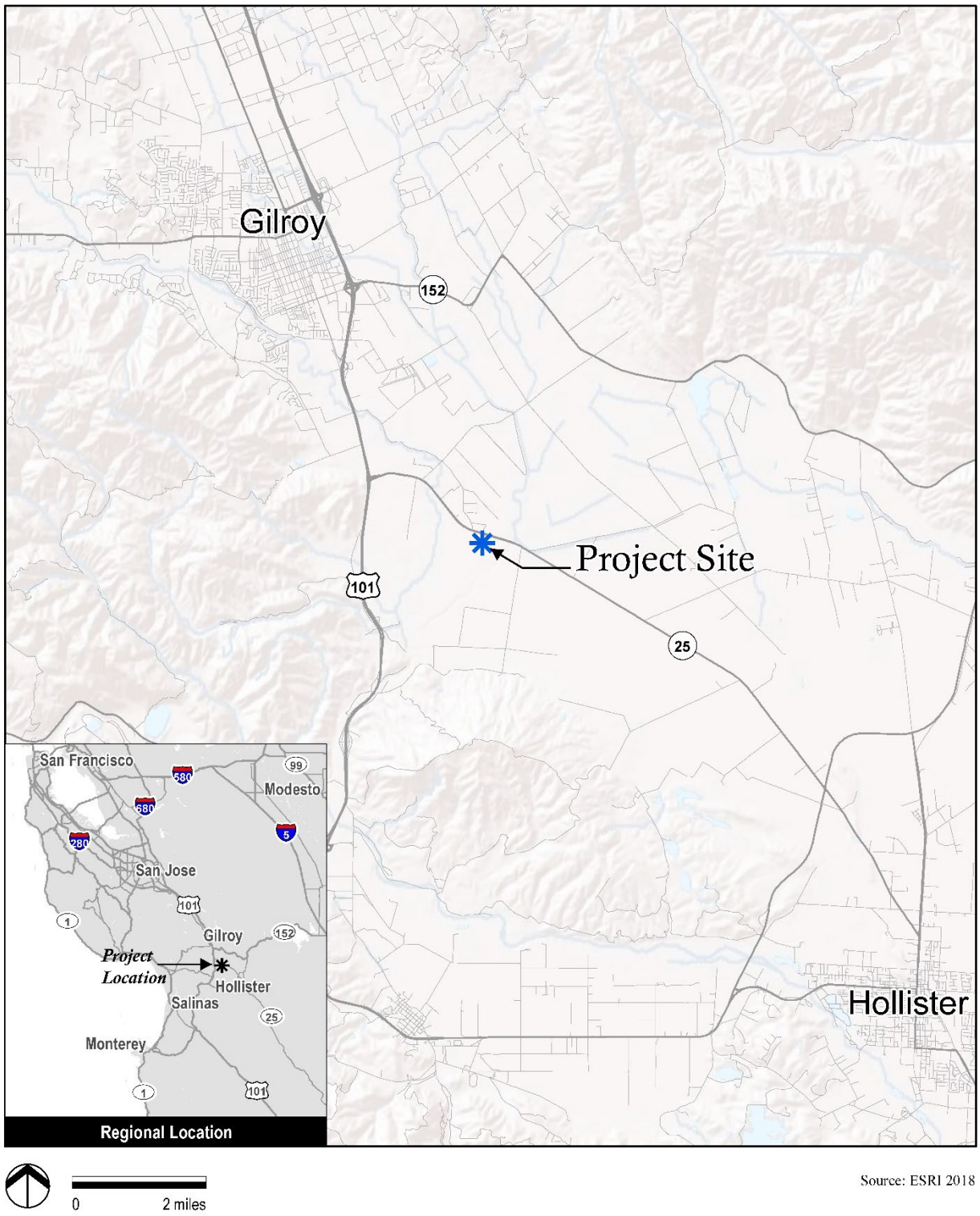


Figure 3-1
Location Map
Z-Best Composting Facility Modifications EIR

Figure 3-1 Location Map

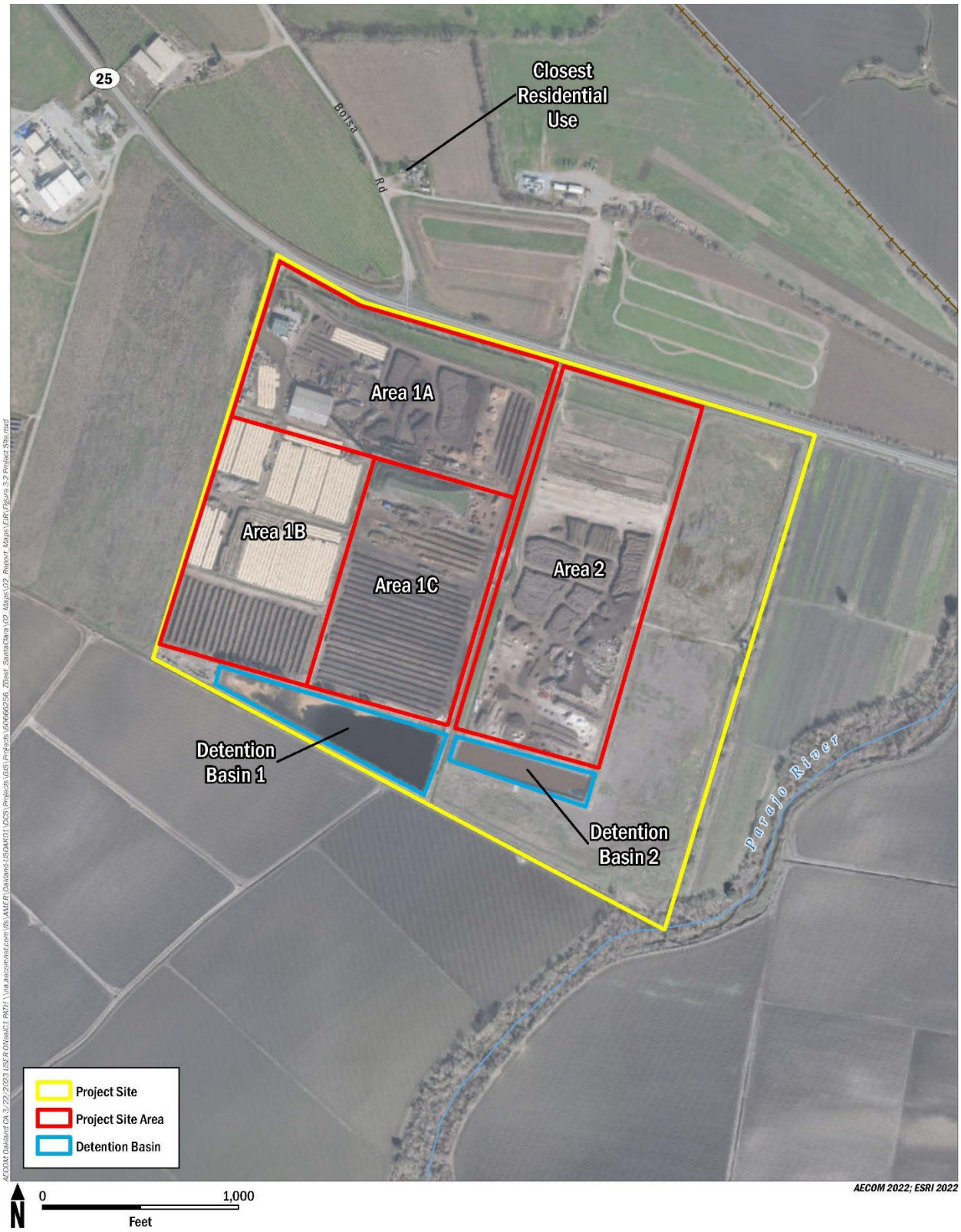


Figure 3-2 Aerial Photograph

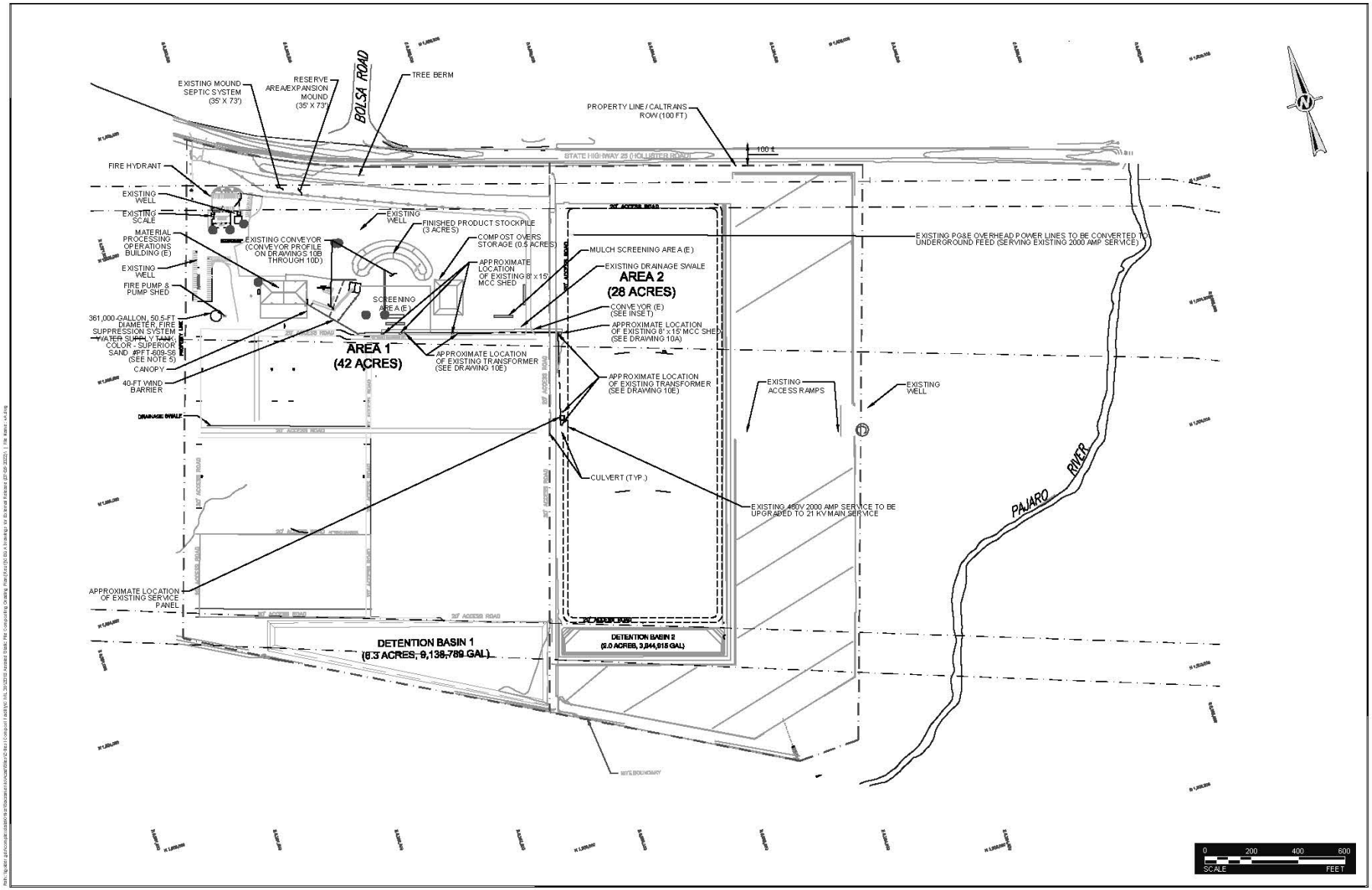


Figure 3-3 Existing Site Operations

1 CTI Bag MSW Composting

2 Green Waste Windrow Composting

3 CTI Bag MSW Composting

Project Site

Source: ESRI 2018, Santa Clara County GIS 2015
Photographs: EMC Planning Group 2020

4 View over Detention Basin #1

5 Z-Best Facility Entrance Looking East

6 Proposed Flood Storage Expansion Location Conditions

Figure 3-4 Site Photographs

3.2 General Plan and Zoning

3.2.1 General Plan Land Use and Policy Consistency

The site is designated as Agriculture–Large Scale (40-acre minimum lot size) in the Santa Clara County General Plan (General Plan). Composting and wood processing activities are allowed uses with the approval of a use permit. As described in Section 3.1 above, Z-Best's existing composting business has been operating under a use permit issued in 1997.

In accordance with CEQA Guidelines section 15125(d), a review of the proposed project consistency with the General Plan has been conducted. The project site is within the area addressed in the South County Joint Area Plan, the policies for which are included in the general plan. Therefore, the General Plan is the applicable land use plan on which to base the policy consistency review.

As the CEQA Guidelines pertain to implementing CEQA, this general plan consistency analysis focuses on General Plan policies that function to avoid or mitigate environmental effects of development. The focus here is narrower than the larger question of whether the proposed project is consistent with a broader range of General Plan policies. Consistency with broader General Plan policies is a determination to be made by the County decision makers as part of determination to approve the project or not. The General Plan policies relevant to CEQA and the policy review/consistency determinations are summarized in Table 3-1, Santa Clara County General Plan Policy Consistency Review. No inconsistencies with these policies were identified.

Project consistency with relevant regional plans such as the Clean Air Plan, which is the applicable plan for reducing GHG emissions, and the Groundwater Management Plan, is evaluated in individual environmental topic-specific sections of this EIR.

3.2.2 Zoning

The County of Santa Clara Zoning Ordinance (Zoning Ordinance) includes development regulations for areas designed for rural uses, resource conservation, open space and environmental protection, and urban uses. The project site is located within the "Exclusive Agriculture, 40-acre Combining District" ("A-40ac"). A-40ac zoned properties are subject to development standards found in Section 2.20.030 of the Zoning Ordinance.

The site is not within any type of combining district such as Design Review or Scenic Road. However, the proposed project is required to obtain Architecture and Site Approval and must substantially conform to the adopted County Guidelines for Architecture and Site Approval.

Table 3-1 Santa Clara County General Plan Policy Consistency Review

General Plan Policy	Consistency Determination
Policy R-GD 20 Grading and terrain alteration to conduct lawful activities and use of property should conserve the natural landscape and resources, minimize erosion impacts, protect scenic resources, habitat, and water resources. Grading should not exacerbate existing natural hazards, particularly geologic hazards.	**Consistent.** Grading would occur within the existing facility site in areas already disturbed by prior grading and development. Similarly, grading for the proposed new facility entrance and SR-25 widening activities would be in areas already modified by prior disturbance. Erosion control measures would be required consistent with Chapter IV, Article 8, Part 6, Erosion Control in the Santa Clara County Code of Ordinances, and with the Storm Water Pollution Prevention Program (to be updated after project approval) in place at the Z-Best facility.
Policy R-GD 21 For grading, terrain alteration, or other work that is subject to a grading permit, the grading approval shall be required concurrently with any other required land use authorization or discretionary, conditional permit review process. Grading approval shall not precede other requisite land use or development approvals, including building permit issuance.	**Consistent.** The application for grading approval is accompanying the remaining project applications and therefore, would not precede other requisite land use or development approvals.
Policy R-GD 22 The amount, design, location, and the nature of any proposed grading may be approved only if determined to be: (a) appropriate, justifiable, and reasonably necessary for the establishment of an allowable use; (b) the minimum necessary given the various site characteristics, constraints, and potential environmental impacts that may be involved, and, I that which causes minimum disturbance to the natural environment, slopes, and other natural features of the land.	**Consistent.** The proposed grading is necessary for project implementation. Grading would occur in areas already disturbed by prior grading and development. Erosion control measures would be required consistent with Chapter IV, Article 8, Part 6, Erosion Control in the County of Santa Clara Ordinance Code, and with the Storm Water Pollution Prevention Program (to be updated after project approval) in place at the Z-Best facility.
Policy R-GD 23 Proposals to balance cut and fill amounts where such grading would exceed that which is deemed minimally necessary and reasonable for the site may be considered based on environmental impacts, the ability of the site to accommodate the additional fill without causing additional adverse impacts, the remoteness of the site, the overall amount of material that would otherwise need to be removed from the site, and the impacts of any truck traffic that could be involved, including travel distances, local road impacts, safety, noise, dust, and similar issues.	**Consistent.** The project has been designed to balance cut and fill on site. Soils excavated from the expanded flood storage area would be used to raise the Area 1 ECS pad (minor cut/significant fill), detention basin #1 modifications (significant fill), entrance relocation and access road improvements (minor fill). Excavated soil from the expanded flood storage area would also be used for previously permitted but not yet fully-constructed earth fill within Area 2 that would otherwise be required to import clean fill. The environmental effects of grading are evaluated as part of the project's overall construction phase effects. Construction vehicle miles traveled and safety are addressed in Section 13, Transportation; noise is addressed in Section 12, Noise, and dust is addressed in Section 7, Air Quality. Mitigation measures are included for those impacts that were determined to be significant.
Policy R-GD 25 Grading associated with roads, bridges, retaining walls, or similar improvements related to access requirements should not create a significant visual scar or impact to the environment. (a) Grading proposals for driveways and roads should generally follow natural terrain and contours to maximum extent feasible. Requirements and conditions for erosion control, landscaping or plantings, retaining wall design, and other design features may be	**Consistent.** Grading associated with the new entrance and SR-25 widening activities would not be excessive and would take place on terrain that is level. Erosion control measures would be required consistent with Chapter IV, Article 8, Part 6, Erosion Control in the Santa Clara County Code of Ordinances, and with the Storm Water Pollution Prevention Program (to be updated after project approval) in place at the Z-Best facility.

General Plan Policy	Consistency Determination
imposed where necessary to ensure that completed work blends as harmoniously as possible with the natural environment and landscape. (b) Use of native and drought tolerant species for the above purposes should be employed for at least 50% or more of the design.	
Policy R-TR 11 New development which would significantly impact private or public roads, should be allowed only when safety hazards and roadway deterioration will be mitigated to a less than significant level.	**Consistent.** The applicant is proposing to construct a new on-site entrance that would represent a new fourth leg of the existing three-legged State Route 25/Bolsa Road intersection. The new entrance would be stop controlled. Acceleration and deceleration lanes are planned on SR-25, with widening of the segment along the project site frontage required to accommodate the new lanes. The purpose of the improvements is to better accommodate truck ingress and egress to the project site and reduce through traffic delays from turning movements into and out of the site. The proposed new driveway entrance and the SR-25 widening activity proposed to enable installation of acceleration and deceleration lanes into and out of the new entrance, have been reviewed for their operational and turning movement effects on SR-25 and Bolsa Road, and their predicted effect on crash frequency. See Section 13, Transportation.
Policy R-TR 14 Environmental impacts of roadway construction and expansion should be mitigated to a less than significant level.	**Consistent.** Environmental effects of the proposed SR-25 frontage improvements, including biological resources, cultural resources, aesthetics, traffic, noise, air quality, and GHGs are addressed in this EIR. Mitigation measures are identified where needed, and/or through implementation of uniformly applied development standards and regulations, impacts would be less than significant with mitigation incorporated. See Section 13, Transportation.
Policy C-RC 60 Hillsides, ridgelines, scenic transportation corridors, major county entryways, and other areas designated as being of special scenic significance should receive additional consideration and protections due to their prominence, visibility, or symbolic value.	**Consistent.** The project site is not within or adjacent to an area or transportation corridor or county entryway identified in the General Plan as being of special scenic significance. However, scenic views from SR-25 are available over the project site, and the project site is at an SR-25 entryway to San Benito County. Visual impacts to scenic resources are addressed in Section 5, Aesthetics. Due to a potential increase in litter within the site associated with increased feedstock intake and increased potential for litter to escape from trucks traveling to and from the site, a mitigation measure is presented requiring the project to augment existing litter control activities. With implementation of this mitigation measure, the project would be consistent with this policy.
Policy C-RC 65 All solid waste management services and facilities shall conform to applicable federal, state, and local regulations and standards.	**Consistent.** Many of the regulations and standards that apply to solid waste management facilities are designed to mitigate environmental impacts of such facilities. Related federal, state, and local (County) regulations that serve this purpose are summarized in the Regulatory Setting sections of each individual environmental topic evaluated in this EIR and discussed as the mechanisms to mitigate environmental effects of the proposed project. The proposed project is required to comply with the regulations and standards.

General Plan Policy	Consistency Determination
Policy C-RC 72 Decision-making regarding the siting of new landfills, the expansion of existing sites, and the location of other solid waste management facilities shall balance the need for such facilities with the full range of environmental quality issues involved.	**Consistent.** The proposed project is to modify the operations in order to expand the capacity of an existing composting facility, without increasing the size of the site. The proposal is being driven in part by state goals and implementing legislation for increasing waste diversion from landfills. This EIR evaluates the environmental impacts associated with the proposed project. The decision makers would be required to balance the need for the expansion with the environmental impacts of the project.
Policy C-RC 73 Santa Clara County acknowledges the need for long term disposal capacity and will strive to maintain 20 to 30 years of ongoing collective disposal capacity.	**Consistent.** The proposed project is to modify operations to expand the existing composting facility, which would allow for additional municipal solid waste to be composted rather than disposed of at a landfill. This will allow for existing landfill capacity to be utilized for other future disposal needs.
Policy C-RC 74 Expansion of existing landfill sites should be encouraged and explored thoroughly in preference to siting new landfills.	The proposed project is not a landfill or expansion of an existing landfill and therefore, this policy is not applicable to the proposed project.
Policy R-RC 96 The general approach to scenic resource preservation for the rural unincorporated areas consists of the following strategies: 1. Minimize scenic impacts in rural areas through control of allowable development densities. 2. Limit development impacts on highly significant scenic resources, such as, ridgelines, prominent hillsides, streams, transportation corridors and county entranceways.	**Consistent.** The proposed project would not significantly alter the existing visual character of the site or surrounding areas. The developed footprint of the site would not change and the proposed improvements would not create a significant discernable change in visual conditions as viewed from SR-25, the nearest public viewpoint. The project would not increase the physical footprint of existing developed uses and would not affect hillsides or stream corridors. Impacts to scenic resources and other aesthetic impacts are addressed in Section 5 of this EIR.
Policy R-RC 101 Roads, building sites, structures and public facilities shall not be allowed to create major or lasting visible scars on the landscape.	
Policy R-RC 5 Public and private development projects shall be evaluated and conditioned to assure they are environmentally sound, do not degrade natural resources, and that all reasonable steps are taken to mitigate potentially adverse impacts.	**Consistent.** This EIR evaluates the potential impacts of the proposed project and includes mitigation measures and/or compliance with uniformly applied development standards that serve to lessen environmental impacts. The proposed project would be conditioned to comply with all mitigation measures and must be consistent with the identified development standards.
Policy C-RC 19 The strategies for maintaining and improving water quality on a countywide basis, in addition to ongoing point source regulation, should include: a. effective non-point source pollution control; b. restoration of wetlands, riparian areas, and other habitats which serve to improve Bay water quality; and c. comprehensive Watershed Management Plans and “best management practices” (BMPs).	**Consistent.** The proposed project is, in part, being designed to comply with the 2015 Composting General Order promulgated by the State Water Resources Control Board. The Composting General Order includes new requirements specifically for composting operations that are designed to improve both surface and groundwater quality conditions. Of particular note is the requirement that detention facilities must be lined to prevent percolation of storm water runoff to groundwater. The project includes this improvement for the modified Detention Basin #1, which would result in improved groundwater quality relative to existing conditions. See Section 11, Hydrology and Water Quality. Based on the results of a water balance analysis submitted to the County and referenced in this EIR, the proposed project would result in increased groundwater demand. Z-Best currently utilizes water supply from existing wells to augment supply detained in its existing Detention Basin #1. Based on the most recent
Policy R-RC 8 The strategies for assuring water quantity and quality for the rural unincorporated areas shall include: 1. Require adequate water quantity and quality as a pre-condition of development approval. 2. Reduce the water quality impacts of rural land use and development.	

General Plan Policy	Consistency Determination
3. Develop comprehensive watershed management plans.	information available, the groundwater basin from which water would be extracted is not adjudicated, nor in overdraft condition. Therefore, water supply is not expected to be a constraint for the project. See Section 14, Water Supply and Groundwater Sustainability.
Policy R-RC 9 Development in rural unincorporated areas shall be required to demonstrate adequate quantity and quality of water supply prior to receiving development approval.	
Policy R-RC 13 Sedimentation and erosion shall be minimized through controls over development, including grading, quarrying, vegetation removal, road and bridge construction, and other uses which pose such a threat to water quality.	**Consistent.** Grading would occur in areas already disturbed by prior grading and development. Erosion control measures would be required consistent with Chapter IV, Article 8, Part 6, Erosion Control in the Santa Clara County Code of Ordinances, and with the Storm Water Pollution Prevention Program (to be updated after project approval) in place at the Z-Best facility consistent with National Pollutant Discharge Elimination System requirements.
Policy R-RC 15 Commercial and industrial uses such as automobile dismantlers, waste transfer disposal facilities, light industries, uses requiring septic systems, and other uses that have the greatest potential for pollution shall not be located within the vicinity of streams, reservoirs, or percolation facilities where contaminants could easily come in contact with flood waters, high groundwater, flowing streams, or reservoirs. Such uses shall be required to reduce any threat of contamination to an insignificant level as a condition of approval.	**Consistent.** Though the Z-Best facility is already permitted for operation adjacent to the Pajaro River, the proposed project includes measures that would improve groundwater quality relative to current operations, such as lining of the modified Detention Basin #1 and improved leachate control. As described above, the proposed project is also being designed to comply with the State Water Resources Control Board's 2015 Composting General Order, which includes new requirements for composting operations that are designed to improve both surface and groundwater quality conditions. See Section 11, Hydrology and Water Quality.
Policy C-RC 40 Long term land use stability and dependability to preserve agriculture shall be maintained and enhanced by the following general means: a. limiting the loss of valuable farmland from unnecessary and/or premature urban expansion and development; b. regulating non-agricultural uses in agricultural areas, and their intensity and impacts on adjacent lands; c. maintaining agriculturally-viable parcel sizes; and d. minimizing conflicts between adjacent agricultural and non-agricultural land uses, through such means as right-to-farm legislation and mediation of nuisance claims.	**Consistent.** The project does not result in direct loss of agricultural land. While the intensity of existing operations would increase with an increase in MSW throughput, indirect impacts on adjacent agricultural uses are not expected to be significant. New operations would be no nearer to existing adjacent farmlands than under existing conditions. Windblown debris would continue to be caught in the existing litter screen and collected, with monitoring by the LEA. Potential for debris/pathogen transmission from existing secondary, open windrow composting operations would be reduced, as these would occur within three-sided contained bunkers that would better contain such materials. Groundwater quality is expected to improve, as the project includes lining the (currently unlined) existing Detention Basin #1; therefore, groundwater contamination from leachate and other chemicals should decline over time. See Section 5, Agriculture and Forestry Resources.
Policy C-RC 28 The general approach to preserving and enhancing habitat and biodiversity countywide should include the following strategies: 1. Improve current knowledge and awareness of habitats and natural areas. 2. Protect the biological integrity of critical habitat areas. 3. Encourage habitat restoration. 4. Evaluate the effectiveness of environmental mitigations.	**Consistent.** Potential biological resources effects of the proposed project have been evaluated. The project has potential to adversely affect California red-legged frog, protected nesting birds, and wetlands. If the project is approved, the impacts would be mitigated to less than significant through implementation of mitigation measures. See Section 8, Biological Resources.
Policy R-RC 21 Critical habitat areas should be excluded from cities' Urban Service Areas unless retained in non-urban uses, and rural unincorporated development should be designed to avoid or mitigate impacts upon habitat and natural areas.	

General Plan Policy	Consistency Determination
Policy C-RC 50 Countywide, the general approach to heritage resource protection should include the following strategies: 1. Inventory and evaluate heritage resources. 2. Prevent or minimize adverse impacts on heritage resources. 3. Restore, enhance, and commemorate resources as appropriate.	**Consistent.** Heritage resources include cultural resources. The evaluation conducted as part of this EIR has found no evidence for the presence of significant historical resources or unique archaeological resources in areas surveyed for such resources, however known tribal cultural resources have been documented within half a mile of the project site. If cultural resources are uncovered during project activities, mitigation measures would be implemented to reduce the impacts to less than significant. Cultural resources are addressed in Section 9, Cultural Resources.
Policy C-RC 52 Prevention of unnecessary losses to heritage resources should be ensured as much as possible through adequate ordinances, regulations, and standard review procedures. Mitigation efforts, such as relocation of the resource, should be employed where feasible when projects will have significant adverse impact upon heritage resources.	
Policy R-RC 86 Projects in areas found to have heritage resources shall be conditioned and designed to avoid loss or degradation of the resources. Where conflict with the resource is unavoidable, mitigation measures that offset the impact may be imposed.	
Policy R-RC 88 For projects receiving environmental assessment, expert opinions and field reconnaissance may be required if needed at the applicant's expense to determine the presence, extent, and condition of suspected heritage resources and the likely impact of the project upon the resources.	
Policy C-RC 63 Santa Clara County shall strive to reduce the quantity of solid waste disposed of in landfills and to achieve or surpass the requirements of state law (the law currently specifies 25% reduction of landfilled wastes by 1995, and 50% by 2000).	**Consistent.** The proposed project is designed in significant part to reduce the quantity of solid waste disposed of in landfills.
Policy C-HS 24 Environments for all residents of Santa Clara County free from noises that jeopardize their health and well-being should be provided through measures which promote noise and land use compatibility.	**Consistent.** Detailed analyses of construction phase, on-site operations and on-road sources of increased noise associated with the project have been evaluated in this EIR. The project would have less-than-significant impacts on noise-sensitive residential uses and noise-sensitive residential receptors. See Section 12, Noise.
Policy C-HS 25 Noise impacts from public and private projects should be mitigated.	
Policy R-HS 1 Significant noise impacts from either public or private projects should be mitigated.	
Policy SC 12.0 Since flooding affects substantial areas of South County, and the flood control projects now being constructed are designed to protect only existing developed and planned urban areas, land development should be managed by the three jurisdictions to mitigate flooding problems and minimize the need for local public funding for additional flood control and local drainage facilities. Flood damage in South County should be minimized through a combination of actions. In flood-prone areas, inappropriate development should be prevented through land use planning, urban development policies and land use regulations. Areas which are developed or planned for development should be protected by the construction of flood control facilities. Development should be managed through advanced planning and design standards to minimize off-site flooding and drainage problems.	**Consistent.** The project site is within a flood hazard area. Fill proposed within Area 1 would result in increased flood elevations if compensatory flood water storage capacity was not provided. Increased flood storage would be provided. The new flood storage capacity would be sufficient to ensure that any net rise in flood elevation under post-project conditions would be negligible (approximately 0.01 foot). See Section 11, Hydrology and Water Quality. The project also includes new storm drainage improvements for collecting and delivering storm water to the existing Detention Basin #1, which would be modified to protect it from a 100-year design flood. The Z-Best facility is a no-net storm water discharge facility. In addition, the Composting General Order stipulates that a technical report must be submitted to identify how qualifying facilities are complying with the Composting General Order. The technical report must include, among other
Policy SC 13.0 Local drainage problems in South County should be minimized by preventing inappropriate development in areas which are prone to drainage problems and	

General Plan Policy	Consistency Determination
by using design standards and advanced planning to manage development. Developers of individual projects should be required to mitigate off-site on-site impacts and, where appropriate, to install local drainage facilities which would contribute to an eventual area wide solution to the local drainage problems, preferably in the context of a master plan for local drainage which should be developed jointly by the Cities and the County.	things, a description of the hydrogeology, working surface design, water and wastewater management plan, inspection and maintenance program, monitoring, closure plan, and a proposed schedule for achieving compliance.
Policy SC 13.3 The County and Cities should require a storm water management plan for each development. This plan, which would be presented early in the development stage, would describe the design implementation and maintenance of the local drainage facilities.	

Notes:
BMP = best management practices.
County = County of Santa Clara
ECS = Engineered Composting System
EIR = Environmental Impact Report
GHG = greenhouse gas
LEA = local enforcement agency
MSW = Municipal Solid Waste
SR-25 = State Route 25

3.3 Z-Best Background and Current Conditions

3.3.1 Z-Best Background and Permitting History

Under a County Use Permit and a Standardized Solid Waste Facility Permit, Z-Best began accepting, processing, and composting green waste and agricultural waste in 1997.

In 1999, a use permit modification was approved by the County that enabled operations to expand from processing 500 tons per day (TPD) of green and agricultural feedstock intake (collectively “green waste”) to processing 1,500 TPD of these green wastes plus processing MSW and other inert material used for site road maintenance and materials to be blended with compost. The components of the MSW waste stream include postconsumer food waste and dewatered grease trap screenings. Hours of operation were expanded to support expanded processing capacity.

In November 1999, the County Department of Environmental Health issued Z-Best a full solid waste facility permit, with the California Integrated Waste Management Board (now known as CalRecycle) concurring.

Until 2012, Z-Best’s operations were being conducted solely within Area 1 of the site (see Figure 3-2). In 2012, the County approved a modification to the existing use permit to allow an expansion of final processing, finishing, and storage operations into the adjacent 28-acre portion of Area 2 for municipal solid waste and green waste composting, as well as improvements to existing composting operations.

Z-Best is regulated by the County under (i) the current facility Use Permit, and (ii) Solid Waste Facility Permit (SWFP) No. 43-AA-0015 issued by the County Department of Environmental Health, acting as the local enforcement agency (LEA). Z-Best is also regulated by the State Water Resources Control Board (SWRCB) pursuant to the General Waste Discharge Requirements for Composting Operations contained in Order No. WQ 2015-0121-DWQ (“Composting General Order”), adopted on August 4, 2015.

The Composting General Order sets standards for the construction, operation, and maintenance of composting facilities to protect surface water and groundwater. It includes several requirements, including standards for the permeability of the ground underneath the composting piles, drainage, and leachate collection and containment. Compost operators must submit a notice of intent and a technical report to be enrolled under the 2015 Composting General Order.

Z-Best’s current (2014) Solid Waste Facility Permit allows:

- throughput (rate of production) of 1,500 TPD with a peak of 2,500 TPD, 10 to 15 days per year;
- use of Area 1 for MSW/food waste composting, green waste composting, processing of mulch from clean green materials and compost overs (including colorization of mulch), and stockpiling of mulch;

- use of Area 2 for finished compost blending and storage, processing of mulch from compost overs (including colorization of mulch), and storage of mulch and compost overs;
- hours of operation for the facility are 6 AM to 6 PM for office and management functions; 6 AM to 10 PM for processing building activities; and 24 hours a day for materials receiving, handling and screening; and
- permitted peak traffic volume of 356 vehicles per day for normal daily peak throughput of 1,500 TPD and 448 vehicles per day for the peak throughput of 2,500 TPD allowed for up to 15 days per year.

Several structures and equipment have been constructed or installed at the site without the appropriate building permits or other approvals. This includes:

- sort line equipment within the processing building (feed hopper with incline conveyor, sorting platform conveyor, bag breaker, disc screen, two transfer conveyors, and elevated catwalk with access stairs), installed in 2004 and used part-time until 2020.
- 6,250 SF storage room and 3,750 SF canopy, attached to processing building.
- 40-foot high wind barrier fence between the processing building and green waste screening area.
- 790-feet long electric overland conveyor system between green waste screening area and Area 2, not currently in use.
- four transformers and associated underground conductors, motor control equipment and 8-foot by 12-foot wood-framed equipment sheds.
- interior alterations to install five offices in the 4,000 SF shop/office building (no new square footage added to building).

3.3.2 Existing Composting Processes

3.3.2.1 Green Material Windrow Composting

Incoming green material, yard trimmings, and wood wastes delivered to the Z-Best facility by transfer truck and pre-processed in the eastern portion of Area 1A. The larger pieces of wood waste, which are too large to break down during the composting process, are pulled from the waste stream and separated from the material to be composted. This larger non-compostable wood waste is ground in a portable diesel-powered horizontal grinder and used to produce mulch products. This activity is currently permitted to occur within Area 1 only.

The compostable green waste material is formed into trapezoidal-shaped windrows within Area 1C that are approximately 20 feet wide, 10 feet high, and a length that varies according to pad size. The temperature and moisture of the windrow materials is monitored and controlled, and the windrows are turned on a regular basis so that the composting process is maintained. Water is added as necessary to the compost piles to maintain the appropriate composting moisture and dust control conditions.

After 9-16 weeks in a windrow, the composted green waste material is removed and brought to the screening area within Area 1A. Primary screening of composted green waste material is currently permitted to occur in Area 1 only, whereas secondary screening is permitted to occur in Area 1 or Area 2. Prescreened materials are stockpiled for 0-2 days in Area 1 in piles or groups of piles that do not exceed 25 feet in height, 150 feet in width, and 250 feet in length. Screened compost is transported by trucks to stockpiles in Area 1 or in Area 2 in piles or groups of piles totaling approximately 5,000 cubic yards. This finished compost is sold or stored or may be blended with additives or amendments. Compost products are regularly sampled to ensure they meet quality standards identified by the State of California.

The woody waste fraction of green waste that does not break down during the active green waste process (compost overs) is screened out of the finished green waste compost and then ground using a portable diesel-powered horizontal grinder and used to produce mulch products. This activity is currently permitted to occur in either Area 1 or Area 2.

Equipment currently used within the green waste composting operations includes:

- two portable diesel-powered horizontal grinders (900 horsepower): these are used for both grinding green waste feedstock and for grinding compost overs and wood waste for mulch;
- six front end loaders: five loaders are used for the green waste process and one additional loader is used on the finished product pad for both MSW and green waste compost products; and
- Screening equipment: this is electrical with the exception of two mobile diesel trommels.

3.3.2.2 MSW Composting Using CTI Process

Pre-processed MSW feedstock is currently transported from various Material Recovery Facilities (MRFs) to the Z-Best facility by transfer trucks then loaded onto a feed table conveyor, which feeds material into the compaction unit of a self-propelled, diesel-powered bagging machine. The MSW feedstock is typically loaded immediately into the bagging machine; however, on occasion, a small number of truckloads may be tipped within the processing building in Area 1A then bagged within 48 to 96 hours.

The bagging machine fills an elongated thermoplastic composting bag and installs two pipes with aeration blowers attached. The bags are 12 to 14 feet in diameter and 350 feet in length and can contain 570 to 750 tons of feedstock. The bags are typically located on an impermeable pad within the northern two-thirds of Area 1B but may occasionally also be located within Area 1A. Bags are opened after 14 weeks and the composted material is formed into windrows and aerated with blowers to lower moisture content, for approximately one additional week.

The enclosed aerated bag processing system is also referred to as the “CTI” system with reference to the technology provider - Compost Technologies, Inc. It is this CTI process that would be replaced with the newer technology, as described in Section 4.0, Project Description.

The composted material is then moved with haul trucks to a primary screen stockpile in the western portion of Area 1A, where it is screened within 10 to 14 days. Trash that is removed during the screening process is piled on the ground then hauled off-site by trucks to landfill within 24 to 48 hours. The fine-sized materials from this initial screening are cured for up to 180 days in one of two 15,000 cubic yard curing piles located in Area 2. Secondary screening of these curing piles to finished product then occurs in Area 2.

3.3.2.3 Previous Pre-Processing Operations

Z-Best's solid waste facility permit also allows for pre-processing of MSW materials at the site (e.g., sorting compostable MSW materials from non-compostable materials such as recyclables). Processing equipment was installed within the 20,000 SF processing building in 2004 without the required building permits and was operated until 2020. This unpermitted equipment, which is no longer in operation at the site and which will be removed as part of the project, includes a feed hopper, sort line conveyor, and bag breaker, on an elevated catwalk with railing.

3.3.2.4 Odor Control

There are commonly several sources of odor associated with composting operations. The same is true for existing Z-Best operations. These sources include, but are not limited to, MSW and green waste feedstock sorting and processing, MSW and green waste composting, and wastewater detention/storage.

Z-Best utilizes odor management and response measures as part of its current operations. These measures are identified in Z-Best's *Odor Impact Minimization Plan, Z-Best Composting Facility* (Z-Best Composting, No Date) as required by 14 California Code of Regulations [CCR] § 17863.4. Odor management and control actions identified in the plan include:

1) odor monitoring protocol wherein the locations of sensitive odor receptors are identified and odor impacts are identified when a complaint is received;

2) operations management to reduce odor production and migration off site particularly during wet, windy and stagnant air conditions;

3) complaint response to address odor complaints received directly by Z-Best and/or by the County; and

4) operations design and operating procedures to minimize odor generation from a variety of sources (e.g., managing composting materials aeration, moisture content and temperature; managing composting material content to reduce potential for odor generation; managing storm water that percolates into green waste windrows and becomes odorous; employing wastewater detention basin controls such as aerators to reduce odors, etc.)

Odor control within the enclosed processing building is achieved through ventilation. The operable doors along the sides of the building provide flexibility to both enhance as well as restrict airflow through the structure. Operational practices are important for odor control. Rapid movement of feedstock from the tipping floor through the processing area and into the CTI bags is an essential operating step.

The processing building is also equipped with a misting system that utilizes a deodorizing additive in the water. This system is used, as needed, as an odor and dust control measure.

3.3.2.5 Storm Water and Leachate Management

Leachate is a solution created when a liquid (in this case water) moves downward through a pile of MSW containing soluble (dissolvable) materials. Compost leachate from active (primary) composting of MSW is characterized by high biological oxygen demand (a measure of the amount of dissolved oxygen consumed by bacteria in the process of consuming organic material in water), low pH (a measure of acidity), the presence of nutrients including nitrogen and phosphorous, and salts. Leachate is a contaminant whose release to surface water or groundwater has potential to impair the quality of these waters, thereby impacting the value of the waters for human use and for habitat.

Leachate is currently created during MSW composting operations at the Z-Best facility when water is added to the CTI bags containing MSW and during secondary composting. Storm water that is collected from impermeable surfaces within the composting area is also considered to be leachate and must be managed to avoid discharge.

The CTI process activities occur within Area 1B on a constructed surface composed of materials (clay and gravel) that have low permeability. The area is sloped a minimum of one percent to direct storm water drainage (considered by the State Water Resources Control Board to be leachate) to an unlined ditch to the south of Area 1B. Area 1C, where green waste composting process activities occur, is similarly sloped to direct stormwater drainage to an unlined ditch to the east of Area 1C. Drainage swales at the northern and western ends of Areas 1A and 1B of the composting facility direct surface drainage to the unlined ditches. The drainage ditches also prevent uncontrolled runoff from and run-on to the composting facility. The ditches deliver storm water to existing Detention Basin #1. Leachate is also produced as a by-product of the composting process, which mixes with other surface runoff and is managed in the same manner described above.

For the portion of the year when storm water accumulates within the detention basin, it is reused in the composting process to moisten (“condition”) compost in the CTI composting bags, to condition green waste being composted in windrows, and for dust management.

Area 2 is gently sloped from the center of the area towards drainage ditches along the east and west of the area, which direct stormwater runoff to existing Detention Basin #2. Water from Detention Basin #2 is typically pumped into Detention Basin #1 and used for watering green waste windrows during the first six weeks of composting.

3.3.2.6 Other Existing Operations Characteristics

Z-Best’s current (2014) Solid Waste Facility Permit allows throughput (rate of production) of 1,500 TPD with a peak of 2,500 TPD, 10 to 15 days per year; however, the facility typically operates below the permitted limits. In 2018, the baseline environmental year for the proposed project, the daily average of combined MSW and green waste processed at the facility was approximately 1,060 tons. The maximum

capacity of the existing CTI system for processing MSW feedstock is approximately 685 TPD. Inbound green waste feedstock volume is typically approximately 635 TPD on non-peak days. The existing facility generates approximately 208 one-way haul truck trips per day on average, including those hauling green waste, MSW, and other materials to the project site and those conveying finished products and waste materials from the project site (Hexagon Transportation Engineers 2020a).

Z-Best currently has approximately 60 employees, who work in five shifts. Windrow materials receiving, screening, and turning (on-site) operations occur 24 hours per day. The most intensive operations period is during the day. About 49 of the 60 employees work a total of three shifts all of which occur within the period from 5:00 AM to 5:00 PM. The remaining 11 employees work in two shifts that occur within the period from 5:00 PM to 5:00 AM (Hexagon Transportation Engineers 2020a). On average, a total of 3 to 5 visitors and/or vendors per day, Monday through Friday, come and go from the facility, typically between the hours of 9:30 AM to 3:00 PM.

The most recent Z-Best use permit modification approved by the County in 2012 limits the total number of people who may be on the site at any one time to 60.

4 Project Description

This section of the EIR presents characteristics and features of the proposed project. Additional detail about specific aspects of the proposed project can be found in the environmental topic-specific sections of this EIR.

4.1 Project Purpose

The primary purpose of the proposed project is to modify Z-Best's existing Municipal Solid Waste (MSW) composting operations to increase composting capacity by enabling more efficient composting, which would increase the rate of throughput. The proposed technology and operations modifications would enable an increase in current permitted feedstock composting capacity from 1,500 tons per day (TPD) to 2,750 TPD. Feedstock includes MSW, green waste, and inert material. Additional feedstock intake would be required and would be provided through increasing daily feedstock delivery truck trips. This upgrade would be achieved by replacing the existing Compost Technologies, Inc (CTI) composting process and technology, which utilizes composting bags as described in Section 3.2, Z-Best Background and Current Operations, with an Engineered Composting System (ECS) process and technology, which consists of aerated static pile technology. The proposed ECS is described in detail in Section 4.3, along with additional proposed modifications to existing operations that would need to be made to accommodate the new processing technology. Modifications to existing site conditions would also be made to accommodate the new technology. Z-Best's proposal to improve the efficiency and capacity of its composting operations is being driven in part by State legislation mandating increased waste diversion from landfills.

The project site is located within the jurisdiction of the Regional Water Quality Control Board - Central Coast (Region 3). The applicant (Z-Best) is proposing additional changes to existing site conditions to comply with updated regulations of the State Water Resources Control Board found in its 2015 General Waste Discharge Requirements for Composting Operations, Order WQ 2015-0121-DWQ (California State Water Resources Control Board 2015) ("Composting General Order"). The Composting General Order requires composting facilities to implement water quality control measures for enhanced protection of surface water and groundwater quality. The changes involve modifying existing Detention Basin #1 so that it complies with Composting General Order requirements to better protect the facility from flooding. The surface area of the basin would be reduced, but its storage volume would be increased by raising its perimeter berms. An engineered geomembrane liner would also be installed to provide improved groundwater quality protection.

4.1.1 State Legislative/Regulatory Drivers for Enhanced Composting

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939), administered by State of California's Department of Resources Recycling and Recovery (CalRecycle), regulates the disposal, management, and recycling of solid waste. The Act requires a city, county, or city and county, or regional agency formed under the act,

to develop a source reduction and recycling element of an integrated waste management plan containing specified components. Among other things, as of January 1, 2000, the Act required those jurisdictions to divert 50% of solid waste normally disposed of at landfills through source reduction, recycling, and composting activities (Public Resources Code [PRC] Section 41780).

In 2014, organic waste represented about two-thirds of waste disposed in California. Organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.

Mandatory organic waste recycling is the next step toward achieving California's aggressive recycling and GHG emission goals. California disposes approximately 23 million tons of waste in landfills each year, of which more than 30 percent could be used for compost or mulch. Organic waste such as green materials and food materials are recyclable through composting and mulching. GHG emissions resulting from the decomposition of organic wastes in landfills have been identified as a significant source of emissions contributing to global climate change. Reducing the amount of organic material sent to landfills and increasing the production of compost and mulch are strategies in the AB 32 (California Global Warming Solutions Act of 2006) Scoping Plan.

In October 2014, Governor Brown signed AB 1826 Chesbro (Chapter 727, Statutes of 2014), requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family residential dwellings that consist of five or more units. This law phases in mandatory recycling of commercial organics over time. In particular, the minimum threshold of organic waste generation by businesses that are subject to the diversion requirement decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply. Regulations implementing AB 1826 are contained in Title 14, Division 7, Chapter 9.1 of the California Code of Regulations.

Additionally, California law (Senate Bill [SB] 1383, Lara, Chapter 395, Statutes of 2016) targets a 50 percent reduction in the landfilling of organic waste in 2022. By 2025, that reduction target is 75 percent. Beginning in 2022, SB 1383 requires every jurisdiction to provide organic waste collection services to all residents and businesses.

There is currently insufficient infrastructure to manage the organic wastes diverted from landfills as required by AB 1826 and SB 1383. It has been estimated that an additional 20 million tons per year of organics will need to be managed in 2025. To properly manage these quantities of organics, CalRecycle has estimated 50 to 100 new facilities will be needed in California. Permitting a new solid waste management facility is a time-consuming effort with no guarantee of success. Because of this, the expansion of an existing facility is a more expedient approach to providing the organics management infrastructure required to comply with California's new laws.

4.1.2 Regulatory Driver for Enhanced Water Quality Protection

The 2015 Composting General Order referenced above was adopted to ensure that composting facilities have measures in place to protect water quality. Prior to the adoption of the Composting General Order, composting facilities were either not regulated by the Regional Water Quality Control Boards or operated pursuant to site-specific Waste Discharge Requirements. The Composting General Order applies to facilities that accept materials, such as green waste, food scraps and paper products, for composting and is applicable to existing and new composting operations.

The Composting General Order includes requirements for siting, constructing, operating, and maintaining composting facilities for the purpose of protecting surface water and groundwater quality. The Composting General Order also includes specifications for minimum setbacks from surface water and water supply wells, maximum permeability of the ground underneath composting piles, drainage requirements, and requirements for leachate collection and containment.

The proposed project includes site improvements to ensure that Z-Best's existing and proposed activities comply with Composting General Order water quality protection standards. The improvements include modifications to the existing pad on which the ECS technology would be placed, a new storm water/leachate collection system, and modifications to existing Detention Basin #1.

4.2 Project Objectives

Z-Best proposes to upgrade the existing MSW composting method from the current CTI system, which has been in place for approximately 15 years, to a more efficient system utilizing the ECS technology described in Section 4.3. The project objectives are as follows:

- Increase Z-Best's current Solid Waste Facilities Permit daily tonnage limits from the current 1,500 tons per day with up to 15 days at 2,500 TPD, to 2,750 TPD with up to 20 days at 3,500 TPD, providing additional composting capacity toward achieving CalRecycle diversion goals and a partial remedy for regulations imposing restrictions on organics in landfills as directed in state laws including SB 1383, AB 1826, AB 1594, AB 605, and SB 876 and implementing regulations;
- Increase composting efficiency by completing the composting process in 34-38 days (4-5 weeks) with the ECS system compared to the current 14 weeks with the CTI system;
- Process and compost over two times the feedstock in the same geographical footprint on site in the same amount of time;
- Reduce odors associated with MSW composting in using the ECS system while avoiding an increase in operational noise;
- Reduce site emissions utilizing the best available technology for aeration, biofiltration, and liquid capture;

- Ensure operational consistency with the State Water Quality Control Board's General Waste Discharge Requirements regarding waste discharges from composting operations[2];
- Avoid additional peak hour traffic by restricting deliveries associated with the proposed increase in feedstock to between the hours of 8 PM and 4 AM. Delivery times are to be monitored regularly and rules enforced by referencing scale reports and site surveillance cameras currently on site;
- Improve traffic safety at the SR-25 Z-Best facility entrance/exit by proposing safety improvements to SR-25 at the entrance/exit; and
- Provide additional mulch and compost products that are beneficial to the environment as soil amendments, water conserving mulch ground cover, erosion control and bio-soil products; and
- Provide up to 30 additional local jobs to the community.

4.3 Project Description

Z-Best Products has applied to the County of Santa Clara for a major modification to its existing Use Permit. The proposed facility modifications will also require Architecture and Site Approval and Grading Approval. The purpose of the proposed project is to allow Z-Best to replace its existing CTI composting technology for processing MSW feedstock, described in Section 3.2, Z-Best Background and Current Operations, with ECS process technology. The proposed ECS process technology is described in detail below.

The ECS system would enable greater compost volume throughput because the composting process duration is reduced to 4-5 weeks versus approximately 14 weeks with the existing CTI process. Consequently, as part of the proposed project, Z-Best is requesting that the County Department of Environmental Health revise its current Solid Waste Facility Permit (SWFP) to increase the daily volume of MSW it is allowed to process. The request is in response to increased MSW composting capacity that would be enabled by employing the ECS process and technology. The increase in daily MSW tonnage intake would also trigger other changes to Z-Best's operations. These, as well as physical site changes to accommodate the ECS process and improvements, are the fundamental sources of physical changes associated with the proposed project.

Additional components of the proposed project include expanding the existing flood storage facility, modifying Detention Basin #1, new signage, new lighting, relocating the existing facility entrance to become a new fourth leg of the existing SR-25/Bolsa Road intersection, and widening SR-25 along the project site frontage to enable installation of acceleration lanes and deceleration lanes into and out of the proposed relocated entrance.

[2] The General Waste Discharge Requirements for Composting Operations are often referred to as the Composting General Order. The General Waste Discharge Requirements for Composting Operations and the Composting General Order are the same document. The 2015 General Waste Discharge Requirements for Composting Operations was amended in 2020 as the General Discharge Requirements for Commerical Composting Operations. The technical requirements of the 2015 and 2020 orders are very similar and do not affect project design. The Z-Best Compost Facility will comply with the 2020 requirements.

Minor changes to the processing equipment for the organic green waste composting process would also be made, and a change in the location of certain green waste grinding/mulching operations is also proposed. No change to the type or quantity of green waste feedstock processed at the facility is proposed as part of the project.

The proposed MSW compost process and technology changes, as well as other supporting site and operational changes, are described in more detail below.

4.3.1 Changes to MSW Composting Process

The proposed ECS process infrastructure would be installed within Area 1B of the Z-Best site within the same physical footprint (pad) as the existing CTI composting area. All existing above-ground CTI improvements and infrastructure would first be removed. Figure 4-1, Proposed Site Plan, presents the proposed site plan.

The ECS composting process has two steps – primary and secondary. The ECS process is termed “aerated” because in each step, air is drawn or forced through the composting materials. The purpose is to maintain optimal conditions for rapid decomposition while reducing odors and dust. In the primary composting step, the ECS process and technology is designed to maximize control of odor and volatile organic compounds emissions from the decomposing MSW, and to maximize reducing pathogens, drying materials, and stabilizing materials. The second step is designed to promote uniform stabilization of primary composted materials. In both steps, the processes adhere to the U.S. Composting Council’s Best Management Practices (Engineered Composting Systems 2016). These practices cover the characteristics of the initial compost mix, the control of the process conditions in the pile and in biofilters, and overall housekeeping. Figure 4-2, Aerated Static Pile Site Plan, presents both the layout of the primary and secondary process improvements, as well as several elements of the improvements that are described below.

4.3.1.1 Primary Composting Step

Under the proposed MSW operations, pre-processed MSW feedstock would arrive from the MRFs in trucks, similar to existing operations, and be unloaded into the tipping area inside the processing building. Primary composting would take place in individual concrete bunkers where static piles of MSW would be placed. The bunkers would be about 10 feet high, 100 feet long, and 30 feet wide. A total of 60 bunkers would be constructed for primary composting, in groups of ten, in the northern portion of Area 1B. The pre-processed MSW feedstock would be stacked in the bunkers with a front-end loader to a level height of nine feet. Once the pile is built, it would be top-covered by six inches of material that has already been composted. This material would act as a bio-layer covering. The bio-layer cover would provide insulation to ensure that high enough temperatures are reached within the material to kill pathogens that may occur within it and as a biofilter layer, which would reduce volatile organic compounds and odors commonly released during the composting process. Each bunker would contain a discrete batch of compost. The bunker design would eliminate the potential for cross-contamination from adjacent composting zones.

Each pile within each primary bunker would be negatively aerated. Through a system of fans, air from the atmosphere would be pulled down through each pile. The entire

system is termed a “covered aerated static pile” (CASP). A typical CASP system would be comprised of six primary composting groups of bunkers, each of which would be connected to ten 30 horsepower zone fans and two 15 horsepower cooling injection fans. This ensemble is called a “fan group”. Each zone within a fan group would be monitored with temperature probes, and the aeration to that zone would be independently controlled to maintain optimal conditions. The zone fans would provide suction for negatively aerating the piles, while the injection fans would provide cool air to assist in moderating the temperature of the compost.

Automated dampers would regulate the airflow drawn from the atmosphere down through the pile. The air would then be exhausted to and scrubbed in a temperature-controlled biofilter. Each biofilter would be a bed of ground wood material of about four to six inches in depth. Twelve biofilters, each approximately 120 feet by 40 feet, would be installed in the northern portion of Area 1B. The biofilters would not need cleaning but would be replaced periodically to maintain their design depth and density and their design airflow rate and backpressure. Biofilter conditions would be monitored (like the temperature/moisture conditions of the piles) by an ECS control system. The ECS control system would also monitor the piles themselves to optimize air and temperature conditions consistent with best management practices (BMPs). Monitoring the biofilters would determine when they need to be replaced (Engineered Composting Systems 2017).

An irrigation system mounted on the bunker walls would provide automatic top watering of the CASP to add moisture before the pile is removed and/or to increase the moisture in the bio-layer for additional absorption of emissions. The compost would be kept in the primary CASP bunkers for three to four weeks. There are diminishing returns in leaving the compost in the bunkers for a longer period because the piles begin to densify and dry out, which can lead to non-BMP conditions.

Refer to Figure 4-2, Aerated Static Pile Plan, for the proposed layout of CASP bunkers, biofilters and other associated components of the proposed CASP system. Figure 4-3, Covered Aerated Static Pile Photographs, presents examples of CASP bunkers already installed at other similar facilities.

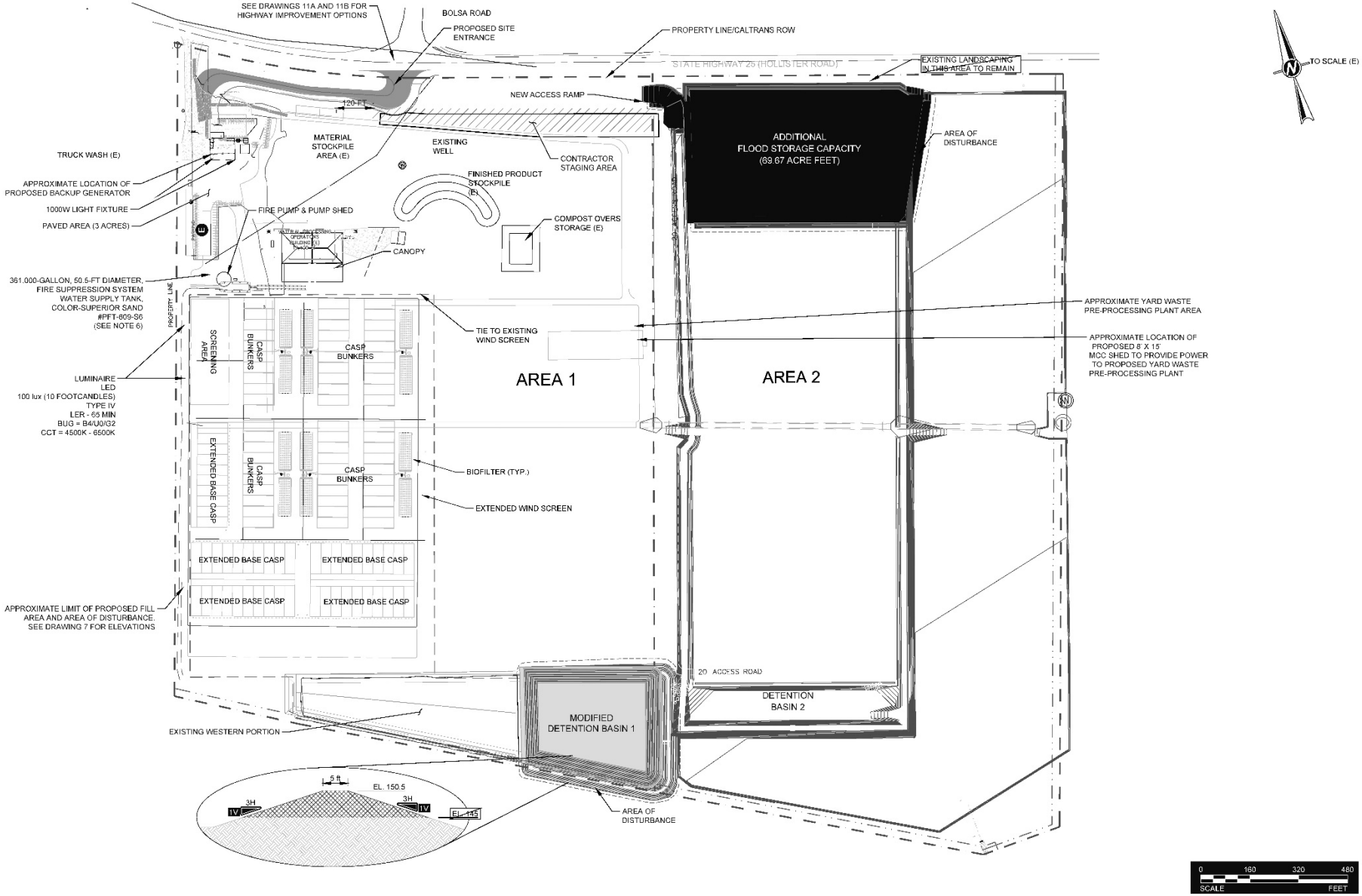


Figure 4-1 Proposed Site Plan

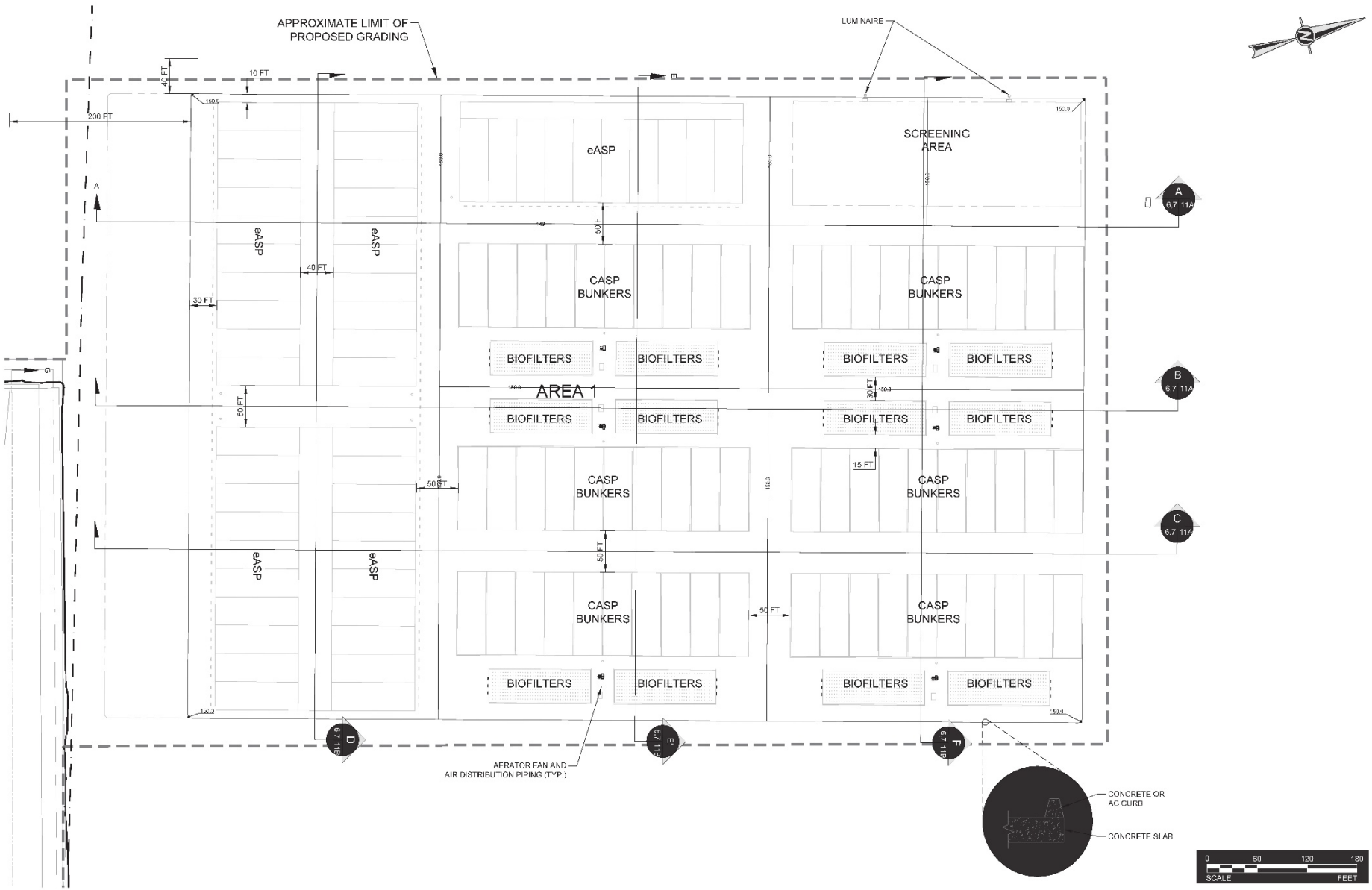


Figure 4-2 Aerated Static Pile Site Plan

1 Illustrative CASP Bunkers

2 Illustrative CASP Bunkers

3 CASP Aeriation and Biofilter

Source: Engineered Compost Systems 2016

Figure 4-3 Covered Aerated Static Pile Photographs

4.3.1.2 Secondary Composting Step

Secondary composting would take place in an extended bed aerated static pile (eASP) with positive aeration. After completing the primary composting process, the material, which would be substantially deodorized and stabilized, would undergo primary (garbage) screening and then be moved by a front-end loader to a secondary composting zone. Like the primary composting step, the compost would be placed in concrete bunkers and undergo secondary composting using the eASP technology. A total of 50 secondary eASP concrete bunkers are proposed in the southern portion of Area 1B, each with dimensions like those for the primary CASP bunkers described above. The secondary eASP bunkers would be grouped in five rows of ten, with each group connected to a single fan (fan groups). Each zone within a fan group would be independently monitored and controlled to maintain optimal conditions, just like in the primary composting step. Air would be forced up through the piles from the floor of the piles, with automated dampers regulating the airflow.

The secondary compost would be piled to a maximum depth of 9.5 feet within the bunkers. The material in the secondary bunkers would not be covered with an insulating bio-layer. As with the primary step, the secondary pile materials would be monitored. The proposed ECS design would provide enough capacity to allow for 17 days of aeration in the secondary composting system. Refer to Figure 4-2, Aerated Static Pile Plan, for the location of the eASP secondary composting area.

Garbage and other non-compostable material removed during primary screening would be placed in a covered U-shaped concrete trash bunker, approximately 60 feet long by 30 feet wide and 18 feet tall, that would be installed in the screening area in the northwest corner of Area 1B. Trash from the screening process would be collected and piled on site, loaded into trucks, and then delivered to a landfill. Trash would be removed from the site daily, within 24 to 48 hours of being generated.

4.3.1.3 Compost Curing and Screening

Following the primary and secondary ECS processing steps described above, the material would be moved by front end loader to curing piles in Area 2 for up to 180 days. Following curing, the material would undergo secondary screening to create the finished product. The curing and secondary screening steps would be the same as the existing process, except that new electric screening equipment is proposed to replace the existing equipment.

4.3.2 Changes to Green Waste Composting Process

The volume and type of green waste feedstock processed at the facility would not change as part of the project. Similarly, the process for composting green waste is not proposed to change, except for the following minor process improvements:

- a new electric front-end shredder and screen would be added to the pre-processing system, which would reduce the volume of material that needs to be ground by the existing diesel-powered horizontal grinder.

- an electric overland conveyor system (previously installed but not operating) would be used to transfer finished green waste compost from Area 1 to Area 2, instead of the current use of trucks for this purpose.

In addition, Z-Best is requesting a change to its SWF permit to allow for the following green waste activities to occur in either Area 1 or Area 2 (compared to only in Area 1 under the current permit:

- Primary screening of composted green waste.
- Grinding and production of mulch from larger woody waste that is separated from the green waste prior to composting.

This request would not result in a change in the method of screening or grinding activities or an increase in green waste throughput, but rather would provide flexibility in where these activities can be conducted on site. No location change is proposed for the secondary screening of composted green waste or for the grinding and production of mulch from compost overs (i.e., the woody waste fraction screened from the composted green waste). Both activities are already permitted to occur in either Area 1 or Area 2.

4.3.3 Leachate Management

The proposed project would continue to generate compost process leachate that could affect storm water quality. However, it would be managed consistent with water quality standards for composting operations included in the 2015 Composting General Order described previously. These standards are more stringent than previously applied to composting operations, including Z-Best's current operations.

4.3.3.1 Leachate from ECS Composting Process

With the proposed ECS technology, water must be added to the MSW piles throughout the composting process to maintain optimal conditions. Depending on the MSW content and climate, the average compost processed with aerated static pile technology can consume water (as measured by water weight) at a rate of 0.25 to 0.75 times the weight of feedstock. Water added to the compost that is not absorbed, as well as storm water collected from the composting area, represents a valuable resource that has historically been captured and reused to maintain desired moisture levels during the composting process.

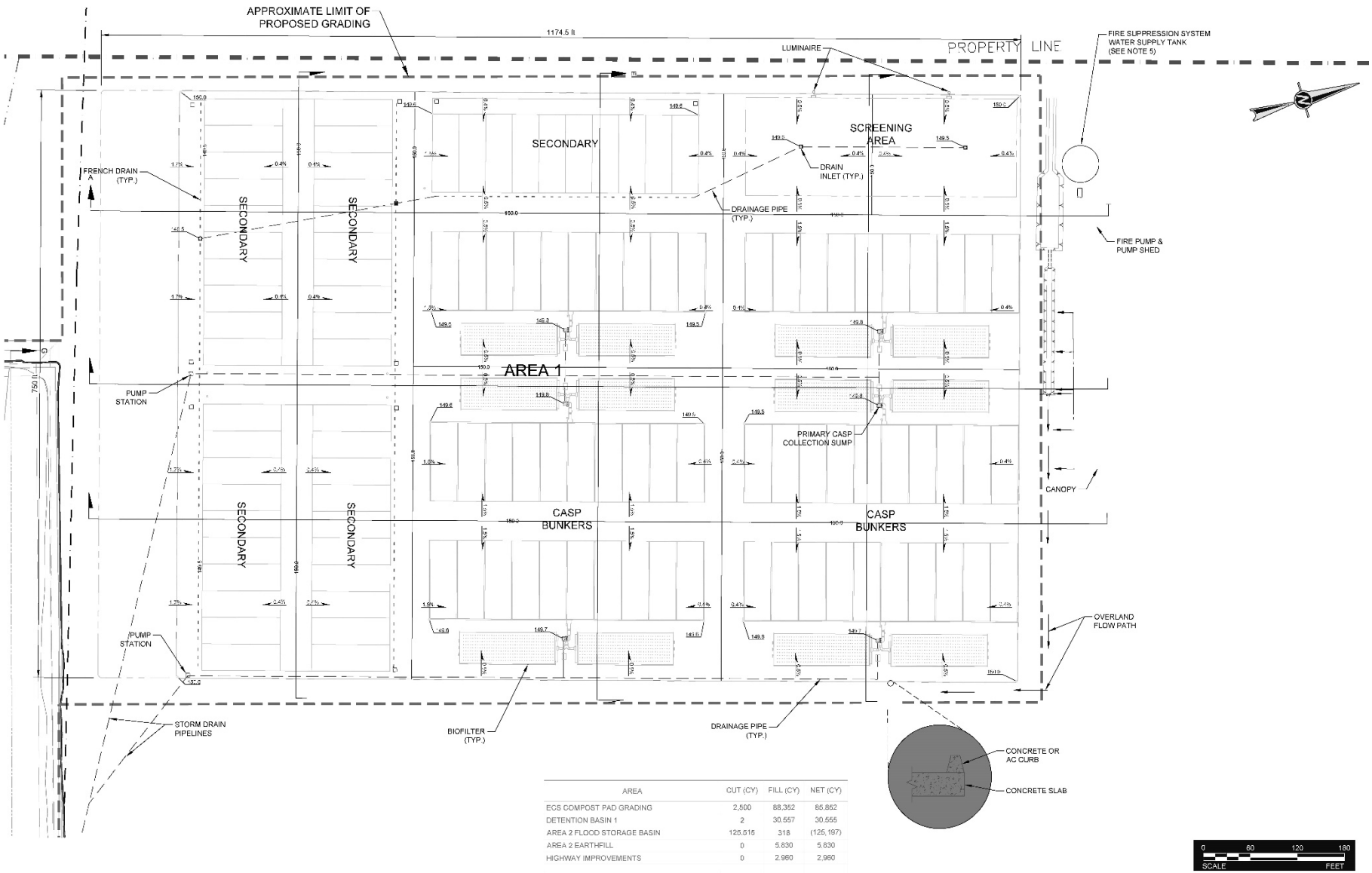
Composting can generate small volumes of leachate when excess applied water circulates through the MSW being composted and accumulates at the bottom of a compost pile. This leachate tends to be high in biological oxygen demand. In the ECS primary composting process, composting leachate would be contained within the CASP bunkers by the bunker walls and a sloped floor, collected in the negatively aerated floors and then pumped via sump pumps through collection lines, into Detention Basin #1. The leachate from the detention basin would be reused for moisture control within the bunkers, as noted above. As part of the proposed project, Detention Basin #1 would be reconfigured and lined to prevent percolation of leachate into the groundwater as described below and in Section 10.0, Hydrology and Water Quality. Figure 4-4, ECS Pad Drainage Plan, presents a schematic of the proposed leachate collection system

within the proposed ECS composting pad and the proposed modifications to Detention Basin #1.

Secondary composting would take place on a positive aerated floor as previously described. In this process, a fan would be used to pump air up through the floor of the bunker and forced up through the piles, with automated dampers regulating the airflow. Very limited quantities of leachate would be produced during this process; most would be reabsorbed into the lower level compost. When there is significant precipitation and/or an unintended over-watering of a pile, the leachate would be in a state of relatively low biological oxygen demand compared to what is collected from the primary composting bunkers. Leachate from the secondary process would be collected in a similar fashion as identified for the primary process and pumped to Detention Basin #1.

4.3.3.2 Leachate and Storm Water from MSW Composting

The proposed project includes an improved storm water collection system that would be installed as part of the ECS system improvements within Area 1B. Storm water from the ECS composting pad would be collected in French drains and conveyed toward the existing/modified Detention Basin #1 (see discussion below under Physical On-Site Improvements/Changes). The storm water would then be pumped into the basin. Like the leachate described above, storm water in the basin, when available, would be reused in the composting process to maintain optimal conditions within the composted materials. Refer to Figure 4-4, ECS Pad Drainage Plan and Figure 4-5, ECS Pad Cross Sections for the location of proposed French drains and associated pumps within Area 1B. Section 10.0, Hydrology and Water Quality, includes more detailed leachate management and storm water management information related to the project.



AREA	CUT (CY)	FILL (CY)	NET (CY)
ECS COMPOST PAD GRADING	2,500	88,362	85,862
DETENTION BASIN 1	2	30,557	30,555
AREA 2 FLOOD STORAGE BASIN	125,515	318	(125,197)
AREA 2 EARTHFILL	0	5,830	5,830
HIGHWAY IMPROVEMENTS	0	2,960	2,960
TOTAL	128,017	128,017	0

Figure 4-4 ECS Pad Drainage Plan

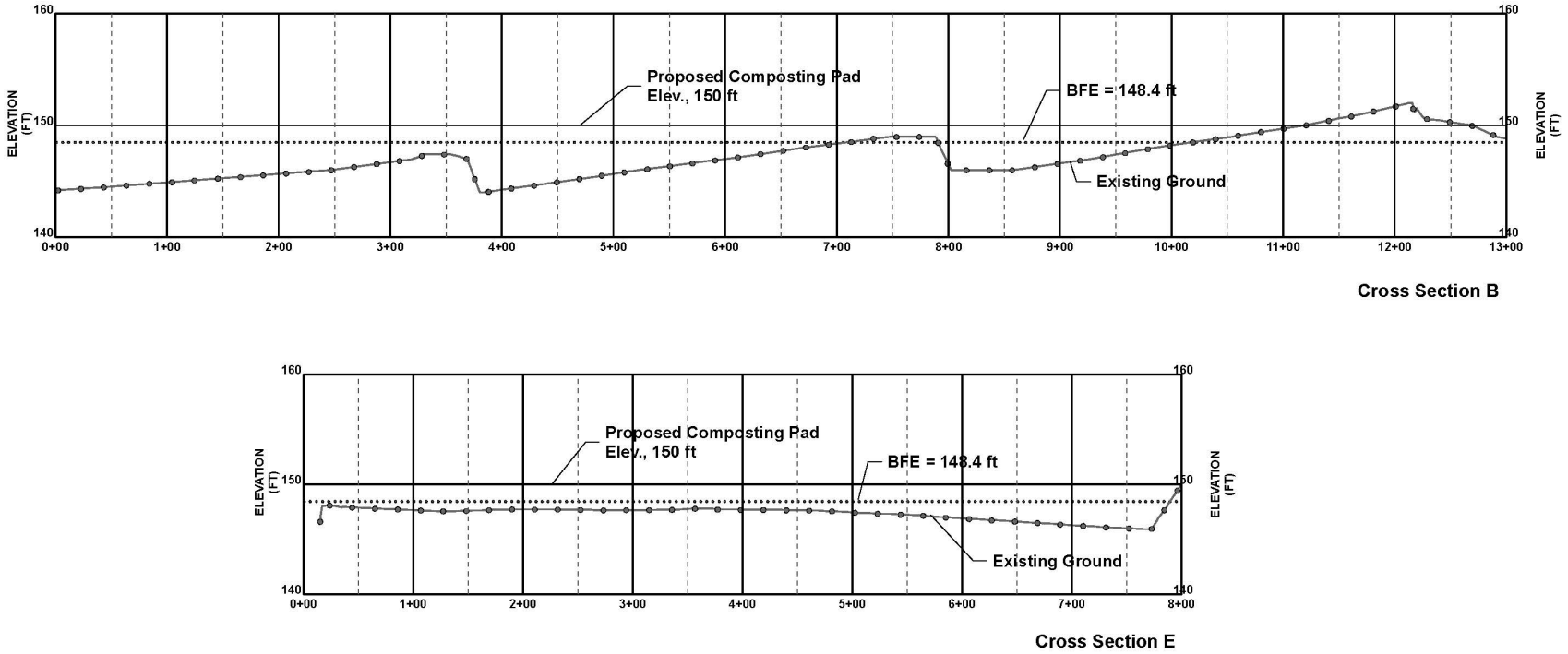


Figure 4-5 ECS Pad Cross Sections

4.3.3.3 Leachate and Stormwater from Green Waste Composting

No changes to the existing leachate and stormwater collection and management system for the green waste composting process are proposed as part of the project. Stormwater from Area 1C would continue to be directed to the drainage ditch along its western boundary and pumped into Detention Basin #1. Stormwater from Area 2 would continue to drain towards drainage ditches along its eastern and western boundaries and into Detention Basin #2.

4.3.4 Odor Management

The proposed ECS technology would have the same potential sources of odor as the existing CTI system but would include mechanisms designed to address odor generation and capture. The CASP technology is designed to operate in negative aeration so that nearly all the odor generated inside the piles of MSW that is placed inside the concrete bunkers is pulled into the floor of the bunker and scrubbed in a biofilter. In addition, the primary CASP bunker would be covered with a bio-layer of pre-composted material, which would serve as a filter for the nominal odors that are not captured and scrubbed through the negative aeration process. For information on odor generation, control, and potential effects, refer to Section 6.0, Air Quality and Odors.

4.3.5 Other On-Site Operational Changes

4.3.5.1 Increase in Existing (Baseline) Feedstock Limit/Feedstock Characteristics

As previously noted, Z-Best is currently permitted to accept up to 1,500 TPD of material in two categories: feedstock and other material. Feedstock consists of both MSW and green waste and is currently composted using the CTI method for MSW material and the open windrow method for the green waste feedstock. The “other” category on the permit is for the receipt of inert material used for on-site road maintenance and materials brought in such as rice bran to be blended with compost to create various finished products. To accommodate seasonal spikes in feedstock, the permit currently allows up to 2,500 TPD of total inbound material up to 15 days maximum per year. These limits are established in Z-Best’s current SWFP issued by the County of Santa Clara Environmental Health Department, which acts as CalRecycle’s Local Enforcement Agency (LEA). The peak day conditions can accommodate annual spring and fall leaf periods when green waste is generated in higher volumes than at other times of the year, and seasonal spikes in MSW associated with the holiday season.

Z-Best is requesting that its permit be revised to allow up to 2,750 TPD of total inbound material on non-peak days as presented in Table 4-1. Proposed Changes in Daily and Peak Day Permit Limits. Z-Best is also requesting that on peak days only, the total inbound material limit be increased from 2,500 TPD to 3,500 TPD for a maximum of 20 days per year (up from the current permit allocation of 2,500 TPD for 15 days). These peak days would allow for spring and fall peaks in green waste material and seasons of higher MSW generation and intake.

Table 4-1 Proposed Changes in Daily and Peak Day Limits

Limit	Existing (TPD)[1]	Proposed (TPD)
Daily Permit Limit – MSW + Green Waste + Other	1,500	2,750[2]
Peak Day Limits	2,500[3]	3,500[4]

Source: Z-Best 2022
Notes:
MSW = Municipal Solid Waste
1 TPD = Tons per Day
2 Increase solely from increased intake of MSW, no green waste intake increase
3 Allowed a maximum of 15 days per year
4 Proposed for a maximum of 20 days per year

The proposed upgrade to ECS technology would increase Z-Best's MSW composting capacity to 48,000 tons per month. This would allow for an approximate daily tonnage increase in MSW on non-peak days of 875 TPD to be composted, in addition to the current maximum tonnage of 700 TPD, for a total of 1,575 TPD of MSW. Inbound green waste feedstock volume would remain at approximately 700 TPD on non-peak days. Total inbound feedstock is therefore anticipated to typically be around 2,275 TPD under proposed operations, although the facility would be permitted to process up to 2,750 TPD on non-peak days and up to 3,500 TPD on peak days, as previously discussed.

As a result of the increased feedstock processing volume, there would be a corresponding increase in the volume of finished product leaving the facility, and in the volume of non-compostable materials from the screening activities, which are transported from the facility to landfill.

4.3.5.2 Equipment Changes

MSW Equipment

With the proposed increase in daily MSW intake, activities for initial feedstock processing would intensify. An additional front-end loader and a new (replacement) screening plant machine would be required for this purpose, which would be placed in the northwest corner of Area 1B. The proposed conversion to the ECS technology would involve installing a variety of improvements as previously described. These include concrete bunkers, storm water collection infrastructure, biofilters, fan arrays, and sump pumps under the bunkers.

The current CTI process bagging machines, bags and blower fans for each bag would be eliminated from use as would other ancillary CTI composting systems and equipment, which would be removed from the site.

Green Waste Equipment

A new electric front-end shredder and screen would be added to the green waste pre-processing system, which would reduce the volume of material that needs to be ground by the existing diesel-powered horizontal grinder. This upgrade would not be associated with an increase in throughput of green waste feedstock material, but rather would be a processing upgrade. The existing (unpermitted) overland conveyor, which is installed at the site but not currently in use, would be used to transport finished green waste compost from the screening area to the finished product storage area to reduce the amount of on-site truck traffic.

Pre-Processing Equipment

The existing (unpermitted) sort-line equipment within the processing building would be removed as part of the project, and new replacement equipment would be installed in its place. The new equipment would be electric and would be a similar type of equipment to the existing. This equipment would not be regularly used as part of project operations but would be installed so that Z-Best has the capacity to undertake pre-processing of MSW feedstock at the facility, in the unlikely event that one of the MRFs were unable to deliver pre-processed feedstock (e.g., due to unplanned maintenance or repair at the MRF). This situation is not anticipated to occur regularly. It is expected to occur, at the most, up to five times per year, for up to one day at a time, with up to 200 tons of MSW processed in a day.

In the unlikely event that this situation occurs, transfer trucks would deliver the unprocessed materials into the existing processing building for sorting and grinding. Unprocessed material would be unloaded using walking floor trailers near a conveyor belt where a claw excavator would load the feedstock onto the processing line. The sorting process would separate recyclable materials, such as metal, cardboard, glass, and plastics, and a small percentage of non-compostable refuse, and other materials. MSW would be processed within 48 hours to reduce odor and litter generation and to improve vermin management. Non-compostable materials would be hauled by truck to landfill.

4.3.5.3 Employment and Operating Hours

To accommodate the increase in MSW processing intensity and increased composting throughput enabled by the ECS process, Z-Best would increase staff numbers by 150 percent (i.e., 30 new employees), to a total of 90. Not all 90 employees would be working simultaneously. Z-Best proposes to conduct operations in five shifts during typical daily operations and three shifts during peak season conditions (20 days per year). The daily and peak season shifts and the employees per shift are summarized in Table 4-2, Proposed Daily Shift Schedule and Table 4-3 Proposed Peak Season Shift Schedule.

The hours of operation for the facility would remain as allowed by the existing SWFP, which are:

- 6 AM to 6 PM for office and management functions;
- 6 AM to 10 PM for processing building activities; and
- 24 hours a day for materials receiving, handling and screening.

However, as previously discussed, the processing building would only be operated on a sporadic basis, in the unlikely event that feedstock cannot be pre-processed prior to delivery.

Table 4-2 Proposed Daily Shift Schedule

Shift	# Employees	Shift Schedule
1	47	5 AM to 3 PM
2	18	7 AM to 5 PM
3	10	5 PM to 5 AM
4	13	8 PM to 4:30 AM
5	2	6 AM to 5 PM

SOURCE: Hexagon Transportation Engineers 2020a

Table 4-3 Proposed Peak Season Shift Schedule

Shift	# Employees	Shift Schedule
1	45	5 AM to 4 PM
2	30	8 AM to 6 PM
3	15	6 PM to 5 AM

SOURCE: Hexagon Transportation Engineers 2020a

4.3.5.4 Employee and Truck Traffic Volume Changes

The proposed project includes several new sources of vehicle trip generation. These are associated with the proposed increase in MSW intake/processing capacity as summarized in Table 4-4 and the proposed increase in employees as summarized in Tables 4-2 and 4-3. The most significant increase would be from haul truck trips. During proposed daily operations when the feedstock volume intake would increase from 1,500 TPD to 2,750 TPD, 200 new truck trips would be generated (100 round trips). Approximately 114 of the new truck trips would be for hauling the additional waste/feedstock to the site, and approximately 86 truck trips would be for hauling the associated increase in finished product and landfill materials from the site (Hexagon 2020a). The maximum daily volume of 314 new truck trips (157 round trips) would occur during the 20 days of the year when operations peak in response to the daily feedstock intake volume increasing to a maximum of 3,500 tons. Most of the additional trips would be limited to arriving and departing the facility during the hours of 8 PM to 4 AM, and existing truck traffic would be redistributed so that no truck traffic would arrive at or leave the facility during peak traffic hours (see Figure 4-6, Typical Daily Site-Generated Trips).

Peak season operations would add nine additional truck trips during the morning hours (7 AM – 9 AM) and eight additional trips during the evening peak hours (4 PM – 6 PM) to the road network. These are increases over the existing 21 and 37 trips during the same respective peak hour periods (Hexagon Transportation Engineers 2020a).

The project would also increase the number of employee commuter trips due to the proposed increase in staff numbers. Daily visits by non-employees (e.g., vendors and contractors) are not anticipated to change due to implementation of the proposed project. The applicant projects 64 new non-truck trips (32 round trips) generated by new

employees, ancillary delivery, and visitor trips. Refer to Section 12.0, Transportation, for more information.

Hours of Operation		Existing Conditions [1]						Proposed Conditions [2]													
								Non-Truck Trips				Truck Trips									
		Non-Truck Trips (Based on Driveway Counts)	Truck Trips (Based on Driveway Counts)	Total	Total Site Trips			Additional Employee Trips	Existing Employee Trips/New Shift Times	Other Non-Truck Trips	Total Future Non-Truck Trips	Additional Truck Trips	Existing Truck Trips/Off-Peak Hours Restriction	Total Future Truck Trips	Total	Total Site Trips			Net Additional Trips		
					In	Out	Total									In	Out	Total	In	Out	Total
12:00 AM	Arrivals	0	1	1	1	0	1			0	0	7	7	14	14	14	14	28	13	14	27
to 1:00 AM	Departures	0	0	0						0	0	7	7	14	14						
1:00 AM	Arrivals	0	0	0	0	1	1			0	0	7	7	14	14	14	14	28	14	13	27
to 2:00 AM	Departures	0	1	1						0	0	7	7	14	14						
2:00 AM	Arrivals	0	0	0	0	0	0			0	0	7	7	14	14	14	14	28	14	14	28
to 3:00 AM	Departures	0	0	0						0	0	7	7	14	14						
3:00 AM	Arrivals	0	3	3	3	5	8			0	0	7	7	14	14	14	14	28	11	9	20
to 4:00 AM	Departures	4	1	5						0	0	7	7	14	14						
4:00 AM	Arrivals	5	5	10	10	5	15	17	30	0	47		5	5	52	52	18	70	42	13	55
to 5:00 AM	Departures	0	5	5				9	4	0	13		5	5	18						
5:00 AM	Arrivals	2	5	7	7	3	10		2	0	2		5	5	7	7	15	22	0	12	12
to 6:00 AM	Departures	0	3	3				5	5	0	10		5	5	15						
6:00 AM	Arrivals	33	7	40	40	7	47	1	17	0	18		5	5	23	23	5	28	-17	-2	-19
to 7:00 AM	Departures	0	7	7						0	0		5	5	5						
7:00 AM	Arrivals	**4**	**6**	**10**	**10**	**11**	**21**			0	0			0	0	0	0	0	-10	-11	-21
to 8:00 AM	Departures	**3**	**8**	**11**						0	0			0	0						
8:00 AM	Arrivals	6	6	12	12	5	17			**1**	**1**			**0**	**1**	**1**	**1**	**2**	-11	-4	-15
to 9:00 AM	Departures	3	2	5						**1**	**1**			**0**	**1**						
9:00 AM	Arrivals	6	13	19	19	20	39			6	6	8	5	13	19	19	20	39	0	0	0
to 10:00 AM	Departures	7	13	20						7	7	8	5	13	20						
10:00 AM	Arrivals	9	7	16	16	23	39			9	9	7	5	12	21	21	23	44	5	0	5
to 11:00 AM	Departures	11	12	23						11	11	7	5	12	23						
11:00 AM	Arrivals	4	8	12	12	16	28			4	4	7	5	12	16	16	18	34	4	2	6
to 12:00 PM	Departures	6	10	16						6	6	7	5	12	18						
12:00 PM	Arrivals	4	10	14	14	15	29			4	4	7	5	12	16	16	17	33	2	2	4
to 1:00 PM	Departures	5	10	15						5	5	7	5	12	17						
1:00 PM	Arrivals	3	12	15	15	13	28			3	3	7	6	13	16	16	17	33	1	4	5
to 2:00 PM	Departures	4	9	13						4	4	7	6	13	17						
2:00 PM	Arrivals	3	8	11	11	10	21			2	2	7	6	13	15	15	14	29	4	4	8
to 3:00 PM	Departures	3	7	10						1	1	7	6	13	14						
3:00 PM	Arrivals	3	5	8	8	13	21			0	0			0	0	0	47	47	-8	34	26
to 4:00 PM	Departures	6	7	13				17	30	0	47			0	47						
4:00 PM	**Arrivals**	**5**	**5**	**10**	**10**	**27**	**37**	5	5	0	10			0	10	10	0	10	0	-27	-27
to 5:00 PM	**Departures**	**22**	**5**	**27**						0	0			0	0						
5:00 PM	Arrivals	0	1	1	1	20	21			**0**	**0**			**0**	**0**	**0**	**20**	**20**	**-1**	**0**	**-1**
to 6:00 PM	Departures	18	2	20				**1**	**19**	**0**	**20**			**0**	**20**						
6:00 PM	Arrivals	1	0	1	1	2	3			1	1			0	1	1	0	1	0	-2	-2
to 7:00 PM	Departures	1	1	2						0	0			0	0						
7:00 PM	Arrivals	0	0	0	0	0	0	9	4	0	13			0	13	13	0	13	13	0	13
to 8:00 PM	Departures	0	0	0						0	0			0	0						
8:00 PM	Arrivals	0	1	1	1	1	2			0	0	8	8	16	16	16	16	32	15	15	30
to 9:00 PM	Departures	0	1	1						0	0	8	8	16	16						
9:00 PM	Arrivals	0	0	0	0	0	0			0	0	7	7	14	14	14	14	28	14	14	28
to 10:00 PM	Departures	0	0	0						0	0	7	7	14	14						
10:00 PM	Arrivals	0	1	1	1	1	2			0	0	7	7	14	14	14	15	29	13	14	27
to 11:00 PM	Departures	1	0	1						1	1	7	7	14	15						
11:00 PM	Arrivals	0	0	0	0	0	0			0	0	7	7	14	14	14	14	28	14	14	28
to 12:00 AM	Departures	0	0	0						0	0	7	7	14	14						
TOTAL DAILY TRIPS:		**182**	**208**	**390**	**192**	**198**	**390**	**64**	**116**	**66**	**246**	**200**	**208**	**408**	**654**	**324**	**330**	**654**	**132**	**132**	**264**

Notes:

[1] Existing hourly project site traffic activity was estimated based on the existing 24-hour vehicle composition traffic counts conducted at the project site entrance in August 2015, in combination with information provided by Z-Best on their current number of employees, employee shift times, and hours of operation.

[2] Hourly site traffic projections associated with the proposed Z-Best facility operations expansion. These projections are based on the anticipated increase in the number of employees and number of trucks accessing the site daily, the proposed new employee shift times, and the restriction of all inbound truck traffic to the site during the off-peak hours only (8:00PM - 4:00AM) and outbound truck traffic to the hours of (4:00AM - 7:00AM and 9:00 AM to 3:00 PM).

Figure 4-6 Typical Daily Site-Generate Trips

4.3.6 Physical On-Site Improvements/Changes

4.3.6.1 Finished Site Elevation Changes

The project site is within a 100-year flood hazard zone. As part of the proposed project, the footprint of Area 1B within which ECS improvements would be installed would be raised by approximately one to two feet so that it would be above the 100-year flood elevation. The raised pad would be paved prior to ECS improvements being installed. This paving would not result in an increase in impervious area because the existing compacted earthen pad is considered an impervious surface. Refer to Section 10, Hydrology and Water Quality, for more information.

4.3.6.2 Modification of Detention Basin #1

Per the current 2015 Composting General Order regulations described previously that now apply to Z-Best operations, the storm water from a composting facility must be more rigorously managed to protect water quality by prohibiting discharge of compost facility wastewater to surface or groundwater. To meet the more stringent water quality requirements, Z-Best proposes to modify Detention Basin #1 to include a geomembrane liner. A geomembrane liner is very low permeability synthetic membrane liner or barrier used to minimize downward percolation of wastewater or storm water stored in a basin to groundwater.

The configuration of Detention Basin #1 would be modified to reduce the area of the basin by approximately two-thirds (from 6.3 acres to approximately 2.4 acres), while also constructing higher perimeter berms, so that the depth of the basin is increased and so that storage volume is adequate to meet Composting General Order regulations and to protect the basin from a 100-year flood. The eastern portion of the existing basin would no longer to be used for stormwater detention. As a result of the proposed modifications, Detention Basin #1 would increase its maximum capacity from approximately 9.1 million gallons to approximately 14.5 million gallons, as shown in Figure 4-7, Detention Basin #1 Modifications. The ruderal vegetation and all existing trees that border the existing basin would be removed as part of the reconfiguration. Vegetation and tree removal are addressed in Section 7.0, Biological Resources.

No modifications to Detention Basin #2 are proposed as part of the project.

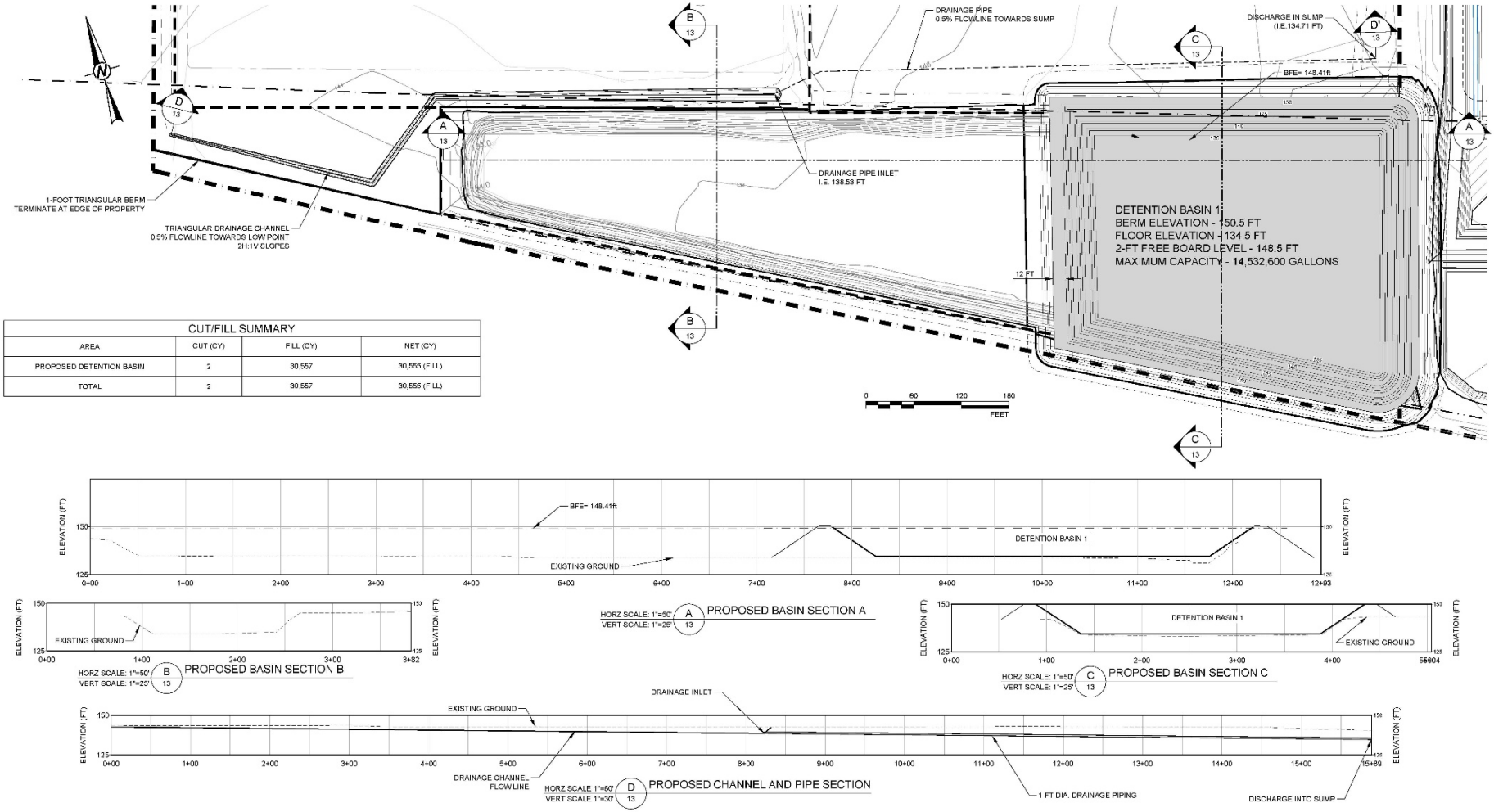


Figure 4-7 Detention Basin #1 Modifications

4.3.6.3 Flood Storage Facility Expansion

Z-Best's proposal to raise the elevation of Area 1B by one to two feet and modify the existing Detention Basin #1 would result in the loss of approximately 69.5 acre-feet of flood storage capacity within the 100-year flood hazard zone. To compensate for the loss of flood water storage, Z-Best is proposing to expand its existing flood storage facility at the north end of Area 2 within the Z-Best site. The excavation depth would vary from 5 feet to 15 feet, depending on the ground elevation to create an additional 69.67 acre-feet of flood water storage. The area excavated to expand flood storage would be approximately 490 feet by 700 feet in area (approximately 7.2 acres). Refer to Figure 4-1, Proposed Site Plan, for the location of the proposed expansion. More information on flood hazards and the flood water storage basin can be found in Section 10.0, Hydrology and Water Quality.

4.3.6.4 New Facility Entrance

The applicant is proposing a new entrance/exit to the Z-Best facility. The new entrance would form a new fourth (south) leg of the existing SR-25/Bolsa Road intersection, which is located approximately 600 feet southeast of the existing site entrance. Like the existing Bolsa Road approach to SR-25, the new driveway would be stop-sign controlled.

The new entrance would include an approximately 600-foot-long paved driveway from SR-25 that would be aligned parallel to SR-25 and would tie into the existing facility driveway at the western edge of the site so that no other changes to existing composting operations, facilities, or truck or employee vehicle circulation patterns within the site would be required. The existing entrance would be closed once the new entrance is complete and operational. The existing paved parking lots and vehicle circulation areas around the existing office/shop and processing buildings would be maintained.

Figure 4-7, Project Entrance/Driveway and SR-25 Improvements, shows the location of the new site entrance, as well as the footprint of additional improvements proposed for SR-25.

Non-native grassland and ruderal vegetation and approximately 10 of the ornamental poplar trees along the site frontage with SR-25 would be removed to construct the driveway. A segment of the existing drainage ditch along the south side of SR-25 would be filled and replaced with storm drainage piping to allow the entrance to be constructed over the ditch. Refer to the Off-Site Improvements to SR-25 section below for further discussion of the proposed SR-25 improvements.

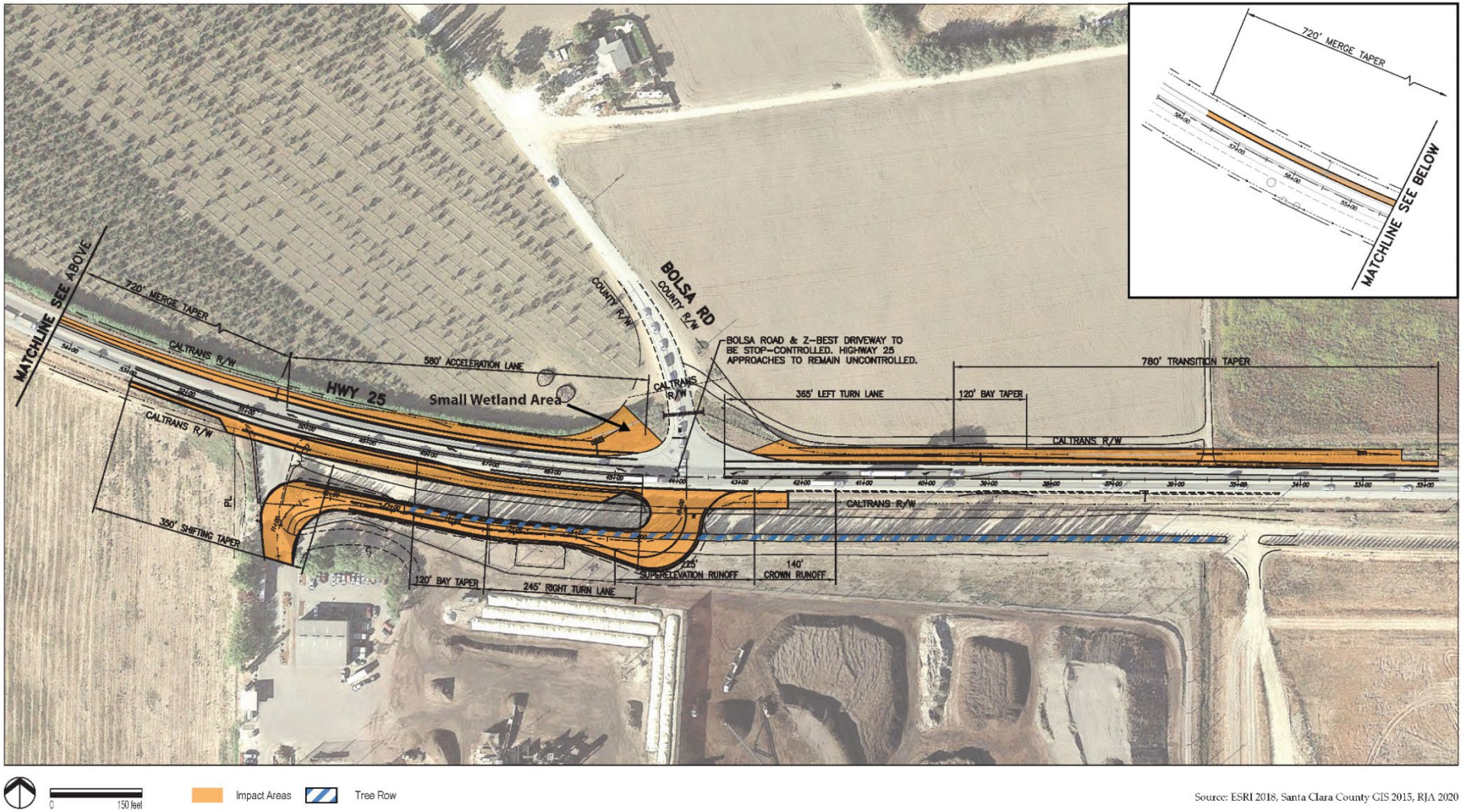


Figure 4-8 Proposed Project Entrance/Driveway and SR-25 Improvements

4.3.7 Office/Shop Building Remodel

The existing shop/office 4,000 SF building adjacent to the existing scale was previously remodeled with office space, employee break room, conference room, scale office, and mezzanine storage area. However, these changes were constructed without permits and are proposed to be permitted through the requested use permit modification application.

4.3.8 Utilities

4.3.8.1 Electricity

The existing 2,000-amp electrical service is the main power source to the processing plants and equipment on site. This power service is currently fed by overhead Pacific Gas & Electric Company (PG&E) power lines that feed a PG&E 480-volt transformer which in turn feeds the 2000-amp metered service panel and equipment. This service equipment would be upgraded to a 21-kilovolt feed from PG&E replacing the 480-volt existing system. This upgrade would increase efficiency as well as provide the additional power needs for the proposed ECS equipment.

An approximately 400-foot-long section of the existing overhead power lines would be converted to underground feed, which would include the removal of three power poles with feed lines re-routed underground consistent with PG&E requirements. Three transformers at needed plant locations would also be installed with underground feeders meeting code requirements for conductor size, conduit size and depth underground. Motor control equipment would be installed within four small (8 foot by 12 foot) sheds at plant locations. All necessary feed conductors would be installed underground in electrical conduits at required depths.

The existing 400-amp electrical service to the shop/office building would remain and a new back-up power generator system would be installed outside the building, under the existing canopy adjacent to the scale office. This 60-kilowatt, propane-fueled generator would provide power to the office/shop building and scale in the event of PG&E power failures, which typically occur approximately 6 to 8 times per year based on recent experience.

4.3.8.2 Water Supply

Both groundwater and surface water would be utilized to maintain optimal moisture levels within the compost, similar to the existing process: groundwater from an on-site well in Area 1 (refer to Figure 4-1, Proposed Site Plan); and storm water pumped out, recycled, and delivered to Detention Basin #1.

No changes are proposed to the facility's water supply infrastructure or onsite conveyance, except to connect the existing system to the new ECS composting system. The existing water well, and the existing 361,000-gallon fire suppression system water supply tank and associated fire pump and pump shed would remain on site. Changes to the demand for water use associated with the project are discussed in Chapter 13, Water Supply.

4.3.8.3 Stormwater

The project would include improvements to the storm water collection system within Area 1B. Each of the primary and secondary bunkers would collect leachate and convey it through drains to sump pumps, which would then drain to pump stations near the southern end of Area 1B. Stormwater from the ECS composting pad would be collected in French drains and conveyed toward the pump stations. The storm water and leachate would be pumped into Detention Basin #1. Stormwater from Area 2 would continue to be conveyed to Detention Basin #2, as described in Chapter 3, except for the area that would be modified to create the additional flood storage volume. Approximately 810,000 SF of existing impervious surfaces would be replaced in Area 1B, and new impervious surfaces would be constructed for the on-site driveway relocation and off-site SR-25 improvements. Additional detail regarding proposed changes to stormwater management are provided in Chapter 10, Hydrology and Water Quality.

4.3.8.4 Lighting

Two new lighting fixtures are proposed to illuminate the approximately 60,000 square-foot portion of Area 1 proposed as a new screening area. The screening area is shown in the northwestern portion of the pad within Area 1 on which new ECS technology improvements would be sited. The fixture locations are shown on both Figure 4-1, Proposed Site Plan and Figure 4-2, Aerated Static Pile Plan. Each of the fixtures has an illumination intensity of 100 lux. A lux is a measurement of light level intensity or illumination. White light emitting diode (LED) lighting is proposed with a horizontal illuminance category of 100 lux and vertical illuminance category of 30 lux.

The lighting proposed for the screening area of the ECS compost pad was selected based on the use of the area. The area would have mobile and stationary equipment that would be operated during nighttime, as well as daytime, hours. Because of the nighttime operations, lighting that provides safe working conditions is needed.

Two new 1,000-watt light fixtures are proposed on the southwest and southeast corner of the existing office/shop building, and one new 500-watt light fixture is proposed on the northwest corner of the existing processing building to provide illumination for the parking area. Lighting and related aesthetics issues are evaluated in Section 5.0, Aesthetics.

4.3.8.5 Landscaping and Other Ancillary Improvements

The proposed project would include removal of approximately 10 ornamental poplar trees and other vegetation along the property frontage to accommodate the proposed new access. Additionally, the proposed modifications of Detention Basin #1 would require the removal of existing trees that border the basin to be removed. The project would not include any replacement tree planting or other landscaping improvements.

The following minor, ancillary improvements are proposed:

- On-site directional signs;
- Wind screen/litter screen along the east side of Area 1B that is approximately 1,200 feet in length and 40 feet in height; and

- Reconfiguration and replacement of the earthen vehicle access ramp to enable improved access to existing Area 2.

4.3.9 Off-Site Improvements to SR-25

In conjunction with constructing a new facility entrance from SR-25 to the project site, as described above, improvements within the SR-25 right-of-way are proposed. Figure 4-7, Project Entrance/Driveway and SR-25 Improvements, presents an illustration of the SR-25 improvements. The SR-25 improvements would consist of widening the highway to enable installing protected acceleration and deceleration lanes for turns into and out of the proposed new entrance. The purpose is to improve safety conditions by better accommodating truck and worker ingress to and egress from the site. A 365-foot-long northbound[3] SR-25 deceleration/left-turn lane is proposed to accommodate left turns into the site. A 580-foot-long northbound acceleration lane for left turns out of the site is also proposed. In the southbound direction, a 245-foot-long right-turn deceleration lane for turns into the site is proposed.

To accommodate SR-25 widening, new paving would be required along an approximately 2,600-foot section of the highway, extending beyond the project site frontage. Existing storm water drainage ditches run along both sides of the highway. To accommodate the paving, both ditches would be filled and replaced with 24-inch stormwater drainage pipes. A low one- to two-foot high retaining wall would be installed at the edge of paving, along with a concrete gutter to capture and direct storm water from the highway into the pipes. The pipes would replace the conveyance function of the existing ditches. The existing dirt road approximately 800 feet east of Bolsa Road would be closed from accessing SR-25.

All improvements would be within the existing Caltrans SR-25 right-of-way, and all must be approved by Caltrans and meet Caltrans design standards. Bolsa Road is a County-owned roadway. No improvements to the Bolsa Road leg of the existing intersection are needed to implement the proposed changes to SR-25. As noted previously, once the new entrance improvements are complete, the existing driveway to the project site would be closed. The on-site entrance improvements and off-site improvements on SR-25 would be constructed within the same timeframe as the proposed on-site improvements described previously.

4.3.10 Construction Activities and Phasing

Construction activities would include grading, excavation, trenching, preparing concrete forms and concrete fabrication, assembly of mechanical equipment, etc. Construction equipment to be used would include bulldozers, graders, water trucks, compactors, scrapers, concrete mixers, and a variety of construction tools and equipment. Construction activities for proposed improvements to SR-25 would involve fine grading, paving, striping, and concrete work.

[3] In the vicinity of the project site, SR-25 runs in an east-west direction. However, because SR-25 is generally a north-south oriented highway, this report uses Caltrans' standard terminology of "southbound" (towards Hollister) and "northbound" (towards US 101 and Gilroy) when referring to traffic on the highway and the direction of travel lanes.

Three construction phases are planned. The anticipated duration of each phase, and the number of employees, and the types and number of equipment to be used, as estimated by the project applicant, are summarized in Table 4-4, On-Site and Off-Site Improvements Construction Information.

Table 4-4 On-Site and Off-Site Improvements Construction Information

Phase	Duration	Anticipated Workers/Equipment/Deliveries
1. Grading work for composting pad, detention basin modifications and floodplain storage	3 months (7 AM-4 PM, Mon-Sat)	6-12 workers (grading contractor) commuting daily Bulldozer, motor grader, water truck, compactor, and up to 5 scrapers Occasional soils engineer
2. Underground and Trenching Work for Mechanical, Electrical, Drainage, Water, Concrete Footings	2 months (7 AM-4 PM, Mon-Sat)	4-5 existing employees, plus 4-5 additional workers commuting daily Up to 2 tractors/loaders Deliveries of electrical, mechanical, water line materials to occur during non-peak-hours during the daytime; quantity not specified
3. Above ground mechanical, concrete and utility work	2-3 months (7 AM-4 PM, Mon-Sat)	Up to 25 commuting workers Concrete pump truck, concrete finisher, paver and paving equipment 50 concrete deliveries per day between 7 AM – 4 PM

SOURCE: Z-Best 2022

4.3.11 Grading

As discussed above, the project would require substantial on-site grading associated with the following site changes: raising the Area 1 ECS pad, modifying Detention Basin #1, expanding the flood storage basin in Area 2, and constructing the new entrance access road/highway improvements. Overall, the cut and fill volumes for the proposed project would be balanced, with no to negligible net import or export required, as detailed in Table 4-5, Proposed Cut and Fill Volumes. Some of the excavated soil generated by the project (approximately 6,000 cubic yards [CY]) would be used to complete a grading permit in Area 2 that was previously permitted but not yet fully constructed.

The proposed grading work would be a continuous cut and fill process, with excavated material from the flood storage basin expansion being used to raise the ECS compost pad and to modify Detention Basin #1, without the need for stockpiling soil on site.

Table 4-5 Proposed Cut and Fill Volumes

Grading Feature	Cut Volume (CY)	Fill Volume (CY)	Net Fill Volume (CY)
ECS Compost Pad (Area 1B)	2,500	88,532	85,852
Detention Basin #1 (to south of Area 1)	2	30,557	30,555
Flood Storage Basin Expansion (in north of Area 2)	125,515	318	(125,197)
Entrance Relocation/SR-25 Improvements (Area 1A)	0	2,980	2,980
Area 2 Earth Fill (previously permitted)	0	5,830	5,830
Total	**128,017**	**128,017**	**0**

SOURCE: Golder Associates 2022a, Project Plans, Z-Best Compost Facility Aerated Static Pile Composting Modifications Project.
CY = cubic yards
ECS = Engineered Composting System
SR-25 = State Route 25

4.4 Approvals and Intended Uses of the EIR

Actions and approvals required to implement the proposed project, including actions and approvals directly related to the EIR, are listed below.

4.4.1 County Actions and Permits

- Certify EIR (Planning Commission);
- Adopt Mitigation Monitoring and Reporting Program (Planning Commission);
- Adopt CEQA findings (Planning Commission);
- Approve Major Use Permit Modification (Planning Commission);
- Approve Architecture and Site Approval (Planning Commission);
- Grading Approval (Planning Commission);
- Approve revision to Z-Best Solid Waste Facilities Permit 43-AA-0015 (County of Santa Clara Department of Environmental Health).

4.4.2 Responsible Agency Actions

- CalRecycle – authorize County approval of revision to Z-Best's Solid Waste Facilities Permit 43-AA-0015;
- Central Coast Regional Water Quality Control Board – review and verify project compliance with 2015 Composting General Order;
- Central Coast Regional Water Quality Control Board, Region 3 – issue water quality certification under Clean Water Act Section 401;

- California Department of Transportation – review and approve proposed circulation improvements to SR-25 along the project frontage, and issue related encroachment permit;
- California Department of Fish and Wildlife – mitigation consultation if roosting bats are found on site within trees to be removed at Detention Basin #1;
- Bay Area Air Quality Management District – review and approve changes to permitted air emissions sources;
- United States Army Corps of Engineers – issue either a Nationwide Permit or Individual Permit for loss of wetland and potentially for fill of drainage ditches if found to be jurisdictional; and
- United States Fish and Wildlife Service – issue Biological Opinion for California red-legged frog, if required.

5 Aesthetics

This section of the EIR focuses on evaluating the degree to which the proposed project has potential to have a substantial adverse effect on a scenic vista, substantially damage scenic resources, substantially degrade the existing visual character or quality of the project site and scenic resources in the vicinity, or create a new source of substantial light and glare that would adversely affect day or nighttime views in the area.

Determinations of significance for visual effects are inherently subjective. Interpretations of existing conditions or changes in existing conditions brought about by a proposed action are subject to the perceptions and sensitivities of the analyst or the viewer experiencing the change. The analysis in this section is a good-faith effort to objectively identify the existing aesthetic setting and proposed changes in that setting resulting from project implementation. The section was updated in 2022 to reflect revised project details and project site conditions.

Information in this section is derived from a variety of sources including:

- Field observations and analysis by EMC Planning Group as documented within the original Draft EIR;
- Santa Clara County General Plan, 1995-2010 (County of Santa Clara 1994a);
- Santa Clara County General Plan Final Environmental Impact Report (County of Santa Clara 1994b);
- Regional Parks and Scenic Highways Map Element of the Santa Clara County (County of Santa Clara 2008; Santa Clara County Ordinance Code; and
- Santa Clara County Guidelines for Architecture and Site Approval (Santa Clara County 1981).
- Aerial and “street view” photography (Google 2022).

This section also addresses comments raised during the scoping period and on the original Draft EIR relating to aesthetics, to the extent that they are still relevant to the currently proposed project. Such comments include:

- The Council of San Benito County Governments noted that the existing facility is located at a gateway to San Benito County and as such aesthetics should be evaluated in the EIR.
- The City of Hollister commented that appearance of the existing facility detracts from the visual character leading into the County of San Benito and the City of Hollister.
- California’s Department of Resources Recycling and Recovery (CalRecycle) requested edits to the proposed mitigation for litter control to reflect that the Local Enforcement Agency (LEA) does not have jurisdiction outside the permitted boundaries of the facility which holds the Solid Waste Facility Permit.

5.1 Environmental Setting

5.1.1 Vicinity Visual Setting

The project site is located along the segment of State Route 25 (SR-25) between U.S. Highway 101 and SR 156 at the southern end of the Santa Clara Valley. Land use along the SR-25 corridor in this area is dominated by row crop agriculture on land that is topographically level. Agricultural and industrial uses are interspersed throughout the corridor as are rural residences. The existing Z-Best facility is a large industrial use within the corridor and has about 2,800 feet of frontage with SR-25. The project site is fully developed and/or previously graded. The primary visual scenic resources in the vicinity are the Pajaro River to the east of the project site and several small creeks and drainage ditches that are lined with vegetation. The location of the Pajaro River is shown on Figure 3-2 in Section 3.

SR-25 is the primary transportation route in this area. It is the primary location from which public views of visual resources in the corridor and beyond are available. Views over the agricultural fields to the distant Diablo Range Mountains to the north and over agricultural fields to the Coast Ranges Mountains to the south are widely available from the highway. These views could be considered rural scenic vistas when evaluating effects of proposed development that would be visible from SR-25 as compared to existing conditions.

5.1.2 Visual Characteristics of Existing Operations and Conditions

Representative photographs of the project site showing typical visual characteristics are included in Figure 3-4, Site Photographs in Section 3. Figure 5.1, Views from SR-25, includes representative images of the site as seen from SR-25.

The entire 157-acre area in which Z-Best operations currently occur has been modified to accommodate the existing use. The easternmost portion of the site remains open, as it has been excavated and graded to serve as a flood water storage facility. The remainder of the site has been developed with Municipal Solid Waste (MSW) and green waste composting process improvements and facilities. The northwest portion of the site contains most of the vertical elements of development including administrative offices, maintenance buildings, covered MSW sorting and processing structures, and large mounds of composted materials. Most of the remaining area contains Compost Technologies, Inc. (CTI) process MSW composting bags, green waste composting windrows, and storage areas for semi-finished and finished compost products. These components of the operation have a vertical profile that can range to 20 feet or more in height and vary in height and location over time due to operational needs of the facility.

Two large detention basins at the southern edge of the site constitute the remaining significant features. Detention Basin #1 would be modified with the proposed project. Mature trees of up to about 40 feet in height are found along the northern margin of Detention Basin #1, with scattered trees of lower height found along the remaining three

sides. Parking areas and semi- to fully-impermeable surfaces cover spaces between other improvements and features.

The project site contains several landscaping trees at the facility entrance in the vicinity of the existing buildings. Additionally, to assist in screening the site from view from SR-25, there is a row of ornamental poplar trees along the site frontage with the highway. The trees are approximately 25-35 feet tall. With the exception of these trees and the trees at the perimeter of Detention Basin #1, the site is largely devoid of any natural features such as vegetation and contains no other resources that could be considered to have aesthetic value.

A 33-foot high litter fence is located along the site frontage with SR-25 and is a notable site feature. Its purpose is to capture litter that is blown by prevailing breezes from the MSW processing area located near the highway. Litter caught in the fence can be a source of visual degradation as seen from SR-25. Z-Best regularly conducts trash and debris clean-up activities including removing litter from the fencing.

Litter and debris on SR-25 have also been noted as an aesthetic issue by commenters on the Notice of Preparation (NOP). These materials can periodically fall or be blown from trucks that transport waste to the site even though the waste loads must be enclosed or covered. Z-Best has implemented several measures to control dust and litter accumulation on the highway that are attributable to its operations. A commercial street sweeping company is used to perform street sweeping two times per week on SR-25 along the site frontage and to the east and west of the site on SR-25. Z-Best also operates a street sweeper for use at asphalted areas on site. An employee operates the street sweeper full time.

Z-Best’s litter management activities are regularly monitored by the County, acting as the Local Enforcement Agency for CalRecycle. Z-Best’s litter control activities reflect recommendations of the County for Z-Best litter management.

1 View of western edge of project site from SR 25

2 View looking towards main project site entrance from SR 25

3 View of project site looking south from SR 25

Project Site

Source: Google Earth 2018
Photographs: EMC Planning Group 2019

4 View of project site looking south from SR 25

5 View of eastern edge of project site from SR 25

6 View from far eastern edge of project site on SR 25

Figure 5-1 Views from State Route 25

5.1.3 Lighting and Sky Glow

Existing operations do not include significant lighting. Sources of on-site light are primarily safety lighting on buildings and temporary lighting that is used infrequently for nighttime deliveries and processing. Existing lighting is generally shielded from SR-25 and from adjacent land uses by on-site buildings, vegetation and the distances between light fixtures and the highway.

Existing nighttime lighting levels in the project vicinity are relatively low given the rural/agricultural nature of uses in the vicinity. There are no streetlights on SR-25. Lighting in the area is generally limited to the few residential uses along the SR-25 corridor and to agricultural related commercial and industrial uses in the area, the closest of which is the former Uesugi Farms site, located about 1,000 feet to the west of the site on SR-25. The former Uesugi Farm site includes open storage and agricultural products warehousing and trucking uses that have previously required significant nighttime illumination. However, Uesugi Farms ceased operations in 2019 and was sold to a development interest in 2020 (San Jose Mercury News 2020). These existing light sources, along with sky glow from urban areas, particularly the City of Gilroy, have influenced sky glow conditions in the project vicinity.

5.2 Regulatory Setting

5.2.1 State

5.2.1.1 Scenic Highways Program

The California Scenic Highway Program is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The project site fronts SR-25. This section of the highway is neither designated, nor eligible to be designated, as a State Scenic Highway (State of California n.d.; Caltrans 2022). The portion of SR-25 south of SR 156 in San Benito County (and SR 156) is identified as being eligible for listing as State Scenic Highways but has not been officially designated (Caltrans 2022).

5.2.2 Local

5.2.2.1 County General Plan

Scenic Highways

The Parks and Recreation Element of the Santa Clara County General Plan includes goals and policies for establishing scenic highways and roadways within the County and for protecting view corridors along scenic highways. Roads and highways identified as scenic include those established as officially designated and eligible for designation by the California Scenic Highway Program, as well as other roads and highways not currently considered eligible for the State Highway Program. The Regional Parks and

Scenic Highways Map Element of the General Plan shows the location of existing and proposed scenic highways. Bolsa Road is the only County-owned roadway in the immediate vicinity of the project site. Bolsa Road is not identified as a County-designated scenic roadway nor is it proposed for designation. Bloomfield Road, which intersects SR-25 about one-mile west of the project site, is the nearest County-designated scenic roadway.

Trails

The Regional Parks and Scenic Highways Map also shows the location of existing and planned trails throughout the County. There are no existing trails in the project vicinity. The map identifies a future “Pajaro River Park Chain” along the Pajaro River that would pass by the southeast corner of the Z-Best property, approximately 1,500 feet from Detention Basin #1, the nearest portion of the site where changes proposed as part of the project would occur.

Scenic Resources

The Resource Conservation Element of the General Plan includes three general strategies for preserving and enhancing the scenic values of both natural and built environments:

- Strategy #1: Manage Growth and Plan for Open Space
- Strategy #2: Minimize Development Impacts on Significant Scenic Resources
- Strategy #3: Maintain and Enhance the Values of Scenic Urban Settings

These strategies are reinforced through a range of policies, several of which provide context for considering the potential visual effects of a proposed project. These include:

- Policy C-RC 57: The scenic and aesthetic qualities of both the natural and built environments should be preserved and enhanced for their importance to the overall quality of life for Santa Clara County.
- Policy C-RC 61: Public and private development and infrastructure located in areas of special scenic significance should not create major, lasting adverse visual impacts.
- Policy R-RC 96: The general approach to scenic resource preservation for the rural unincorporated areas consists of the following strategies:
    1. Minimize scenic impacts in rural areas through control of allowable development densities.
    2. Limit development impacts on highly significant scenic resources, such as, ridgelines, prominent hillsides, streams, transportation corridors and county entranceways.
- Policy R-RC 97: Scenic qualities of the rural areas of Santa Clara County shall be maintained and enhanced through existing land use and development policies. Development compatible with scenic resource conservation should be encouraged.
- Policy R-RC 98: Hillsides, ridgelines, scenic transportation corridors, major county entryways, stream environments, and other areas designated as being of special scenic significance should receive utmost consideration and protection

due to their prominence, visibility, and overall contribution to the quality of life in Santa Clara County.

- Policy R-PR 41: The visual integrity of the scenic gateways to the South County (Pacheco Pass, Hecker Pass, Route 101 south of Gilroy, and a Coyote greenbelt area north of Morgan Hill) should be protected.

5.2.3 County Zoning Ordinance/Architecture and Site Approval Guidelines

The Zoning Ordinance includes development regulations for areas designed for rural uses, resource conservation, open space and environmental protection, and urban uses. The project site is located within the “Exclusive Agriculture, 40-acre Combining District” (“A-40ac”). A-40ac zoned properties are subject to development standards found in Section 2.20.030 of the Zoning Ordinance.

The site is not within any type of combining district such as Design Review or Scenic Road. However, the project would be required to undergo Architectural and Site Approval and substantially conform to the adopted Santa Clara County Guidelines for Architecture and Site Approval. These guidelines address site and development design features including architecture, site design, landscaping, parking and driveway design, signs, and lighting.

5.3 Thresholds of Significance and Analysis Methodology

5.3.1 Thresholds of Significance

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of aesthetics impacts, as it does on a whole series of additional environmental topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance. (Save Cuyama Valley v. County of Santa Barbara (2013) 213 Cal.App.4th 1059, 1068.) Rather, with few exceptions, “CEQA grants agencies discretion to develop their own thresholds of significance.” (Ibid.) Even so, it is a common practice for lead agencies to use the language from the inquiries set forth in Appendix G in fashioning significance thresholds. The County has done so here. Therefore, for purposes of this EIR, a significant impact would occur if implementation of the proposed project would:

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

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

c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings; and/or

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

5.3.2 Issues or Potential Impacts not Discussed Further

5.3.2.1 Scenic Resources

As described in the Regulatory Setting section, the project site is not located within a state scenic highway corridor, nor is it shown in the General Plan as within an existing or proposed scenic corridor. Consequently, there is no potential for the proposed project to substantially damage scenic resources and no further discussion of this issue is necessary.

5.3.3 Analysis Methodology

Section 5.4 below evaluates whether the proposed project would result in significant impacts on aesthetic resources. The significance criteria above were used to evaluate the proposed project's effects on aesthetic resources relative to the existing baseline condition. The visual analysis is based on site investigations, evaluations of aerial and ground-based photographs of the project site and locations therein where modifications are proposed, review of project application materials and communications submitted by the applicant regarding visual aspects of the proposed project, and consideration of County policies and guidelines related to visual resources.

Actions with long-term visual effects, such as constructing new or altered buildings or structures, grading, vegetation removal, and introducing new sources of nighttime light and daytime glare, can permanently alter the landscape in a manner that could affect existing scenic resources and the visual character or quality of an area, depending on the perspective of the viewer and the visual sensitivity of an area.

5.4 Analysis, Impacts, and Mitigation Measures

5.4.1 Effects on a Scenic Vista

IMPACT AES-1	**The project would not have a substantial adverse effect on a scenic vista**	**No Impact**

As described in the Environmental Setting, SR-25 is the primary transportation route through the southern end of the Santa Clara Valley. It is the primary location from which public views of visual resources in the corridor and beyond are available. Views of and over the agricultural fields to the distant Diablo Range Mountains to the north and over agricultural fields to the Coast Ranges Mountains to the south are widely available from the highway.

These views could be considered rural scenic vistas whose protection warrants consideration when evaluating effects of proposed development that would be visible from SR-25.

SR-25 is a highly travelled commuter, freight, and visitor route with a posted speed limit of 55 miles per hour. Consequently, the frequency of views from the highway to the site is high, especially during commute hours. If existing scenic views of and over the site to the Coast Ranges Mountains to the south were to be blocked or interrupted by the proposed project, existing scenic views could be degraded. This would also be the case if the proposed project created a major change in the form or character of development within the site that could detract from views towards and over the site.

5.4.1.1 Covered Aerated Static Pile and Extended Bed Aerated Static Pile Bunker Visual Effects

The proposed covered aerated static pile (CASP) and extended bed aerated static pile (eASP) bunkers would be the most notable new "vertical" components of the proposed project. The 10-foot high bunkers would replace the existing six-foot high CTI bags existing footprint for MSW composting now conducted using CTI bags for a four-foot net increase in height. The bunkers would be placed within the same footprint as the existing CTI bags. The bunker and CTI bag "density" would be similar – existing CTI bags occupy the vast majority of the surface area within the existing MSW composting area footprint and the Engineered Composting System (ECS) bunkers would do the same.

Views to the bunkers would be entirely blocked from view from the northbound[4] direction on SR-25 by landscaping along the site frontage with the highway, stored composting materials, buildings, and other features within the site. Refer to View 5 in Figure 5-1 for a representative view towards the MSW composting from northbound SR-25.

The bunkers placed along the western boundary of the site would be visible from the southbound direction on SR-25. The bunkers would become visible stating at a point about 900 feet west of the site on SR-25 where open views of the western boundary of the site first become available from the highway; views to the site are blocked by structures and other obstructions prior to this point. From this point, the nearest proposed bunkers would be about 1,400 feet from the viewer. The distance declines to about 750 feet at the point on SR-25 just west of the western site property line. Refer to View 1 in Figure 5-1 for a representative view of the western boundary of the site from SR-25 – existing CTI bags can be seen to the far right in the view.

At these viewing distances from SR-25, the four-foot increase in bunker height relative to existing CTI bags may be noticeable. However, the bunkers would not result in a significant change to existing views of the site or block or interrupt the existing line-of-sight views over the site to the Coast Range Mountains.

Further, the proposed project would not directly affect existing scenic views of agricultural lands because it does not result in loss or conversion of agricultural land.

[4] In the vicinity of the project site, SR-25 runs in an east-west direction. However, because SR-25 is generally a north-south oriented highway, this report uses Caltrans' standard terminology of "southbound" (towards Hollister) and "northbound" (towards US 101 and Gilroy) when referring to traffic on the highway and the direction of travel lanes.

The more muted grayish toned concrete bunkers may be less of a visual distraction to scenic views towards and over the site than the bright white tone of the existing CTI bags.

5.4.1.2 Detention Basin #1 Berm Effects

The proposed new six-foot high earthen berms around the perimeter of modified Detention Basin #1 would not block, interrupt or distract from scenic views. Views of the Detention Basin #1 area are available from northbound SR-25 at a distance of approximately one-half mile. Given the distance to the area, the new berms would not be discernable. In the southbound direction, the berms would likely be screened from view by the taller 10-foot high CASP and eASP bunkers. Thus, the change in berm height would not affect scenic views.

5.4.1.3 Effects of Tree Removal

Trees would be removed at the perimeter of Detention Basin #1. These taller trees along the northern margin of the pond are up to about 40 feet in height and are visible from both northbound and southbound SR-25 from distances of approximately one-half mile. The trees are the only vegetation within the project site that are considered a component of the overall, broad scenic views of agricultural lands and mountains that are available to the south of SR-25. The trees would be removed with the proposed modifications to Detention Basin #1. Once removed, views of the lower elevations of the Coastal Range Mountains that are now blocked by the trees would become more visible. Removing these trees would not adversely affect scenic views because this scenic feature would be replaced by expanded views of the lower Coastal Range Mountains, which are also a feature of existing scenic views.

5.4.1.4 Effects of Overland Conveyor System

Views of the conveyor system from both southbound and northbound directions on SR-25 would be largely blocked from view by landscaping along the site frontage with the highway, stored composting materials, buildings and other features within the site. Refer to Views 3, 4, and 5 in Figure 5-1 for a representative view towards the MSW composting from SR-25.

Furthermore, the distance between viewers on the highway and the conveyor system would be approximately 700 feet, and the maximum height of the conveyor (27 feet above grade) would not be higher than typical stockpile heights in this area of the site.

At these viewing distances from SR-25, some portions of the conveyor system may be noticeable to passing motorists, but would not result in a significant change to existing views of the site or block or interrupt the existing line-of-sight views over the site to the Coast Range Mountains.

5.4.1.5 Effects of Other Improvements

Other project-associated improvements including the new site entrance, SR-25 widening and expanded flood storage facility are not expected to detract from existing scenic views. With the exception of one- to two-foot high retaining walls at the edge of new pavement along SR-25, the SR-25 improvements would not create new horizontal features that could block or interrupt scenic views.

The SR-25 improvements include adding pavement to widen the margins of SR-25 along a portion of the highway frontage with the project site. This change would not affect scenic views. The new entrance improvements consist of additional paving at the entrance itself and for the new internal entrance road. These changes would not affect scenic views. The flood capacity improvement consists solely of excavating soil. The improvements would be made along existing SR-25 and within the existing developed Z-Best site where landforms have already been manipulated by prior grading. Neither SR-25 nor the proposed flood storage expansion area are aesthetic elements of existing scenic views from the highway.

5.4.1.6 Conclusion

The proposed project would not have an adverse effect on existing scenic views of or over the site from SR-25 or on views of existing rural agricultural uses in the project vicinity. The new vertical elements of the project – the CASP and eASP bunkers, the berms around the proposed modified Detention Basin #1, and the overland conveyor system – would not noticeably block or interrupt existing scenic views over the site to the more distant Coastal Range Mountains, and the grayish concrete colored tone of the new bunkers may be less visually distracting that the pure white tones of the existing CTI bags they would replace.

The SR-25 improvements, new site entrance and expanded flood capacity components of the project would not contain noticeable vertical elements that could block or detract from existing broad scenic views of agricultural land or distant mountains – these improvements are of similar visual character as the existing developed uses within the site and the existing highway. Removing existing trees at Detention Basin #1 would expand views to the lower elevations of the Coastal Range Mountains such that existing scenic view quality would not be adversely affected. Given the considerations summarized above, the proposed project would have **no impact** on a scenic vista. No mitigation measures are required.

5.4.2 Visual Character and Quality Effects

IMPACT AES-2	**The project could degrade existing visual character or quality**	**Less than Significant with Mitigation**

As noted previously, SR-25 is the public viewing location from which changes in visual character and quality associated with proposed project improvements and operations would be most sensitive. The discussion of impacts in this section is based on effects of the project on visual character of the site and its surrounding based on changes visible to drivers traveling on SR-25. The duration of views to the site for drivers on the highway is generally short given that speeds on the highway are high.

5.4.2.1 Change Due to Proposed ECS CASP and eASP Bunker Characteristics

The main visual changes associated with the proposed new MSW composting process would be due to the replacement of the approximately 6-foot tall CTI bags with 10-foot tall concrete bunkers. In the northbound direction on SR-25, the existing MSW composting

area where this change would occur is blocked from view by landscaping, materials storage piles, buildings, and other on-site features.

The increase in bunker height would be noticeable only from the southbound direction on SR-25, starting approximately 900 feet west of the Z-Best site where open views of the western site boundary first become available. The duration of this view is short given the high speeds on the highway. At that point, the nearest proposed bunkers would be about 1,400 feet from the viewer. The view distance declines to about 750 feet just west of the western site property line. At these distances the additional height of the bunkers may be noticeable, but the form and pattern of the bunkers is not likely to appear substantially different than the existing CTI bags they would replace. Like the existing CTI bags, the bunkers would appear largely as a band of light color along a segment of the western site boundary.

As noted in the Impact AES-1 discussion above, the more muted greyish toned bunkers may be less of a visual distraction to scenic views of and over the site than the bright white tone of the existing CTI bags. Please refer to Figure 4-3, Representative Covered Aerated Static Pile Photographs, for reference to the finished tone of representative concrete bunkers.

Given the considerations noted above, the change from CTI bags to proposed ECS bunker improvements would not substantially degrade existing visual character or views of the site or its surroundings.

5.4.2.2 Detention Basin #1 Berm Effects

The proposed new six-foot high earthen berms around the perimeter of Detention Basin #1 would not degrade the existing visual character. Views of Detention Basin #1 area are available from northbound SR-25 at a distance of approximately one-half mile. Given the distance to the area, the new berms would not be discernable. In the southbound direction, the berms would be screened from view by the taller 10-foot high CASP and eASP bunkers in the foreground of the view. In short, the change in berm height would not adversely impact the visual character of quality of the site or surrounding area as seen from SR-25.

5.4.2.3 Effects of Overland Conveyor System

The overland conveyor system would not degrade the existing visual character of the area. The area is a working industrial operation with various pieces of equipment and machinery. As previously noted, views of the conveyor system would largely be blocked from view from SR-25 due to existing vegetation, stored composting materials and buildings. At the approximately 700-feet viewing distance from SR-25, some portions of the conveyor system may be briefly visible to passing motorists but would not be readily distinguishable from other mobile equipment operating at the site.

5.4.2.4 Effects of Other Improvements

Other project improvements including the new site entrance, SR-25 widening, and expanded flood storage facility would not substantially degrade existing visual character. Please refer to the discussion under Impact AES-1 above and to Section 4.0, Project Description, for more information on the characteristics of these improvements. As described under Impact AES-1, the SR-25 improvements consist largely of adding

additional pavement and placing a one- to two-foot high retaining wall at the edge of new pavement along both sides of the highway that would serve to direct storm water runoff to storm drains. These features would not substantially degrade existing visual character, as they would be made in the visual context of an existing highway adjacent to a developed site. Widening the roadway would require that ruderal vegetation at the margins of the highway be removed and existing drainage ditches filled and replaced with storm water piping. Ruderal vegetation is common along the highway margins and is not considered to notably contribute to existing visual character along the SR-25 frontage with the site.

The new site entrance would require paving at the site entrance and for the new on-site driveway. About 10 existing planted ornamental poplar trees would be removed to construct the driveway. They comprise a small number of the approximately 200 ornamental poplars that were planted by Z-Best in a linear configuration along the site frontage with SR-25 to help screen site facilities from view from the highway. The poplars do not form a full vegetative screen. Please see Views 3 and 4 in Figure 5-1 for representative views of the degree to the poplar plantings screen the site from view. Gaps in plantings allow intermittent views of the site from the highway. Removing 10 of the poplars would not substantially change the extent to or duration for which existing facilities are screened from view from the highway. The new site entrance and driveway changes would not themselves substantially degrade existing visual character and would be made within the existing visual context of an existing development site.

The flood capacity expansion change will alter existing topography in an approximately 4.5-acre portion of the site adjacent to the highway that has already been altered by Z-Best's prior grading activities. The excavation would not alter landform in a manner that is inconsistent with existing adjacent, modified landforms. This change would not substantially degrade existing visual character.

5.4.2.5 Visual Effects of Litter

Existing issues related to litter from Z-Best's operations are described in Section 3.1, Environmental Setting. As noted there, some wind-blown trash and other litter escapes from the MSW processing area that is located near the highway. A 33-foot high litter fence located along the site frontage with SR-25 is designed to capture the wind-blown litter. Litter caught in the fence, that escapes outside the site onto SR-25, and/or that may incidentally fall from or be blown from MSW haul trucks arriving at the site is also a source of visual degradation as seen from SR-25.

At the direction of the County LEA, Z-Best implements measures to control dust and litter accumulation. A commercial street sweeping company is used to perform street sweeping two times per week on SR-25 along the site frontage and to the east and west of the site on the highway. Z-Best also operates a street sweeper for use at asphalted areas on site. An employee operates the street sweeper full time (Z-Best n.d.).

The County LEA has the authority to issue Z-Best a permit violation if Z-Best fails to regularly conduct clean-up activities. The LEA's monthly inspection reports are public information. Additionally, the LEA and the Z-Best's Operations Manager are available to field complaints about Z-Best operations, including litter and debris conditions (Z-Best 2019).

With the proposed project, the daily volume of MSW processed at the site will increase from 700 tons per day to 1,575 tons per day – an 875-ton (125%) increase. With the change, the potential will increase for litter to escape during initial MSW screening and sorting activities. This could result in additional litter being caught in the litter fencing along the highway.

Additional potential would exist for litter to escape from transport trucks traveling the SR-25 corridor. Therefore, the potential for aesthetic conditions at the site and along the highway to degrade as viewed from SR-25 could increase if Z-Best does not conduct adequate litter management activities. This would be considered a potentially significant aesthetic impact.

The County LEA has the discretion to require Z-Best to increase litter collection and clean-up activities as needed to ensure that litter is being managed to avoid creating a litter nuisance and associated aesthetic impacts. Implementation of mitigation measure MM-AES-2 would be required.

MM-AES-2: Litter Control

Z-Best shall augment its existing litter management activities to ensure that no increase in litter attributable to the increase in operations under the proposed project would be visible from SR-25.

A. *On-Site Litter Management Plan: Prior to the County LEA's approval of a revised Solid Waste Facilities Permit, the applicant shall submit an updated on-site litter management plan for the LEA's review and approval that describes how project-generated litter will be managed to avoid visual impact. The plan shall include, but not be limited to, the following measures:*

    1) *Procedures for minimizing the generation of litter from on-site activities such as unloading/loading and screening.*

    2) *Regular inspections of the project site to identify and clean up any litter that may be generated by on-site operations.*

    3) *Increased frequency of current clean-up activities, such as trash removal from the litter fence and on-site street-sweeping to the extent needed to prevent any increase in the visibility from SR-25 of litter along the project frontage.*

    The County LEA shall continue to conduct regular monitoring of Z-Best on-site litter management activities to ensure the updated on-site litter management plan is implemented.

B. *Off-Site Litter Management Plan: The modified Use Permit conditions shall require the applicant to comply with an off-site litter management plan. The applicant shall submit a proposed litter management plan to the County Planning Department for review and approval. The plan shall include, but not be limited to, the following measures:*

    1) *Procedures and penalties to discourage haul trucks arriving on site or transporting non-compostable materials from the facility from failing to properly secure their loads to minimize potential for generation of litter in-transit to or from the facility.*

2) *Regular inspections of the SR-25 right-of-way adjacent to the project site and extending at least a half-mile in either direction of the facility to identify and clean up any litter that may be generated by trucks hauling materials to or from the site.*

3) *Increased frequency of clean-up activities, such as trash removal from the project site frontage and street-sweeping within the Caltrans right-of-way to the extent needed to prevent any increase in litter along the project frontage.*

Implementation of mitigation measure MM-AES-2 would reduce the potential that the proposed project would worsen litter-related aesthetic impacts by increasing the frequency with which Z-Best would be required to conduct litter clean-up activities. With this mitigation, the potentially significant litter impact would be reduced to less than significant with mitigation.

5.4.2.6 Project Visual Effects at a Gateway to Santa Clara and San Benito Counties

The Z-Best site is located at the border between Santa Clara County and San Benito County. The border is the Pajaro River. State Route 25 is one of the main routes into and out of San Benito County and the City of Hollister from Santa Clara County. Though not directly related to the thresholds of significance, the issue of gateways is discussed here for informational purposes as it relates to the project's potential effects on visual quality. Two comments on the NOP recommended that the aesthetics impacts of the proposed project be considered in the context of its location at a gateway to the County of San Benito, with those concerns based on aesthetics effects of Z-Best's existing facilities and operations.

The project site is not within a "scenic gateway" as identified in County of Santa Clara General Plan policy R-PR 41. The designated scenic gateways to South Santa Clara County are Pacheco Pass, Hecker Pass, Route 101 south of Gilroy and a Coyote greenbelt area north of Morgan Hill. The policy calls for protecting the visual integrity of these gateways. The County of San Benito General Plan Scenic Resources Element does not include gateway designations, although it does identify the segment of SR-25 within San Benito County as eligible for scenic highway designation (San Benito County 2015).

As previously discussed in this Section 5.4, with the exception of potential visual impacts associated with increased litter, the proposed project would not otherwise adversely affect visual resources within the SR-25 corridor. The potential visual impacts related to litter would be mitigated to less-than significant with implementation of mitigation measure MM-AES-2.

5.4.2.7 Conclusion

Based on the information presented above, with the exception of the potential for increased litter generation and its adverse impact on the visual quality of the site and surrounding areas, none of the other individual components of the proposed project would alter existing visual conditions to the extent that a substantial adverse change in visual character of the site or surroundings would occur. Any increase in litter within the site that would be visible from SR-25 or increase in litter on SR would substantially

degrade the visual quality of the site and the surroundings and would decrease visual quality at non-designated gateway to San Benito County. Implementation of mitigation measure AES-2 would reduce this impact to less than significant. Therefore, the proposed project impact from creating a substantial adverse change to the visual character of the site or surrounding area would be **less than significant with mitigation.**

5.4.3 Impacts of New Sources of Light and Glare

IMPACT AES-3	**The project would not introduce new sources of light or glare that would adversely affect daytime or night-time views**	**Less than Significant**

The County of Santa Clara does not have ordinances or other standards that quantify acceptable lighting levels or intensities. In lieu of quantified criteria the following discussion of proposed new lighting identifies its photometric characteristics and features that would affect spillover of lighting to the adjacent off-site property or sky glow effects from uplighting (casting of light above a horizontal plane extending outward from a lighting fixture). Both lighting spillover and sky glow effects may detract from nighttime views.

5.4.3.1 Lighting

Two new lighting fixtures are proposed to illuminate the approximately 60,000 square-foot area in the northwest of Area 1 planned as a new screening area, and additional lighting would be installed on the southern corners of the office/shop building, and northwest corner of the processing building.

The two screening area lights would be mounted on 20-foot poles along the western edge of the screening area, as shown on Figure 4-1, Proposed Site Plan (labeled “Luminaire LED”). The associated label data represents photometric rating information. The nearest of these light fixtures would be approximately 900 feet from SR-25, and approximately 40 feet from the western property boundary. The new office/shop lights would be approximately 350 feet from SR-25 and directed away from the highway. The new processing building light would be approximately 530 feet from SR-25.

The applicant selected the proposed lighting based on the planned nighttime use of the screening area and related operations of mobile and stationary equipment. Nighttime operations require lighting that provides safe working conditions for the type and level of activity planned. LED lighting is proposed.

Each of the proposed fixtures (or luminaires) has a horizontal illumination intensity of 100 lux and a vertical illumination of 30 lux. A lux is a measurement of light level intensity. The fixtures would represent the most efficient white LED available. The light will appear white to bluish-white. To provide context for the intensity of lighting proposed, examples of recommended lighting levels for commonly known workspaces include warehouses (150 lux), loading docks (200 lux), normal office working areas and showrooms (250 lux), supermarkets (750 lux), and detailed mechanical work areas (1,500 to 2,000 lux) (National Optical Astronomy Observatory n.d.).

Based on the proposed height of the fixtures, a photometric backlight distribution rating for the lighting was selected that would minimize the amount of backlight beyond the western property line onto land in agriculture use. The selected lighting would allow zero percent uplighting to avoid vertical light pollution (sky glow) effects above the horizontal height of the fixtures. Lighting intensity would be directed downward and horizontally towards the east to illuminate the screening area working surface.

Given the photometric characteristics of the proposed lighting regarding minimization of backlight splay off site and zero percent uplighting, the impact of the new lighting from sky glow that could adversely affect nighttime views, particularly from SR-25, would be less than significant.

As noted in the Regulatory Setting section above, the proposed project is subject to Architectural and Site Approval. The project design must adhere to the Architectural and Site Approval guidelines, which in part state that “external lighting, when used, should be subdued. It should enhance design and landscaping, as well as provide for safety and security. It should not create glare for occupants, neighboring properties or streets” (Santa Clara County 1981, p. 10). Through the Architectural Architecture and Site Approval review process, the applicant would be required to submit an outdoor lighting plan to verify that the photometric characteristics of the proposed lighting assure that no light source is visible from off the property and that uplighting will be avoided to minimize sky glow prior to issuance of grading permit. Based on review of the project lighting plans, it is not expected that revisions to proposed lighting plans would be needed to comply with the guidelines.

Given the information presented above regarding the location and number of new lighting fixtures, the photometric characteristics of the fixtures, and the additional review/verification of lighting characteristics through the Architectural and Site Approval process, the proposed project would have a **less-than-significant impact** on nighttime views.

5.4.3.2 Glare

The proposed project would not introduce substantial new sources of glare to the project site. The majority of the new site features would be grading changes or concrete bunkers, and would not have reflective surfaces that could result in glare. The new overland conveyor is metal, but is painted with a matte finish that is not reflective.

6 Agriculture and Forestry Resources

This section describes existing agricultural and forestry resources in the vicinity of the project site and evaluates the potential impacts of the proposed project on such resources.

Information in this section is derived from a variety of sources including:

- County of Santa Clara 2020 Crop Report (County of Santa Clara Division of Agriculture 2020)
- Santa Clara County Important Farmland Map (California Department of Conservation 2018b)
- County of Santa Clara Geographic Information System (County of Santa Clara 2022)
- Memorandum: Z-Best Composting Facility - Evaluation of potential bioaerosol emissions from proposed project operations compared to existing operations (AECOM 2022, see Appendix B-6).
- Best Management Practices for Incorporating Food Residuals into Existing Yard Waste Composting Operations (US Composting Council 2019).

This section also addresses comments raised during the scoping period and on the original Draft EIR relating to agriculture and forestry resources, to the extent that they are still relevant to the currently proposed project. Such comments include:

- Concerns regarding potential impacts of the project on adjacent agricultural land uses, particularly with respect to airborne transport of debris and transfer of potential pathogens by air or groundwater, and requested consideration of mitigation such as perimeter fencing.

6.1 Environmental Setting

6.1.1 Regional Setting

Santa Clara County is the state's 29th largest agricultural county in terms of the total value of agricultural production (U.S. Department of Agriculture 2022). The total gross valuation for all agricultural commodities produced in Santa Clara County in 2020 was approximately $333 million. In 2020, nursery crops had the highest crop value ($92 million), followed by mushrooms ($75.8 million), bell peppers ($17.8 million), lettuce ($13.1 million), and spinach ($12.4 million) (County of Santa Clara Division of Agriculture 2020). Agricultural lands are not only of great economic importance, but also may provide wildlife corridors, habitat for plans and animals, diverse ecosystems, carbon sequestration, soil benefits, space for recreation, and improve biodiversity (Santa Clara County Agricultural Commissioner's Office 2015).

The California Department of Conservation's Important Farmland classifications—Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance—identify the land's suitability for agricultural production by considering physical and chemical characteristics of the soil, such as soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications also consider location, growing season, and moisture available to sustain high-yield crops. (See "Regulatory Setting" below, for detailed descriptions of Important Farmland classifications.)

Table 6-1 summarizes acreages of agricultural land in Santa Clara County between 2014 and 2018 and shows the net change in acreage over that 4-year period. Overall, the total acreage of Important Farmland increased by approximately 68.9 percent over the 4-year period to a total of 44,962 acres in 2018, mostly due to a substantial (390 percent) increase in the acreage of land identified as Farmland of Local of Importance which offset smaller decreases in other categories. The total acreage of grazing land decreased by 4.8 percent over the same time period to 374,836 acres, and the total of all agricultural land decreased by 0.1 percent to 419,798 acres (Table 6-1).

Table 6-1 Summary of Agricultural Land Conversion in Santa Clara County

Important Farmland Category	Acres		Net Change in Percent (2014–2018)
	2014	2018	
Prime Farmland	15,691	14,370	-8.4
Farmland of Statewide Importance	3,383	3,293	-2.7
Unique Farmland	2,441	2,236	-8.4
Farmland of Local Importance	5,105	25,063	391
Important Farmland Subtotal	**26,620**	**44,962**	**68.9**
Grazing Land	393,535	374,836	-4.8
Agricultural Land Total	**420,155**	**419,798**	**-0.1**

Source: DOC 2016, 2018

Under the California Land Conservation Act of 1965, also known as the Williamson Act, local governments can enter into contracts with private property owners to protect land (within agricultural preserves) used for commercial agricultural and limited open space purposes. Santa Clara County had approximately 210,832 acres of land under active Williamson Act contracts in 2022 (County of Santa Clara 2022). The majority of lands enrolled in Williamson Act contracts are found in the eastern portion of southern Santa Clara County.

The State defines forest land and timberland as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits (California Code of Regulations, 12200).

6.1.2 Local Setting

The Z-Best facility was constructed on agricultural fields between 1998 and 2002. Since then, almost the entire property has been modified with access roads and buildings, graded and compacted MSW and green waste composting pads, surface water drainage facilities, a parking lot, pads for processing MSW and green waste, detention facilities, etc.

Most of the soils within the project site are classified as Prime Farmland Soils, the remainder being classified as Statewide Importance Soils (County of Santa Clara 2022). According to the Santa Clara County Important Farmland Map, published by the California Division of Land Resource Protection (DOC 2018b), approximately 70 acres of the project site is designated as Farmland of Local Importance, and approximately 76 acres is designated as Other Lands. The project site does not include any lands under an active Williamson Act contract.

The project site is designated as Agriculture–Large Scale (40-acre minimum lot size) in the Santa Clara County General Plan and is zoned as Exclusive Agriculture, 40-acre Combining District ("A-40ac"). The A-40Ac zoning designation is aimed to preserve and encourage the long-term viability of agriculture and agricultural lands, and to reserve those lands most suitable for agricultural production for agricultural and appropriate related uses. The zoning ordinance states that this district is also intended to retain in open space uses those lands which may be suitable for future urbanization until a time in which they can be included within a city's urban service area. Composting and wood processing activities are conditionally allowed uses with the approval of a use permit.

Areas surrounding the project site are also designated as Agriculture-Large Scale (40-acre minimum lot size) and zoned as A-40ac. The parcels immediately to the east and north of the project site are designated as Farmland of Statewide Importance while the parcels immediately south and west are designated as Prime Farmland.

In particular, a 570-acre portion of Sargent Ranch to the immediate south of the project site is used to grow various vegetable crops for human consumption. According to comments submitted on the original Draft EIR (Willoughby Farms 2021; Taylor 2021; JRG 2021), nine blocks of the ranch closest to the Z-Best site (approximately 135 acres or 24 percent of the ranch) are currently left fallow because they are unsuitable for vegetable production due to stringent industry food safety protocols imposed by the food crop buyers such as Dole Vegetables and Taylor Farm foods. The comments state that the current Z-Best composting operation pollutes the ranch with airborne particles (bioaerosols) and attracts birds and other pests to the area which deposit feces on the adjacent fields (Taylor 2021; JRG 2021).

The nearest parcel to the project site that is under an active Williamson Act contract is immediately east of the project site (Assessor's Parcel Number #84137009). None of the other adjacent properties are under active Williamson Act contracts; however, some Williamson Act lands are present approximately 0.25 mile to the north and 0.8 mile to the west of the project site (Santa Clara County Planning 2020).

The project site and adjacent areas are not zoned as forest land or timberland, and there are no forestry uses in or around the project site. There are no forest or timber resources present on the project site or adjacent parcels.

6.2 Regulatory Setting

6.2.1 State

6.2.1.1 California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, most often referred to as the Williamson Act, is California's primary program for preservation of agricultural land and certain types of open space. According to California Government Code Section 51220, the legislature found that preservation of a maximum amount of agricultural lands was imperative for not only the agricultural economy of the State, but also for providing adequate, healthful, and nutritious food for future residents of the State and Nation.

The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land for agricultural use for a minimum of 10 years. As an incentive, property owners receive reduced property taxes. The State provides counties with partial replacement of forgone local property tax revenues via the Open Space Subvention Act. The California Department of Conservation (CDC) provides guidance and oversight to local governments to make sure they are consistent with the California Government Code.

As defined in the Williamson Act, Prime Agricultural Land means any of the following:

- All land rated as class I or class II by Natural Resources Conservation Service (NRCS) Land Capability Classification;
- Land which qualifies for rating 80 through 100 in the Storie Index Rating;
- Land that supports livestock used for the production of food and fiber and has an annual carrying capacity equivalent to at least one animal unit per acre;
- Land planted with cash crops that have a return of no less than $200 per acre; or
- Land which has an annual gross value of no less than $200 per acre for three of the past five years. (Government Code § 51201(c).)

6.2.1.2 California Department of Conservation Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established by the State of California in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Soil Conservation Service (now called the Natural Resources Conservation Service, under the U.S. Department of Agriculture). The intent was to produce agricultural resource maps, based on soil quality and land use across the nation. The Department of Conservation sponsors the FMMP and also is responsible for establishing agricultural easements, in accordance with California Public Resources Code (PRC) Sections 10250–10255.

The Department of Conservation FMMP maps are updated every two years based on use of aerial photographs, a computer mapping system, public review, and field reconnaissance. The following list provides a comprehensive description of all the categories mapped by the Department of Conservation (DOC 2019):

Prime Farmland—Land that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields.

Farmland of Statewide Importance—Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.

Unique Farmland—Land of lesser quality soils used for the production of the state's leading agricultural cash crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.

Farmland of Local Importance—Land that is of importance to the local agricultural economy, as defined by each county's local advisory committee and adopted by its board of supervisors. The Santa Clara County Board of Supervisors has defined Farmland of Local Importance to consist of small orchards and vineyards primarily in the foothill areas; land cultivated as dry cropland for grains and hay; and undeveloped lands that do not currently qualify for the Prime, Statewide, or Unique designations, but have been mapped as Prime, Statewide, Unique, or Local Importance designations by FMMP in the past (DOC 2018b).

Grazing Land—Land with existing vegetation that is suitable for grazing.

Urban and Built-Up Lands—Land that is used for residential, industrial, commercial, institutional, and public utility structures and for other developed purposes.

Other Lands—Land that does not meet the criteria of any of the previously described categories and generally includes low-density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined-animal agriculture facilities, strip mines, borrow pits, and vacant and nonagricultural land surrounded on all sides by urban development. In Stanislaus County, Other Land is further divided into five subcategories: Rural Residential Land, Semi-Agricultural and Rural Commercial, Vacant and Disturbed Land, Defined Animal Agriculture, Nonagricultural and Natural Vegetation.

Important Farmland is classified by the Department of Conservation as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. Under CEQA, the designations for Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are defined as "agricultural land" or "farmland" (PRC Sections 21060.1 and 21095, and CEQA Guidelines Appendix G).

6.2.2 Local

6.2.2.1 County General Plan

The *Santa Clara County General Plan* (1994) includes the following policies that apply to the proposed project.

- Policy R-RC 57: Agriculture should be encouraged and prime agricultural lands retained for the following:
  a. Local food production;
  b. Productive uses of land not intended for urban development; and
  c. Preservation of diminishing natural resource and prime agricultural soils.
- Policy R-RC 58: Adequate inventories, mapping and monitoring of agricultural land should be maintained.
- Policy R-GD 3: Land uses and development permitted under County jurisdiction shall be consistent with the following major County policies:
  a. Preservation of agriculture; and
  b. Preventing unwanted or premature development that would exclude future development in areas more suitable.
- Policy R-RC 59: Sizable remaining agricultural lands shall be preserved in large parcels in order to:
  a. Stabilize long-term land use patterns;
  b. Allow for long-term agriculture investments;
  c. Facilitate entry of individuals into agricultural livelihoods; and
  d. Avoid introduction of incompatible development in agriculture areas.
- Policy R-RC 61: Allowable land uses in exclusive agriculture zones shall be limited to:
  a. Agriculture and ancillary uses;
  b. Uses to directly support local agriculture; and
  c. Other uses compatible with agriculture that enhance the long-term viability of local agriculture and agricultural lands.
- Policy R-RC 65: The long-term economic viability of agricultural activities shall be maintained and enhanced by promoting:
  a. Improved markets for locally-grown products;
  b. William Act provisions for property tax relief;
  c. Use of innovative, more cost-efficient growing techniques;
  d. Review of the economic impacts of regulation and other means of enhancing competitiveness; and
  e. Adequate agricultural worker housing.

6.3 Thresholds of Significance and Analysis Methodology

6.3.1 Thresholds of Significance

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of impacts to agricultural and forestry resources, as it does on a whole series of additional environmental topics. Lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance (*Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.) Rather, with few exceptions, "CEQA grants agencies discretion to develop their own thresholds of significance." (*Ibid*.) Even so, it is a common practice for lead agencies to use the language from the inquiries set forth in Appendix G in fashioning significance thresholds. The County has done so here. Therefore, for purposes of this EIR, a significant impact would occur if implementation of the proposed project would:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;

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

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code section 51104(g));

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

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

6.3.2 Issues or Potential Impacts not Discussed Further

6.3.2.1 Impacts to Forest Land and Timberlands

As described in the Environmental Setting section, the project site and surrounding areas are not zoned for, nor do they contain any forest land or timberlands. Consequently, there is no potential for the proposed project to conflict with existing zoning or forest land/timberland or result in the loss or conversion of forest land and no further discussion of these issues are necessary.

6.3.3 Analysis Methodology

Section 6.4 below evaluates whether the proposed project would result in significant impacts on agricultural resources. The significance criteria above were used to evaluate the proposed project's effects on agricultural resources relative to the existing baseline

condition. The analysis is based on review of existing land uses and farmland designations, review of project application materials and communications submitted by the applicant, and consideration of County zoning, policies and guidelines related to agricultural resources. Direct impacts include physical conversion of existing agricultural land into non-agricultural uses. Indirect impacts include physical changes to the environment that might foreseeably result in agricultural land (either on subject property or adjacent properties) no longer being used for agricultural purposes.

6.4 Analysis, Impacts, and Mitigation Measures

6.4.1 Conversion of Farmland to Non-Agricultural Use

IMPACT AFR-1	**The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use**	**No Impact**

The Z-Best project site is not designated as Prime or Unique Farmland or as Farmland of Statewide Importance and is not actively used for agricultural purposes. Some of the parcels directly adjacent to the project site are designated as Farmland of Statewide Importance (California Department of Conservation 2018).

The proposed project would not involve any changes in land use nor expand the footprint of the existing facility onto adjacent agricultural land, because all changes would occur within the existing facility footprint. Therefore, the proposed project would not convert designated Farmland to non-agricultural use. There would be **no impact.**

Note: Comments received on the original Draft EIR raised concerns that the increased throughput of MSW at the Z-Best facility proposed by the project would cause indirect impacts to agricultural resources by increasing the amount of land that could not be farmed due to food safety rules, pollution by airborne particles, and/or increased vector activity (birds, insects, and mammals) in the vicinity (Willoughby Farms 2021; JRG 2021). These concerns are addressed in Impact A-3, below.

6.4.2 Conflict with Agricultural Zoning

IMPACT AFR-2	**The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract**	**No Impact**

The project site is not under a Williamson Act contract (Santa Clara County Department of Planning and Development Geographic Information System (GIS) Planning Office 2020). The project site is located within the Exclusive Agriculture, 40-acre Combining District (“A-40ac”). In this land use zone, composting and wood processing activities are conditionally allowed uses with the approval of a use permit. The Z-Best facility has an existing Use Permit which would need to be amended to authorize the proposed project. Therefore, the proposed project would not conflict with existing zoning for agricultural use, or with a Williamson Act contract. There would be no impact.

6.4.3 Indirect Conversion of Farmland to Non-Agricultural Use

IMPACT AFR-3	The project would not involve other changes in the existing environment which could result in conversion of Farmland to non-agricultural use	Less than Significant

As described previously, comments received on the original Draft EIR raised concerns that the proposed increase in MSW throughput at the Z-Best facility would cause indirect impacts to agricultural resources by increasing the amount of land that could not be farmed due to pollution by airborne particles, increased vector attraction (birds, insects, and mammals), tree removal (resulting in increased bird movement on *adjacent* properties), and/or food safety requirements (Willoughby Farms 2021; JRG 2021). Specific concerns are addressed in turn below.

6.4.3.1 Pollution by Airborne Particles

In response to comments received on the original Draft EIR, AECOM industrial hygiene and microbiology staff conducted extensive research and evaluated the potential for the proposed project to increase bioaerosol emissions from the Z-Best facility. The evaluation and its findings are presented in Appendix B-6, *Memorandum: Z-Best Composting Facility Evaluation of Potential Bioaerosol Emissions from Proposed Project Operations Compared to Existing Operations*. Bioaerosol dispersion from the multiple onsite sources and potential impacts on the viability of horticultural activities on adjoining parcels is highly complex; however, a summary of the chief factors abstracted from the above-referenced memorandum are presented below to inform this assessment.

As discussed in more detail in Section 6.4.3, bioaerosol concentrations quickly reduce with distance, and previous studies at other facilities have found that concentrations typically reduce to background levels within approximately 75 to 300 meters (246 to 984 feet) downwind of composting activities. It is understood that the northernmost fields of the adjacent ranch (within approximately 1,200 feet of the Z-Best site) are currently fallowed, in accordance with industry guidance requiring setback of food crop fields from active composting facilities (Taylor 2021; Willoughby Farms 2021).

The predominant wind direction in the vicinity of the site is from the west-southwest (Englobe 2019), which is away from the adjacent Sargent Ranch property. Active MSW composting (and the proposed Engineered Composting System [ECS] technology) would occur within the southwest portion of the Z-Best facility; therefore, the majority of the time the remainder of the Z-Best property would act as a buffer between the areas of active MSW composting and adjacent properties. See Appendix B-6 for more details.

Furthermore, the potential for aerial deposition of enteric pathogens on nearby food crops from MSW compost is not supported by the literature. Many of the research studies that have been conducted and that were cited in the public comments on the original Draft EIR (JRG 2021 and attached exhibit by Suslow 2021) were based on water-based impacts from contaminated irrigation systems. Based on findings of other relevant studies, as detailed in Appendix B-6, the available literature pertaining to composting facilities supports that most enteric pathogens (e.g., *E. coli* or *Salmonella*) would become inactivated by the heat of the primary composting process and thus an

increased risk of enteric pathogens to adjacent food crops from the proposed project would not be expected.

For the reasons described above, the proposed project is not anticipated to result in a substantial increase of aerial deposition of enteric pathogens on adjacent land that is currently used for crop production.

6.4.3.2 Increased Vector Attraction

The existing Z-Best composting facility currently stores MSW compost in plastic bags that are not open to the air. Under the proposed project, the existing plastic bags would be replaced by 10-foot tall, 3-sided bunkers made of solid cast concrete. Public comments received on the original Draft EIR raised concerns about the replacement of the currently fully enclosed bagged composting system used during the primary composting stage (when MSW is at its rawest form) with open air composting bunkers and the potential for vectors such as birds or rats to transport this food waste and associated pathogens off-site to areas that are being actively farmed.

As discussed in Section 7, *Air Quality and Odors*, the proposed project would replace the existing CTI system with the ECS system of composting, which would reduce odors coming from the facility, which can attract small mammals such as rats and mice. With the proposed ECS system, the fresh MSW feedstock added to the primary bunkers would be covered by a 6- to 12- inch bio-layer of pre-composted material or screened overs which are not a food source to vectors (ECS 2016). This bio-layer would reduce volatile organic compounds and odors commonly released during the composting process, which are commonly the cause of vector attraction.

The bunkers are not anticipated to provide habitat for rodents or other small mammals, as the solid cast concrete would be void of any potential nesting substrate. Additionally, the compost would be moved from primary to secondary bunkers frequently (every 3 to 4 weeks, compared to 14 weeks within the CTI bags), further deterring small mammals, such as rodents, from nesting within the bunkers. While the composting bunkers would be open at the top and one side, these faces would be covered with a 6-inch bio-layer comprised of pre-composted materials. As discussed above, this bio-layer would be void of foraging material, and would also serve as a physical barrier restricting pests' ability to access the potentially pathogenic compost underneath. Small mammals would have to dig through the 6-inch layer of previously composted material to get to the active and potentially pathogenic compost material. The bio-layer would also provide insulation which would keep the composting material beneath hot enough to be unattractive to burrowing vectors (e.g., rodents and insects). The installation of the updated composting infrastructure and the implementation of the ECS system of composting is anticipated to minimize small mammals' ability to forage and nest within the facility, thereby curtailing the presence of such wildlife and reducing the risk of their ability to transport pathogens off-site.

The proposed ECS system would also allow for greater monitoring and control of aeration, temperature, and moisture conditions within the bunkers than the existing CTI system, allowing better adherence to best management practices (BMPs) recommended by the U.S. Composting Council (USCC 2008).

The USCC BMPs state:

> *"Part of protecting health is proper management of the compost piles. Ongoing odors will attract disease-carrying pests, and poorly managed piles may generate temperatures too low to kill pathogens. As previously stated, piles must sustain temperatures of at least 131ºF to kill living contaminants. Piles should be monitored for temperature and results should be recorded (every few days for the first month; and weekly thereafter). The US Composting Council recommends that facilities handling food residuals meet the time and temperature requirements of EPA's Process to Further Reduce Pathogens (PFRP). This process, first developed for composting sludge into biosolids, assures that virtually all human pests and pathogens are destroyed." PFRP requirements vary depending on whether the operator is using windrows or aerated static piles… For aerated static piles: maintain a minimum of 131ºF (55ºC) for three days. This assumes that the pile is covered with insulation, such as 6 inches of finished compost, so that the whole mass reaches the critical temperature."*

The EPA's PRFP requirements for temperature control (EPA 2003) are also consistent with food safety industry requirements for composted animal manure products that are used on food crops (McDonalds 2012; Dole 2020; Taylor Farms 2021).

As discussed above, the proposed ECS system would allow for greater temperature and moisture control within the primary composting phase, and include a 6-inch bio-layer, both of which would reduce the amount of volatile organic compounds and odors released during the composting process, which are commonly the cause of vector attraction. Although the project would approximately double the volume of MSW waste processed at the site, the time period to process the MSW would be approximately halved, thereby, the amount of MSW compost on site at any one time would be similar under both proposed and existing conditions. Furthermore, the time taken for the compost to reach pathogen-reduction temperatures would be substantially reduced with the ECS system (approximately 3 days), compared to 5-6 days under the existing CTI system.

Due to the reasons described above, the proposed project is not anticipated to increase the number of vectors attracted to the Z-Best facility, and could result in decreased vector attraction.

6.4.3.3 Tree Removal

According to the public comments received on the original Draft EIR (JRG 2021), the presence of birds at the Z-Best facility already causes issues on the adjacent Sargent Ranch property. The comments expressed concern that the proposed removal of a row of ornamental poplar trees along the SR-25 frontage would reduce the amount of available on-site nesting sites within the Z-Best facility, which the comments believed could lead to an increase in birds nesting on and flying over the adjacent ranch property, resulting in higher amounts of defecation within their agricultural lands, which could contaminate food crops and pose a human health and safety risk.

Although bird roosting/nesting habitat at the project site would be reduced by the project, the number of trees removed would be relatively small – 10 of 200 poplars, and the approximately 20 tall trees surrounding Detention Basin #1. As discussed above in the assessment of vector attraction, the MSW composting area of the facility would be less attractive to birds under the proposed project compared to existing conditions. Therefore, the proposed project is unlikely to result in a substantial increase in the

number of birds flying over or roosting on the adjacent properties. Moreover, any potential increase in bird flyovers/roosting would not be considered an environmental impact under CEQA. The economic/financial effects due to potential loss of land value due to the ongoing need to pay rent on fallow blocks are not considered physical environmental impacts under CEQA (Taylor 2021; Willoughby 2021).

6.4.3.4 Food Safety Guidelines

Several commercial buyers of produce have rules or guidelines concerning the growth of food crops in proximity to various activities, including required setback distances from composting facilities (Dole Foods 2019; McDonalds 2012; Taylor Farms 2021). The industry guidelines for setbacks of food crop production from composting facilities appear to be based on a fixed distance from the facility and not the quantity of material processed or the method of composting. The distances vary widely between guidelines, and none of the guidelines include an explanation of how the required setback distance was calculated nor the specific food safety risks they are intended to address.

For example, Taylor Farms requires a setback of 1,200 feet (366 meters) from composting operations involving manure or animal products (Taylor Farms 2021); Dole Foods prohibits the storage of composted manure on or adjacent to growing crops subject to a 1,200 feet buffer (Dole Foods 2019; 2020); and McDonalds requires a setback of 1 mile (5,280 feet or 1,609 meters) from any commercial composting facility or requires risk mitigation strategies if such a setback cannot be maintained (McDonalds 2012).

As noted in the public comments received on the original Draft EIR, the adjacent Sargent Ranch property already fallows the nine blocks immediately adjacent to the Z-Best Facility due to the required setback from the existing Z-Best composting operations. Because the industry rules are based on a fixed distance from the composting facility, and because the proposed project would not increase the geographical size nor alter the boundaries of the composting facility, the industry required setbacks for food crops from the Z-Best site would not change as a result of the project.

6.4.3.5 Summary

In summary, the proposed project is anticipated to reduce the attractiveness of MSW composting activities to vectors such as rats and birds, and is unlikely to result in a substantial increase of aerial deposition of enteric pathogens on adjacent crop land. Although the removal of trees that may be used as nesting sites for birds may contribute to an increase in bird activity over neighboring agricultural lands, this would be at least partially offset by an anticipated reduction in the number of birds attracted to the Z-Best facility overall. Even if the number of birds were to increase and/or other impacts of the proposed project were to result in the owners/operators of adjacent properties deciding that their properties were no longer viable for growing food crops for human consumption, this would not preclude the adjacent properties from being used for other agricultural purposes consistent with the agricultural zoning of the land, such as grazing or non-edible crops. In such an instance, while conversion of the land to non-agricultural uses could potentially occur, any such conversion would be highly speculative and therefore is not considered to be a reasonably foreseeable environmental impact of the project.

Therefore, for the reasons described above, the project would not involve other changes in the existing environment which, due to their location or nature, could directly or indirectly result in conversion of Farmland, to non-agricultural use. The impact would be **less than significant**.

7 Air Quality and Odors

This section evaluates the potential impacts of the proposed project on regional and local air quality from both construction and operational activities, including on-road emissions. The community risks associated with project-generated truck traffic and the proposed composting technology are also evaluated. Effects of odors generated by the proposed composting technology on nearby sensitive receptors are also evaluated.

Information in this section is derived from a variety of sources including:

- CEQA Air Quality Guidelines (Bay Area Air Quality Management District 2017a);
- 2017 Clean Air Plan: Spare the Air, Cool the Climate (Bay Area Air Quality Management District 2017b);
- Emissions from Proposed Changes to Z-Best facility in Gilroy, California (SCS Engineers 2019) and associated peer review (EMC 2020) in Appendix B-1;
- Health Risk Assessment for Increased Truck Traffic (Illingworth and Rodkin 2020) in Appendix B-2;
- Toxic Air Contaminant Emissions Evaluation for Proposed Capacity Expansion of the Z-Best Composting Facility (Yorke Engineering 2020) in Appendix B-3;
- Air Dispersion Modelling Report Z-Best Composting Facility Current & Proposed Expansion Gilroy, California, USA (Englobe 2019) and associated review (Yorke Engineering 2019) in Appendix B-4;
- GHG and Criteria Pollutant Evaluation (SCS Engineers 2020) and associated peer review (AECOM 2023a) in Appendix B-5;
- Evaluation of Potential Bioaerosol Emissions (AECOM 2023b) in Appendix B-6;
- Nitrogen oxides (NO_X) and GHG Mitigation Assessment (AECOM 2023c) in Appendix B-7; and
- Updated Air Quality and GHG Modeling (AECOM 2023d) in Appendix B-8.

This section also addresses comments raised during the scoping period and on the original Draft EIR relating to air quality and odors, to the extent that they are still relevant to the currently proposed project. Such comments include:

- During scoping, Bay Area Air Quality Management District (BAAQMD) requested information on a number of issues related to the following: emissions and odor effects on sensitive receptors, baseline and projected construction and operational particulate and ozone precursors, vehicle miles traveled, health risk analysis, and description of any Best Available Control Technology emissions controls.
- The City of Hollister expressed concerns about odors and odor monitoring and effectiveness of the proposed technology.
- Three individuals raised concerns about odors (two during scoping and one during public review of the original Draft EIR).

- Comments on the original Draft EIR from BAAQMD related to construction and operational emission reductions of NO_X, clarification on the project's precursor organic compounds (POC) emission factor, and a description of the relevant BAAQMD and California Air Resources Board (CARB) regulations and permitting requirements.
- Another comment on the original Draft EIR related to the project's potential to generate bioaerosols and adverse health effects from air quality impacts.

7.1 Environmental Setting

7.1.1.1 Regional Climate and Topography

The project site is located in Santa Clara County, within the boundaries of the San Francisco Bay Area Air Basin (the air basin or SFBAAB). The air basin encompasses all of Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin and Napa counties, and the southern portions of Solano and Sonoma counties.

The air basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range splits resulting in a western coast gap, Golden Gate, and an eastern coast gap, Carquinez Strait, which allow air to flow in and out of the air basin and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold-water band resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds lessen the region's air pollution.

7.1.1.2 Criteria Air Pollutants and Precursors and Their Effects on Human Health

The six most common and widespread air pollutants of concern, or "criteria pollutants," are ground-level ozone, nitrogen dioxide, particulate matter, carbon monoxide, sulfur dioxide, and lead. In addition, reactive organic gases are a key contributor to the criteria pollutants because they react with other substances to form ground-level ozone. The common properties, sources, and related health and environmental effects of these pollutants are summarized in Table 6-1, Criteria Air Pollutants.

Health effects of criteria air pollutants include, but are not limited to, asthma, bronchitis, chest pain, coughing, throat irritation, and airway inflammation. Currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's criteria air pollutant emissions and specific human health impacts. Consequently, BAAQMD's thresholds of significance for criteria

air pollutants are intended to address regional impacts, not localized human health impacts that may result from an individual project's criteria pollutant emissions.

The analysis of health impacts due to individual projects resulting from emissions of criteria air pollutant emissions has long been focused on a regional or air basin-wide level, typically evaluated through regional air quality planning efforts, such as under clean air plans and state implementation plans. This is because the complex reactions and conditions that lead to the formation of ozone and particulate matter in the atmosphere can result in the transport of pollutants over wide areas and result in health impacts from criteria air pollutants being experienced on a regional scale, whereas toxic air contaminants (TACs) and carbon monoxide (CO) (discussed below) act on a more localized scale in proximity to emissions source locations. The potential for criteria air pollutant emissions to be transported over wide areas means that the emissions of ozone precursor pollutants, such as volatile organic compounds (VOC) and NO_X, from a project site does not necessarily translate directly into a specific concentration of ozone or a specific health risk in that same area. BAAQMD, CARB, and U.S. Environmental Protection Agency (EPA) have not approved a quantitative method to meaningfully and consistently translate the mass emissions of criteria air pollutants from a project to quantified health effects.

As discussed above, the nature of criteria pollutants is such that the emissions from an individual project cannot be directly identified as responsible for health impacts within any specific geographic location. As a result, attributing health risks at any specific geographic location to a single proposed project is not currently feasible.

Table 7-1 Criteria Air Pollutants

Pollutant	Properties	Major Sources	Related Health & Environmental Effects
Ozone (O_3)	Ground-level ozone is not emitted directly into the air. It results from chemical reactions between nitrogen oxides (NO_X) and reactive organic gases (ROG) in presence of sunlight.	Automobiles; Industrial facilities; Gasoline vapors; Chemical solvents; Electric utilities.	Chest pain, coughing, throat irritation, and airway inflammation Worsens bronchitis, emphysema, and asthma. Affects sensitive vegetation and ecosystems
Nitrogen Dioxide (NO_2)	Reddish-brown gas formed during combustion of fuel. Nitrogen dioxide is a part of a group of highly reactive gases known as NO_X.	Combustion of fuel; Automobiles; Power plant; Off-road Equipment.	Irritate respiratory system / increase respiratory infections Development of asthma Forms acid rain – harms sensitive ecosystems Creates hazy air Contributes to nutrient pollution in coastal waters
Respirable and Fine Particulate Matter (PM_{10}) ($PM_{2.5}$)	Mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, soot, dirt, or smoke can be seen with the naked eye. Others are so small that they can only be detected with an electron microscope.	Automobiles; Power Plants; Construction sites; Tilled farm fields; Unpaved roads; Smokestacks.	Aggravated asthma; Irritation of the airways, coughing, and difficulty breathing; Decreased lung function; Premature death; Reduced visibility.

Pollutant	Properties	Major Sources	Related Health & Environmental Effects
Carbon Monoxide (CO)	Colorless, odorless gas released when something is burned.	Fuel combustion; Industrial processes; Highly congested traffic.	Chest pain for those with heart disease; Vision problems; Dizziness, unconsciousness, and death (at high levels).
Sulfur Dioxide (SO_2)	Colorless acid gas with a pungent odor formed during combustion of fuel. In the entire group of sulfur oxides (SO_X), sulfur dioxide (SO_2) is the component of the greatest concern.	Fuel combustion; Industrial processes; Locomotives, ships, and other heavy equipment; Volcanoes.	Makes breathing difficult; Worsens asthma; Contributes to acid rain; Reduced visibility; Damages statues and monuments.
Lead (Pb)	Lead is a naturally occurring element found in small amounts in the earth's crust.	Ore and metal processing; Leaded aviation fuel; Waste Incinerators; Utilities; Lead-acid battery manufacturers.	High blood pressure and heart disease in adults; Behavioral problems, learning deficits, and lowered IQ in infants and young children; Decreased plant and animal growth; Neurological effects in vertebrates.

SOURCE: United States Environmental Protection Agency 2018

Ozone (O_3)

Ground-level ozone is created by complex chemical reactions between nitrogen oxides (NO_X) and reactive organic gases in the presence of sunlight. Since ground-level ozone is not emitted directly into the atmosphere, but is formed because of photochemical reactions, it is considered a secondary pollutant.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis, and other respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop a headache or cough, or may experience a burning sensation in the chest. Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

In recent years, a correlation has also been reported between elevated ambient ozone levels and increases in daily hospital admission rates and mortality (EPA 2020). Reactive organic gases (ROGs) and NO_X are precursors to ozone, for which the air basin is designated as nonattainment with respect to the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standard (CAAQS). The contribution of VOC and NO_X to regional ambient ozone concentrations is the result of complex photochemistry. The increases in ozone concentrations in the air basin due to ozone precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive ozone concentrations would also depend on the time of year that the emissions would occur, because exceedances of the ozone NAAQS and CAAQS tend to occur when solar radiation is highest. Due to the lack of quantitative

methods to assess this complex photochemistry, the holistic effect of a single project's emissions of ozone precursors is speculative.

Reactive Organic Gases (ROGs)

ROGs are any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, as well as a list of compounds specifically excluded by the CARB or the EPA. ROGs are emitted from a variety of sources, including liquid and solid fuel combustion, evaporation of organic solvents, and waste disposal. ROGs are referred to as POCs by the BAAQMD. ROGs can react in the atmosphere with NO_X to make ground-level ozone, a criteria air pollutant described above. POCs are also emitted during the MSW composting process. A subset of MSW-generated POCs are considered to be TACs. The TACs are discussed below, as they are a focus for evaluating potential air quality impacts of the MSW composting process itself.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide primarily gets in the air from the combustion of fuel in cars, trucks and buses, power plants, and off-road equipment. Nitrogen dioxide is a reddish-brown gas that can irritate the lungs and can cause breathing difficulties at high concentrations. Nitrogen dioxide is one of a group of highly reactive gases known as NO_X. Nitrogen dioxide is used as the indicator for the larger group of NO_X, which also include nitrous acid and nitric acid. NO_X are a major contributor to ozone formation. NO_X also contribute to the formation of particulate matter (see discussion below).

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter refers to a wide range of solid or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Particulate matter with diameter of 10 micrometers or less is referred to as PM_{10}. $PM_{2.5}$ includes a subgroup of finer particles that have a diameter of 2.5 micrometers or less. Particulate matter is directly emitted to the atmosphere as a byproduct of fuel combustion, wind erosion of soil and unpaved roads, and from construction or agricultural operations. Small particles are also created in the atmosphere through chemical reactions. Approximately 64 percent of fugitive dust is respirable particulate matter. Minimal grading typically generates about 10 pounds per day per acre on average while excavation and earthmoving activities typically generate about 38 pounds per day per acre.

Although particles greater than 10 micrometers in diameter can cause irritation in the nose, throat, and bronchial tubes, the body's natural defense mechanisms remove much of these particles. Particles less than 10 micrometers in diameter are able to pass through the body's natural defenses and the mucous membranes of the upper respiratory tract and enter into the lungs. The particles can damage the alveoli. The particles may also carry carcinogens and other toxic compounds, which can adhere to the particle surfaces and enter the lungs.

Carbon Monoxide (CO)

Carbon monoxide is a component of motor vehicle exhaust, which contributes about 56 percent of all carbon monoxide emissions nationwide. Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all carbon monoxide emissions nationwide. Carbon monoxide can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. Carbon monoxide contributes to the formation of ground-level ozone.

Higher levels of carbon monoxide generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all carbon monoxide emissions may come from motor vehicle exhaust. Concentration of carbon monoxide is a direct function of vehicle idling time and, thus, traffic flow conditions. Transport of carbon monoxide emissions is extremely limited; it disperses rapidly from the source under normal meteorological conditions. Under certain meteorological conditions, however, carbon monoxide concentrations close to a congested roadway or intersection may reach unhealthy levels. Emissions thresholds established for carbon monoxide apply to direct or stationary sources.

Typically, high carbon monoxide concentrations are associated with roadways or intersections operating at unacceptable levels of service. Congested intersections with high volumes of traffic could cause carbon monoxide “hot spots,” where localized high concentrations of carbon monoxide occur.

Sulfur Dioxide (SO_2)

Sulfur dioxide is the component of greatest concern and is used as the indicator for the larger group of gaseous sulfur oxides. Emissions that lead to high concentrations of sulfur dioxide generally also lead to the formation of other sulfur oxides. Sulfur dioxide is a colorless acid gas with a pungent odor. Sulfur dioxide is produced by the combustion of sulfur-containing fuels, such as oil, coal and diesel. Sulfur dioxide dissolves in water vapor to form acid, and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and the environment. Health effects of sulfur dioxide include damage to lung tissue and increased risk of acute and chronic respiratory disease.

Lead (Pb)

Lead is a metal found naturally in the environment as well as in manufactured products. Thirty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. Lead was phased out of on-road vehicle gasoline between 1975 and 1996 (Newell and Rogers 2003). Consequently, levels of lead in the air decreased 98 percent between 1980 and 2014 (EPA 2017a). As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

7.1.1.3 Toxic Air Contaminants and their Effects on Human Health

Toxic air contaminants (TACs) are pollutants that may be expected to result in an increase in mortality or serious illness or may pose a present or potential hazard to human health. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense systems, and diseases that lead to death. TACs can be classified as either carcinogens or non-carcinogens.

Diesel Emissions

Diesel exhaust is especially common during the grading stage of construction (when most of the heavy equipment is used), and adjacent to heavily trafficked roadways where diesel trucks are common. Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs. Diesel engines emit a complex mix of pollutants including nitrogen oxides (NO_X), particulate

matter, and TACs. The most visible constituents of diesel exhaust are very small carbon particles or soot, known as diesel particulate matter. Diesel exhaust also contains over 40 cancer-causing substances, most of which are attached to the soot particles. Among the TACs contained in diesel exhaust are dioxin, lead, polycyclic organic matter, and acrolein. Diesel engine emissions are responsible for about 70 percent of California's estimated cancer risk attributable to TACs (CARB 2019a). As a significant fraction of particulate pollution, diesel particulate matter contributes to numerous health impacts, including increased hospital admissions, particularly for heart disease, but also for respiratory illness, and even premature death.

Precursor Organic Compounds

As described previously, ROGs are emitted during the MSW composting process. ROGs are also referred to as POCs by the BAAQMD. POC emissions that are carcinogenic or can create other chronic/acute health effects ranging from irritation to serious specific impacts on different organ systems are treated as TACs. POC emissions from the MSW composting process generally consist of TACs that include isopropanol, methanol, naphthalene, propene, and acetaldehyde. Isopropanol effects include irritation of upper respiratory tract, shortness of breath, dizziness, incoordination, and confusion. Breathing methanol can cause health effects including visual problems, neurological damage, nausea, seizures and headaches. Breathing naphthalene can cause headaches, nausea, dizziness, and/or vomiting, and in acute cases, anemia. Propene has low acute toxicity from inhalation. Inhalation of the gas can cause anesthetic effects and at very high concentrations, unconsciousness. Exposure to acetaldehyde can cause irritation of the eyes and respiratory tract; chronic exposure can create symptoms of intoxication.

7.1.1.4 Construction Emissions

Emissions generated during construction are “short-term” in the sense that they would be limited to the actual periods of site development and construction. Short-term construction emissions are typically generated by the use of heavy equipment, the transport of materials, and construction employee commute trips. Construction-related emissions consist primarily of ROGs, NO_X, exhaust and fugitive dust particulate matter (i.e., PM_{10}, $PM_{2.5}$), and CO. Emissions of ROGs, NO_X PM_{10}, $PM_{2.5}$ and CO are generated primarily by the operation of gas and diesel-powered motor vehicles, asphalt paving activities, and the application of architectural coatings. Fugitive PM_{10} and $PM_{2.5}$ dust emissions are generated primarily by grading and site preparation activities.

7.1.1.5 Stationary Source Emissions

A stationary source consists of a single emission source with an identified emission point, such as a stack at an industrial facility. Facilities can have multiple emission point sources located on-site and sometimes the facility as a whole is referred to as a stationary source. Examples of BAAQMD-permitted stationary sources include refineries, gasoline dispensing stations, dry cleaning establishments, back-up diesel generators, boilers, heaters, flares, cement kilns, and other types of combustion equipment, as well as non-combustion sources such as coating or printing operations.

The existing facility includes 23 BAAQMD-permitted emission sources. These are identified in the Z-Best Permit to Operate, which is issued by the BAAQMD. Any

proposed changes to these permitting sources would be subject additional BAAQMD permitting.

7.1.1.6 Sensitive Receptors

Although air pollution can affect all segments of the population, certain groups are more susceptible to its adverse effects than others. Children, the elderly, and the chronically or acutely ill are the most sensitive population groups. These sensitive receptors are commonly associated with specific land uses such as residential areas, schools, retirement homes, and hospitals. Certain air pollutants, such as carbon monoxide, only have significant effects if they directly affect a sensitive population.

Several individual sensitive residential receptors are located in the more immediate vicinity of the site along SR-25, with the closest about 750 feet to the north on the opposite side of SR-25. The vast majority of operations on the project site are more than 1,000 feet away from the closest home. Three other residences are within about three-quarters of a mile. The locations of these sensitive receptors are particularly relevant to analyses in this section related to toxic air contaminants from project-generated on-road diesel trucks, toxic air contaminants generated from MSW composting, and exposure to odors. The nearest school is the Dr. TJ Owens Gilroy Early College Academy, located approximately 2.8 miles northeast of the project site in Gilroy.

7.1.1.7 Odor Conditions

Several sources of odor are commonly associated with composting operations. The same is true for existing Z-Best operations. These sources include, but are not limited to, MSW and green waste feedstock sorting and processing, MSW and green waste composting, and detaining/storing wastewater that contains leachate. Several comments on the NOP identify odors from the facility as a concern. The facility is approximately 2.75 miles to the City of Gilroy and 8 miles from the City of Hollister, in a sparsely populated area in rural Santa Clara County. However, commenters have stated that odors from the facility can be detected in these urban areas. Given their locations closer to the facility, the nearest residential sensitive receptors may also be exposed to odors from the facility. The County of Santa Clara local enforcement agency (LEA) has received four odor complaints relating to the Z-Best facility, one each in the years 2000, 2011, 2013, and 2022 (County of Santa Clara Department of Environmental Health 2022). One odor complaint (in July 2021) was received by BAAQMD's odor complaint hotline between January 2015 and December 2022 (BAAQMD 2022).

7.1.1.8 Bioaerosols

The term "bioaerosol" encompasses all particles having a biological source that are in suspension in the air and includes microorganisms (e.g., bacteria, fungi, virus, protozoa, algae, pollen) as well as biomolecules (e.g., toxins, debris from membranes) (Sykes et al 2011).

Bioaerosols occur naturally in the environment and are typically introduced into the air via wind turbulence over a surface, such as soil or water. However, the production and/or transmission of bioaerosols can also be accelerated by various human activities, e.g., through processes that increase the number of biological particulates in a medium

(such as composting) or through processes that increase turbulence or the surface area of the medium (such as tilling of the soil).

There are a wide range of bioaerosol particles, which may cause varying degrees of human health impacts. Health effects from bioaerosol exposure can include infections, immuno-allergic, non-allergic inflammatory and toxic effects (Schlosser 2019). However, regulatory exposure limits have not been established for exposure to bioaerosols including occupational and ambient air exposures. Regarding bioaerosols, exposure-response relationship is lacking for most agents (Macher 1999; Eduard 2009; Searl et al. 2008; Walser et al. 2015). Voluntary numerical guidelines for most bioaerosol exposures have also not been established by the scientific community.

7.2 Regulatory Setting

7.2.1.1 Federal

United States Environmental Protection Agency/Federal Clean Air Act

The EPA regulates diesel engine design and fuel composition at the federal level, and has implemented a series of measures since 1993 to reduce nitrogen oxides and particulate emissions from off-road and highway diesel equipment. Before EPA began regulating sulfur in diesel, diesel fuel contained as much as 5,000 parts per million (ppm) of sulfur. In 2006, EPA introduced stringent regulations to lower the amount of sulfur in diesel fuels to 15 ppm (EPA 2017b). This fuel is known as ultra-low sulfur diesel.

EPA Tier 1 non-road diesel engine standards were introduced in 1996, Tier 2 in 2001, Tier 3 in 2006, with final Tier 4 in 2014 (DieselNet 2017). Table 7-2, Typical Non-road Engine Emissions Standards, compares emissions standards for NO_X and particulate matter from non-road engine Tier 1 through Tier 4 for typical engine sizes. As illustrated in the table, emissions for these pollutants have decreased significantly for construction equipment manufactured over the past 20 years, and especially for construction equipment manufactured in the past five years.

Table 7-2 Typical Non-road Engine Emissions Standards[1]

Engine Tier and Initial Year Standards were Phased-In[2]	Nitrogen Oxides (NO_X) Emissions			Particulate Emissions		
	100-175 HP	175-300 HP	300-600 HP	100-175 HP	175-300 HP	300-600 HP
Tier 1 (1996)	6.90	6.90	6.90	--	0.40	0.40
Tier 2 (2001)	--[3]	--[3]	--[3]	0.22	0.15	0.15
Tier 3 (2006)	--[3]	--[3]	--[3]	-- †	-- †	-- †
Tier 4 (2008)	0.30	0.30	0.30	0.015	0.015	0.015

Source: DieselNet 2017

Notes:

1. Expressed in g/bhp-hr. where g/bhp-hr. stands for grams per brake horsepower-hour.
2. Each tier involved a phase-in (by horsepower rating) over several years. Tier 1 standards were phased-in from 1996 to 2000. The Tier 2 standards took effect from 2001 to 2006, and Tier 3 standards phased-in from 2006 to 2008. The Tier 4 emission standards were phased-in from 2008 through 2015.
3. Tier 1 standards for NO_X remained in effect.

† - Not adopted, engines must meet Tier 2 PM standard.

HP = horsepower

At the federal level, the EPA is responsible for overseeing implementation of the Clean Air Act and its subsequent amendments. The federal Clean Air Act required the EPA to set NAAQS for several air pollutants on the basis of human health and welfare criteria. The Clean Air Act also set deadlines for the attainment of these standards. The Clean Air Act established two types of national air standards: primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive persons such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. Historically, air quality laws and regulations have divided air pollutants into two broad categories of airborne pollutants: "criteria pollutants" and "TACs."

National Ambient Air Quality Standards

Ambient air quality is described in terms of compliance with the state and national standards. In general, criteria pollutants are pervasive constituents, such as those emitted in vast quantities by the combustion of fossil fuels. Both the state and federal governments have developed ambient air quality standards for criteria pollutants, which include O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. Table 7-3, Federal and State Ambient Air Quality Standards, lists state and federal ambient air quality standards for criteria pollutants.

Table 7-3 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]			
		Concentration[3]		Primary[3,4]		Secondary[3,5]	
		ppm	µg/m³	ppm	µg/m³	ppm	µg/m³
Ozone[6]	1 Hour	0.09	180	-	-	-	-
	8 Hour	0.07	137	0.070	137	0.070	137
PM_{10}[7]	24 Hour	-	50	-	150	-	150
	Annual	-	20	-	-	-	-
$PM_{2.5}$[7]	24 Hour	-	-	-	35	-	35
	Annual	-	12	-	12	-	15
Carbon Monoxide (CO)	8 Hour	9.0	10	9	10	-	-
	1 Hour	20.0	23	35	40	-	-
Nitrogen Dioxide (NO_2)[8]	Annual	0.03	57	0.053	100	0.053	100
	1 Hour	0.18	339	0.10	188	-	-
Sulfur Dioxide (SO_2)[9]	Annual	-	-	0.030	See note 9	-	-
	24 Hour	0.04	105	0.14	See note 9	-	-
	3 Hour	-	-	-	-	0.5	1,300
	1 Hour	0.25	655	0.075	196	-	-
Lead[10,11]	30 Day Average	-	1.5	-	-	-	-
	Rolling 3-month Average	-	-	-	0.15	-	0.15

Pollutant	Averaging Time	California Standards[1] Concentration[3]		Federal Standards[2] Primary[3,4]		Secondary[3,5]	
		ppm	µg/m³	ppm	µg/m³	ppm	µg/m³
	Calendar Quarter	-	-	See note 10	1.5	See note 10	1.5
Visibility Reducing Particles[12]	8 Hour	See note 12		No Federal Standards			
Sulfates	24 Hour	-	25	No Federal Standards			
Hydrogen Sulfide	1 Hour	0.03	42	No Federal Standards			
Vinyl Chloride[10]	24 Hour	0.01	26	No Federal Standards			

Source: CARB 2016

Notes:

1. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, 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.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°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.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
7. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
8. To attain the 1-hour national standard, the 3-year average of the annual [9]8th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
9. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual [9]9th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
10. CARB has identified lead and vinyl chloride 'TACs' with no threshold level 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.
11. The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Notes:

- = not applicable
µg/m³ = micrograms per cubic meter
CO = Carbon Monoxide
NO_2 = Nitrogen Dioxide
PM_{10} = particulate matter with aerodynamic diameter less than 10 microns
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns
ppm = parts per million
SO_2 = Sulfur Dioxide

National Emissions Standards for Hazardous Air Pollutants are emissions standards set by the EPA for an air pollutant not covered by NAAQS that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness. The standards for a particular source category require the maximum degree of emission reduction that the EPA determines to be achievable, which is known as the Maximum Achievable Control Technology.

7.2.1.2 State

California Air Resources Board

The federal Clean Air Act gives states primary responsibility for directly monitoring, controlling, and preventing air pollution. CARB is responsible for coordination and oversight of federal, state, and local air pollution control programs in California and for implementing the requirements of the federal Clean Air Act and California Clean Air Act. CARB oversees regional or local air quality management or air pollution control districts that are charged with developing attainment plans for the areas over which they have jurisdiction.

Air Quality Management Plans

The federal Clean Air Act requires areas with unhealthful levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans. State Implementation Plans are comprehensive plans that describe how an area will attain national ambient air quality standards. State Implementation Plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. California grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage the use of ridesharing, flexible work hours, or other measures that reduce the number or length of vehicle trips. Local air districts prepare State Implementation Plan elements and submit them to CARB for review and approval. CARB forwards State Implementation Plan revisions to the EPA for approval and publication in the Federal Register.

California Air Toxics Program

CARB created a statewide air toxic program in the 1980s, and soon thereafter created the Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807). The Toxic Air Contaminant Identification and Control Act established the California Air Toxic Program that was designed to lower all exposure to air pollutants.

California Ambient Air Quality Standards

The California Ambient Air Quality Standards were established in 1959 by the California Department of Public Health to set air quality standards and controls for vehicle emissions. The California ambient air quality standards are often stricter than the national ambient air quality standards (refer to Table 7-3, Federal and State Ambient Air Quality Standards). When state thresholds are exceeded at regional monitoring stations, an “attainment plan” must be prepared that outlines how an air quality district will achieve compliance with the state standards.

Heavy-Duty Diesel Vehicle Standards

California has adopted standards for heavy-duty diesel vehicles. In California, under the In-Use Off-Road Diesel-Fueled Fleets Regulation, non-road equipment fleets can retain

older equipment, but fleets must meet averaged emissions limits, new equipment must be Tier 3 or better after January 2018 (for large and medium fleets) or January 2023 (for small fleets), and over time the older equipment must be fitted with particulate filters. Large and medium fleets have increasingly strict fleet compliance targets through 2023 and small fleets through 2029. A small fleet has total horsepower of 2,500 or less, and a medium fleet has total horsepower of between 2,500 and 5,000. Compliance and reporting under the In-Use Off-Road Diesel-Fueled Fleets Regulation includes maintaining off-road equipment registered in the CARB Diesel Off-Road Online Registration System and each equipment labeled with the Equipment Identification Number.

Owners or operators of portable engines and other types of equipment can register their units under the CARB's statewide Portable Equipment Registration Program in order to operate their equipment throughout California without having to obtain individual permits from local air districts (CARB 2019b) or be subject to BAAQMD permitting requirements.

Solid Waste Collection Vehicle Regulation

The Solid Waste Collection Vehicle (SWCV) regulation was adopted by CARB 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 amendments clarified the definition of SWCVs to include any diesel vehicle with a gross vehicle weight rating over 14,000 pounds that have specific body types ("garbage packer" or "garbage-roll off"). The approved amendments also added requirements specific to certain specialized on-road diesel-fueled Heavy Cranes with a single engine. 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).

Garbage packer and garbage roll-off vehicles with 2007-2009 model year engines are subject to the Truck and Bus Regulation described below and would have needed to be replaced with a 2010 or new model year engines by January 1, 2023, unless otherwise exempted or using one of the flexibility options to delay replacement requirements. As the Truck and Bus Regulation requires on-road and off-road vehicles to have 2010 or newer model year engines, garbage packer and garbage roll-off vehicles with 2010 and newer model year engines would meet the final requirements of the Truck and Bus Regulation described below.

Truck and Bus Regulation

The CARB's Truck and Bus Regulation is one of the most far-reaching and important tools to reduce smog-forming and toxic emissions and protect public health in disadvantaged communities. The Truck and Bus Regulation is a key element in CARB's Diesel Risk Reduction Plan and the State Implementation Plan, both of which are designed to provide clean air for Californians by helping to meet state and federal health-protective standards.

The Truck and Bus Regulation requires all on-road and off-road vehicles, by January 1, 2023, to have 2010 or newer model year engines to reduce particulate matter and NO_X emissions. To help ensure that the benefits of this regulation are achieved, starting January 1, 2020, only vehicles compliant with this regulation will be registered by the

California Department of Motor Vehicles. The Truck and Bus Regulation is anticipated to achieve a statewide reduction of 37 percent in NO_X emissions this year (2023) (CARB 2014).

In June 2020, CARB adopted the Advanced Clean Truck regulation, which will require truck manufacturers to begin the transition from diesel to zero-emission trucks in 2024. By 2045, every new truck sold in California must be zero-emission.

California Odor Regulations

All composting facilities in California must prepare and implement an odor impact minimization plan and submit it to the applicable LEA (Title 14, Cal. Code Regs., Section 17863.4). The following requirements apply to these plans:

(a) All compostable material handling operations and facilities shall prepare, implement and maintain a site-specific odor impact minimization plan. A complete plan shall be submitted to the enforcement agency (EA) with the EA Notification or permit application.

(b) Odor impact minimization plans shall provide guidance to on-site operation personnel by describing, at a minimum, the following items. If the operator will not be implementing any of these procedures, the plan shall explain why it is not necessary.

(1) an odor monitoring and data collection protocol for on-site odor sources, which describes the proximity of possible odor receptors and a method for assessing odor impacts at the locations of the possible odor receptors; and,

(2) a description of meteorological conditions effecting migration of odors and/or transport of odor-causing material off-site. Seasonal variations that effect wind velocity and direction shall also be described; and,

(3) a complaint response and recordkeeping protocol; and,

(4) a description of 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

(5) a description of 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.

(c) The odor impact minimization plan shall be revised to reflect any changes, and a copy shall be provided to the EA, within 30 days of those changes.

(d) The odor impact minimization plans shall be reviewed annually by the operator to determine if any revisions are necessary.

(e) The odor impact minimization plan shall be used by the EA to determine whether or not the operation or facility is following the procedures established by the operator. If the EA determines that the odor impact minimization plan is not being followed, the EA may issue a Notice and Order (pursuant to section

18304) to require the operator to either comply with the odor impact minimization plan or to revise it.

(f) If the odor impact minimization plan is being followed and the EA determines, in a manner consistent with section 18302(d), that odor impacts are still occurring, the EA shall direct the operator to prepare and implement an Odor Best Management Practice Feasibility Report (Report) as specified in section 17863.4.1. The EA shall consider the results of the Report prior to issuing a Notice and Order (pursuant to section 18304) requiring the operator to take additional reasonable and feasible measures to minimize odors unless:

(1) the EA has evidence that a specific and immediate action would reduce the odor impacts;

(2) there is an imminent threat to public health and safety and the environment; or

(3) a nuisance has occurred.

7.2.1.3 Regional/Local

Bay Area Air Quality Management District

The BAAQMD is the agency with primary responsibility for assuring that federal and state ambient air quality standards are attained and maintained in the air basin. The BAAQMD is charged with regulatory authority over stationary sources of air emissions, monitoring air quality within the air basin, providing guidelines for analysis of air quality impacts pursuant to CEQA, and preparing an air quality management plan to maintain or improve air quality in the air basin. Air pollutants of concern in the air basin are ozone and particulate matter (PM_{10} and $PM_{2.5}$) (Bay Area Air Quality Management District 2017a, pg. 2-1).

Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants, provides for review of new and modified sources of TAC emissions to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. The rule applies to a new or modified source of TACs that is required to have an authority to construct or permit to operate pursuant to Regulation 2, Rule 1. This BAAQMD rule applies to the unique source of TACs associated with the proposed project – MSW composting.

Air Basin Attainment Status

In accordance with the Clean Air Act, CARB is required to designate regions of the state as attainment, non-attainment, or unclassified with regard to that region's compliance with criteria air pollutant standards. An "attainment" designation for a region signifies that pollutant concentrations do not violate the standard for that pollutant in that region. A "non-attainment" designation indicates that a pollutant concentration violated the standard at least once. An "unclassified" designation signifies that available data does not support either an attainment or non-attainment status. The air basin is currently designated as a non-attainment area for state and national ozone standards, for state and national fine particulate matter ($PM_{2.5}$) standards, and state suspended particulate matter (PM_{10}) standards. With respect to national PM_{10} standards, the air basin is unclassified. Table 7-4, San Francisco Bay Area Air Basin Attainment Status Designations, identifies the current status within the air basin for each criteria pollutant.

The BAAQMD has responsibility at the local level to implement both federal and state mandates for improving air quality in the air basin through an air quality plan for any pollutants that are not in attainment with the ambient air quality standards based on the regional monitoring data and CARB and EPA designation status. Generally, these plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or include "all feasible control measures". The BAAQMD periodically prepares and updates plans in order to attain state and national air quality standards, comply with quality planning requirements, and achieve the goal of clean and healthful air. These plans also report on progress in improving air quality and provide a road map to guide the BAAQMD's future activities.

Table 7-4 San Francisco Bay Area Air Basin Attainment Status Designations

Pollutant	State Standards	National Standards
Ozone (O_3)	Non-attainment	Non-attainment
Suspended Particulates (PM_{10})	Non-attainment	Unclassified
Fine Particulates ($PM_{2.5}$)	Non-attainment	Non-attainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Lead (Pb)	-	Attainment

SOURCE: Bay Area Air Quality Management District 2017b

2017 Clean Air Plan

The BAAQMD has adopted several plans in an attempt to achieve state and federal air quality standards. Because the air basin has been designated as a non-attainment area for the national ozone standard since 1998, the BAAQMD has prepared ozone attainment plans in 1999, 2001, 2005, and 2010. The 2017 Clean Air Plan updates the BAAQMD's most recent state ozone plan, the 2010 Clean Air Plan, pursuant to the requirements of the California Health and Safety Code. The 2017 Clean Air Plan defines an integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone precursors and GHGs. The 2017 Clean Air Plan includes 85 control measures, many of which relate to industrial uses or are for regional implementation; while some of the control measures relate to residential or commercial development. Volume 2 of the 2017 Clean Air Plan contains full descriptions of the control measures (Bay Area Air Quality Management District 2017b). The control measures relevant to the proposed project are summarized below:

- **SS16: Basin-Wide Methane Strategy.** This control measure seeks to better quantify and reduce emissions of methane, and its co-pollutants, from all sources throughout the BAAQMD by implementing a coordinated strategy that combines research, rulemaking, collaborations with state agencies, and other programs.
- **WA2: Composting and Anaerobic Digesters**. This control measure would reduce emissions of GHGs and volatile organic compounds [or ROGs] from anaerobic digesters and composting operations by requiring best management practices derived from measures adopted by the South Coast Air Quality Management District and the San Joaquin Valley Air Pollution Control District.

- **WA3: Green Waste Diversion**. This control measure would reduce the total amount of green waste being disposed in landfills by supporting the diversion of green waste to other uses.
- **WA4: Recycling and Waste Reduction**. This control measure aims to reduce the amount of solid waste that the Bay Area sends to landfills by strengthening recycling programs and developing additional waste reduction strategies.
- **T19: Medium- and Heavy-Duty Trucks**. The BAAQMD will directly provide, and encourage other organizations to provide, incentives for the purchase of 1) new trucks with engines that exceed CARB's 2010 NO_X emission standards for heavy-duty engines, 2) new hybrid trucks, and 3) new zero-emission trucks. The BAAQMD will work with truck owners, industry, CARB, the California Energy Commission, and others to demonstrate additional battery-electric and hydrogen fuel cell zero emission trucks.

7.3 Thresholds of Significance and Analysis Methodology

7.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact relating to air quality would occur if implementation of the proposed project would:

a) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;

b) Expose sensitive receptors to substantial pollutant concentrations;

c) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people; or

d) Conflict with or obstruct implementation of the air quality management plan.

7.3.1.1 BAAQMD Significance Threshold Criteria

Criteria Air Pollutant Thresholds

Thresholds for construction-related and operational-related criteria air pollutants are presented in Table 7-5, Thresholds of Significance for Criteria Air Pollutants.

Table 7-5 Thresholds of Significance for Criteria Air Pollutants and Precursors[1]

Criteria Air Pollutants and Precursors	Construction Threshold Average Daily Emissions (lb/day)	Operational Threshold Average Daily Emissions (lb/day)	Operational Threshold Annual Emissions (tons/year)
ROGs and NO_X	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10

SOURCE: Bay Area Air Quality Management District 2017a

NOTES:
1 The BAAQMD's numeric thresholds for particulate matter emissions from project construction apply to exhaust emissions only. The BAAQMD recommends implementation of best management practices to reduce fugitive dust emissions.
Notes:
BAAQMD = Bay Area Air Quality Management District
lb/day = pounds per day
NOx = nitrogen oxide
PM_{10} = particulate matter with aerodynamic diameter less than 10 microns
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns
ROG = reactive organic gas
Tons/year = tons per year

BAAQMD does not have quantitative mass emissions thresholds for fugitive PM_{10} and $PM_{2.5}$ dust emissions generated during construction activities. Instead, BAAQMD recommends that all projects, regardless of the level of average daily emissions, implement applicable best management practices, including those listed as Basic Construction Measures in the BAAQMD CEQA Guidelines (BAAQMD 2017a). The BAAQMD's Basic Construction Measures or Best Management Practices (BMPs) are listed below:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Carbon Monoxide Thresholds

The quantitative thresholds for localized carbon monoxide are presented below:

- 1-Hour CAAQS Averaging Time: concentration of 20.0 parts per million; and
- 8-Hour CAAQS Averaging Time: concentration of 9.0 parts per million.

Community Risk and Hazard Thresholds

The community risk and hazard thresholds for new source toxic air contaminants and receptors within the 1,000-foot radius are presented below:

- Compliance with a Qualified Community Risk Reduction Plan;
- Increased cancer risk of greater than 10.0 in a million;
- Increased non-cancer risk of greater than 1.0 Hazard Index (Chronic or Acute); or
- Ambient $PM_{2.5}$ increase greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average.

Odor Thresholds

According to the BAAQMD's CEQA Air Quality Guidelines, the threshold of significance for odor sources is five confirmed complaints per year averaged over three years. Based on standard practice for projects within the BAAQMD's jurisdiction and as detailed in Air Dispersion Modelling Report Z-Best Composting Facility Current & Proposed Expansion Gilroy, California, USA (Englobe 2019, Yorke Engineering 2019), a quantitative threshold of four odor units (OU) per cubic meter of air (OU/m^3) was used as the level at which odor reaches a nuisance level. The threshold of four OU/ m^3 was selected as conservative indication based on CARB and South Coast Air Quality Management District (SCAQMD) studies that note that odor reaches a 'nuisance' level or people become consciously aware of the presence of an odor at approximately five times the threshold of detection (5 OU) (Amoore 1985, SCAQMD 1993).

7.3.1.2 Clean Air Plan Consistency

A project is determined to be consistent with the 2017 Clean Air Plan if it supports the goals of the Clean Air Plan, includes applicable control measures from the Clean Air Plan, and would not disrupt or hinder implementation of any control measures from the Clean Air Plan (BAAQMD 2017a). Consistency with the Clean Air Plan also is determined through evaluation of project-related air quality impacts and demonstration that project-related emissions would not increase the frequency or severity of existing violations or contribute to a new violation of the NAAQS or CAAQS.

7.3.1.3 Bioaerosol Thresholds

Bioaerosol emissions are not emissions regulated under the Clean Air Act, California Clean Air Act, California Air Toxics Program, or any other regulation, plan, or policy. There are a wide range of bioaerosol particles, which may cause varying degrees of human health impacts. Health effects from bioaerosol exposure can include infections, immuno-allergic, non-allergic inflammatory and toxic effects (Schlosser 2019). Regulatory exposure limits have not been established for exposure to bioaerosols including occupational and ambient air exposures at the time of this analysis. However, in response to comments received on the original Draft EIR, an analysis of the proposed project's potential to generate bioaerosol emissions and potential impacts of such emissions on agricultural workers on adjacent properties or on the viability of horticultural activities on adjoining parcels was conducted and is provided in Appendix B-6.

7.3.2 Analysis Methodology

The analysis in Section 7.4 below includes information and data regarding criteria air pollutants, TACs, and odor issues that are relevant to the proposed project based on the thresholds of significance in the BAAQMD's CEQA Air Quality Guidelines. Several technical reports were prepared to assess the project's air quality impacts. Analyses conducted by the original Draft EIR consultant team include a haul truck TAC report prepared by Illingworth & Rodkin (Appendix B-2) and an MSW composting TAC emissions report prepared by Yorke Engineering (Appendix B-3). The applicant provided an odor emissions analysis for the project prepared by Englobe, which was peer reviewed by Yorke Engineering (Appendix B-4). The applicant also provided an analysis of criteria air pollutant emissions and GHG emissions from construction activities and from on-road mobile source haul trucks that was prepared by SCS Engineers and reviewed by EMC Planning Group (Appendix B-1). SCS Engineers also provided a GHG and criteria pollutant evaluation in 2020, which was peer reviewed by AECOM (Appendix B-5).

Construction-related emissions were also updated by AECOM in 2022 to account for the updated construction schedule, new version of the California Emissions Estimator Model (CalEEMod), and to calculate average daily emissions for comparison to the BAAQMD thresholds of significance (Appendix B-8). Additional analyses relating to bioaerosol emissions (Appendix B-6) and NO_X emissions (Appendix B-7) were also prepared by AECOM in response to comments received on the original Draft EIR. The information and data from the reports are used as a basis for determining impact significance and for mitigation measures described below.

7.4 Analysis, Impacts, and Mitigation Measures

7.4.1 Criteria Pollutant Emissions - Construction

IMPACT AIR-1	**The project could generate potentially significant fugitive dust (PM_{10} and $PM_{2.5}$) emissions during construction**	**Less than Significant with Mitigation**

The *Emissions from Proposed Changes to Z-best Facility in Gilroy, California* (prepared by SCS Engineers (2019) includes an estimate of construction-related criteria air pollutant emissions from the use of construction equipment, the transport of materials, and construction employee commute trips. AECOM has updated these construction emissions estimates to consider the updated construction schedule and the updated version of the CalEEMod. As described in Section 4.1.3.12, construction of the proposed project would occur in three phases. Construction equipment to be used would include, but is not limited to, a bulldozer, grader, water truck, compactors, scrapers, paving equipment, tractors/loaders, and a concrete pump truck. Refer to Table 4-3, On-Site and Off-Site Improvements Construction Information, in Section 4.0, Project Description, for an overview of construction activities and schedule. Additional modeling assumptions and details are provided in Appendix B-8.

Construction-related emissions were modeled using CalEEMod, version 2022.1. Unmitigated construction-related criteria air pollutant emissions are summarized in Table 7-6, Unmitigated Construction Criteria Air Pollutant Emissions. As shown in Table 7-6, construction-related emissions would not exceed the applicable thresholds of significance.

Table 7-6 Unmitigated Construction Criteria Air Pollutant Emissions

Emissions	ROG	NO_X	Exhaust PM_{10}	Exhaust $PM_{2.5}$
Total Emissions (tons)	0.31	2.91	0.12	0.11
Average Daily Emissions (lbs/day) [1]	3.10	29.10	1.20	1.10
BAAQMD Thresholds	*54*	*54*	*82*	*54*
Exceeds Thresholds?	*No*	***No***	*No*	*No*

SOURCE: Appendix B-8
NOTES:
Results may vary due to rounding.
1 Average daily emissions are based on approximately 200 construction workdays.
Notes:
BAAQMD = Bay Area Air Quality Management District
lb/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter with aerodynamic diameter less than 10 microns
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns
ROG = reactive organic gas

As discussed in Section 7.3.1, Thresholds of Significance, the BAAQMD does not have quantitative mass emissions thresholds for fugitive PM_{10} and $PM_{2.5}$ dust emissions generated during construction activities. Fugitive dust emissions are considered to be significant unless the project implements the BAAQMD's recommended BMPs for fugitive dust control during construction. Construction-related impacts from the project would therefore be **potentially significant**. Mitigation Measure MM-AIR-1 is recommended to address this potentially significant impact.

MM-AIR-1: Fugitive Dust Minimization Measures

Prior to issuance of a grading permit, the project applicant shall ensure that the following measures are included on all construction documents. Additionally, these measures shall be implemented during construction:

- *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.*
- *All haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
- *All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.*
- *All vehicle speeds on unpaved roads shall be limited to 15 mph.*

- *All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.*
- *Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.*
- *All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.*
- *Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.*

As explained previously, fugitive dust emissions are considered to be significant unless the proposed project implements the BAAQMD's BMPs for fugitive dust control during construction. MM-AIR-1 would require implementation of the BAAQMD's BMPs to minimize fugitive dust emissions from the proposed project's construction activities; therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Implementation of MM-AIR-1 would therefore reduce proposed project impacts from fugitive dust emissions to **less than significant with mitigation**.

7.4.2 Criteria Pollutant Emissions - Operations

IMPACT AIR-2	**Operational traffic would result in NO_X emissions in excess of applicable thresholds**	**Significant and Unavoidable**

Criteria air pollutant emissions from on-road vehicles trips (employee vehicles and hauling trucks) associated with operation of the proposed project were quantified in the 2019 emissions report prepared by SCS Engineers (Appendix B-1). Table 5 of the SCS emissions report includes an estimate of criteria air pollutants from on-road vehicles under existing conditions, existing plus project conditions (daily operations), and existing plus peak day operations.

SCS utilized the Emissions Factor (EMFAC) model to generate criteria air emissions volumes for proposed project operations. EMFAC provides emission factors in grams per vehicle miles traveled based on vehicle class types. SCS utilized vehicle miles traveled data for existing operations, existing plus project (daily) operations, and existing plus peak day operations that was developed by Hexagon Engineers in its *Z-Best Traffic Operations and Site Access Analysis* (Hexagon Transportation Consultants

2020) to estimate the daily and annual criteria air pollutants. The Hexagon report is included in Appendix G-1.

Existing and proposed project operations also result in the generation of fugitive particulate matter dust emissions associated with the composting process, such as emissions from screening and conveyor equipment and material movement between bunkers. Existing particulate matter emissions are regulated by BAAQMD permits (listed in Table 6 of the 2019 SCS emissions report). Similarly, proposed project operations would also be required to implement Best Available Control Technology for the required permitted sources, such as water spraying on the trommel screen.

Existing operations generate approximately 10,438 daily vehicle miles travelled (VMT) [3,090 non-truck miles (employee and visitor miles) plus 7,348 truck miles]. The existing 3,090 non-truck-VMT is based on 182 average daily trips consisting of 116 daily trips generated by 58 current employees plus 66 average daily trips generated by an average of 33 daily site visits by non-employees, such as outside vendors. Under existing plus proposed daily operations, VMT increases to 19,136 miles (4,074 non-truck miles plus 15,060 truck miles). Under existing plus peak day conditions, VMT increases to 23,621 miles (4,074 non-truck miles plus 19,547 truck miles). Because existing-plus-peak-day VMT is highest, the criteria emissions results calculated by SCS using VMT for existing plus peak day conditions represent worst-case daily emissions volumes.

Table 7-7, Unmitigated Operational Criteria Pollutant Emissions, summarizes the net increase in criteria air pollutant emissions from the project. The daily emissions data represents worst-case peak day proposed project operations. The values in Table 7-7 were derived by the sum of the “Trucks (peak day)” and the “non-truck” values under the “Post-Project” heading in Table 5 of the 2019 SCS report, then subtracting out the sum of the values shown under the “Existing” heading in the table to arrive at the net increase in peak day emissions. For example, post-project peak day worst-case ROG emissions would be 6.93 pounds per day [lbs/day] for trucks (peak day) + 0.12 lbs/day for other vehicles (non-trucks), or 7.05 lbs/day total. Existing ROG emissions are 2.61 lbs/day for trucks + 0.09 lbs/day for other vehicles, or 2.70 lbs/day total.

Table 7-7 Unmitigated Operational Criteria Air Pollutant Emissions

Emissions	ROG	NO_X	PM_{10}	$PM_{2.5}$
Existing Conditions - Average Daily Emissions[1] (pounds per day)	2.70	74.49	1.55	1.48
Post-Project Peak Day Conditions - Average Daily Emissions[1] (pounds per day)	7.05	197.68	4.11	3.93
Net Increase with Peak Day Project Conditions - Average Daily Emissions[1] (pounds per day)	**4.35**	**123.19**	**2.56**	**2.45**
BAAQMD Daily Thresholds (pounds per day)	*54*	*54*	*82*	*54*
Net Project Increase Exceeds Daily Thresholds?	*No*	***Yes***	*No*	*No*
Post-Project Annual Emissions[1,,2] (tons per year)	**0.79**	**22.48**	**0.47**	**0.45**
BAAQMD Annual Thresholds (tons per year)	*10*	*10*	*15*	*10*
Net Project Increase Exceeds Annual Thresholds?	*No*	***Yes***	*No*	*No*

SOURCE: SCS Engineers 2019

NOTES:
1. Results may vary due to rounding.
2. Conversion factor is 1 pound per day equals 0.1825 tons per year, based on an assumption of 365 operational days per year (i.e., 365 pounds per year divided by 2,000 pounds per ton).
Notes:
BAAQMD = Bay Area Air Quality Management District
NO_X = nitrogen oxide
PM_{10} = particulate matter with aerodynamic diameter less than 10 microns
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns
ROG = reactive organic gas

As seen in Table 7-7, the proposed project would not result in operational emissions that exceed the BAAQMD thresholds for ROG, PM_{10}, or $PM_{2.5}$. However, new on-road truck trips (trips comprised of all trucks that deliver materials, including MSW to the project site and convey finished products and waste materials from the project site) generated by the project would result in a net maximum daily emissions rate of 123.19 pounds per day of NO_X emissions, which exceeds the BAAQMD daily threshold of 54 pounds per day. On an annual basis, implementation of the proposed project would result in a net increase of 22.48 tons per year of NO_X emissions, which would also exceed the annual threshold of 10 tons per year. The emissions presented in Table 7-7 are considered to be conservative, for several reasons which are discussed in more detail below.

The primary source of increased NO_X emissions is the increase in truck trips by contract waste haulers that are required to transport feedstock to the site and to transport finished products and unusable inert materials from the site. However, implementation of the proposed project, which would enable Z-Best to compost up to 875 tons per day more MSW than is possible under existing conditions, would also result in a decrease in vehicle miles traveled from trucks transporting this waste to other landfills or to other composting facilities in the region. In other words, this waste would continue to be generated in the region and would need to be disposed in a landfill or an alternate composting facility. However, the actual avoided vehicle miles traveled in the region due to implementation of the proposed project would vary on a daily basis based on the quantity of MSW and ultimate destination (landfill or alternate compost facility) in the region. Thus, it would be too speculative to account for the associated emissions reductions from reduced vehicle miles traveled in this analysis. The 2020 SCS GHG evaluation in Appendix B-5 includes potential emission reductions from a range of truck travel scenarios for informational purposes. Based on the scenarios evaluated in Appendix B-5, potential emissions reductions could range from approximately 49 pounds of NO_X per day to approximately 153 pounds of NO_X per day, which could partially or entirely offset the on-road emissions associated with the proposed project. Therefore, the emissions presented in Table 7-7 are conservative because they do not account for the potential reduced truck travel in the region.

Furthermore, as described in Appendix B-5, all on-road trucks were conservatively assumed to be diesel-powered tractor trailers. However, it is possible that trucks traveling to and from the site could include some smaller trucks, such as single dump trucks that would have lower emission rates per vehicle mile traveled than tractor trailers. In addition, due to vehicle fleet turnover, a portion of the truck fleet may be alternatively fueled (e.g., fueled by natural gas or renewable diesel). Therefore, the emissions presented in Table 7-7 are conservative because they assume a worst-case fleet mix.

In addition, it is important to note that the CARB Truck and Bus Regulation would result in a 37 percent reduction of NO_X emissions by 2023 relative to 2014 emissions across the state and the proposed Advanced Clean Trucks Regulation would result in an estimated emission reduction of 6.9 tons of NOx per day by 2031 (CARB 2021). Therefore, as on-road truck fleets are replaced/upgraded to meet the provisions of the Truck and Bus Regulation and future regulations implemented as part of the Advanced Clean Trucks program, criteria air pollutant emissions, including NO_X emissions, associated with truck fleets that serve project operations would incrementally decline over time. Additional emissions reductions beyond those that would be achieved via the Truck and Bus Regulation and Advanced Clean Trucks may also be achieved through technological and regulatory advances that would further reduce mobile source emissions reductions. Therefore, the emissions presented in Table 7-7 are conservative, as they do not account for future regulatory or technological advances.

As detailed in the “Environmental Setting” above, exposure to criteria air pollutants can result in adverse health effects. Adverse health effects induced by regional criteria pollutant emissions, including NO_X emissions, generated by the proposed project are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_X) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NO_X generated in one area may not equate to a specific ozone concentration in that same area. As such, the magnitude and locations of specific health effects from exposure to increased ozone concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Existing models have limited sensitivity to small changes in regional criteria pollutant concentrations, and as such, translating project-generated regional criteria pollutants to specific health effects would not produce meaningful results. In other words, increases in regional air pollution from project-generated ROG and NO_X would have nominal or negligible impacts on human health to the surrounding receptors. Currently, CARB and EPA have not approved a quantitative method to meaningfully and consistently translate the mass emissions of criteria air pollutants from a particular project to localized quantified health effects.

Although the estimated emissions in Table 7-7 are conservative, the proposed project could result in a cumulatively considerable net increase in NO_X, for which the project region is in nonattainment status under an applicable federal, state, or regional ambient air quality standard. This impact is therefore conservatively identified as **potentially significant.** Mitigation would be required to reduce operational NO_X emissions.

7.4.2.1 Mitigation Options

As presented above, the primary source of increased NO_X emissions is the increase in truck trips by contract waste haulers that are required to transport feedstock to the site and to transport finished products and unusable inert materials from the site. This on-road truck fleet is independent of the Z-Best facility operations. Considering the unique nature of the proposed project’s emissions and lack of feasibility to reduce emissions from independently owned truck fleets, additional on-site mitigation measures were evaluated to consider reducing emissions to the extent feasible. Potential emission

reduction measures included encouraging lower-emitting truck fleets by providing reduced entrance fees, line jumping, and other incentives to lower-emitting vehicles, such as a tiered system of reduced fees and other incentives. However, introducing a feature like line jumping may potentially result in higher-emitting trucks idling for longer periods of time than necessary or traveling farther distances to other composting facilities in the region. In addition, truck fleets are required to be compliant with the Truck and Bus Regulation and as of January 1, 2020, only vehicles compliant with this regulation can be registered by the California Department of Motor Vehicles and as of January 1, 2023, all on-road and off-road vehicles must have 2010 or newer model year engines. As fleets turn over older trucks to meet the requirements of the regulation, the proposed project's on-road truck emissions are anticipated to be lower than the emissions shown in Table 7-7. Furthermore, as fleets continuously update their fleets to replace inefficient or inoperable engines, the proposed project's on-road truck emissions will continue to decrease.

Another potential mitigation measure considered was the installation of Level 2 electric vehicle (EV) charging infrastructure in employee and visitor light-duty parking spots and/or installation of conduit(s) for EV charging stations for trucks. The applicant would be required to comply with all applicable County requirements for EV charging. However, the proposed project would not change the existing parking capacity or configuration of the parking and truck circulation areas. Therefore, it would be infeasible at this time to incorporate changes such as EV charging infrastructure to the parking and circulation areas. Implementing and enforcing vehicle idling limits, which would reduce on-site emissions, is recommended as partial mitigation.

MM-AIR-2: Vehicle Idling Limits

The applicant shall require that the engines of on-road trucks operating within the project site be shut off while queuing for loading and unloading for time periods longer than two minutes. This requirement shall be incorporated by the project applicant into contract specifications for all operators of MSW, finished material, and waste haul trucks and the applicant shall ensure that all contractors comply with this contractual requirement. The applicant shall ensure appropriate signage and training for onsite workers is provided to support effective implementation of this limit.

Mitigation measure MM-AIR-2 would reduce NO_X emissions by a limited amount by reducing the amount of time that truck engines are idling on site; however, the vast majority of NO_X emissions would be generated by off-site truck trips, for which there is no feasible mitigation. Because MM-AIR-2 would not reduce the impact to below the BAAQMD's NO_X emission threshold of 54 pounds per day, and no other feasible mitigation is available to reduce the source of the emissions exceedance, this impact would be **significant and unavoidable**.

7.4.3 Carbon Monoxide

IMPACT AIR-3	**Operational vehicle trips would not expose sensitive receptors to substantial concentrations of carbon monoxide**	**Less than Significant**

According to the BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017a), a proposed project would result in less-than-significant impacts to localized carbon monoxide concentrations if all of the following screening criteria are met:

- The project is consistent with an applicable congestion management program (CMP) established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The proposed project includes two new sources of vehicle trip generation: truck trip generation, and employee trip generation. The maximum daily volume of 314 new truck trips (157 round trips) would occur during the 20 days of the year when the proposed daily waste intake volume increases to a maximum of 3,500 tons. Nearly all of these new trips would be limited to arriving and departing the facility during the non-peak traffic hours of 8 PM to 4 AM. A total of 64 new employee trips (32 round trips) would be generated during the AM and/or PM peak hours.

All of the carbon monoxide screening criteria are met as demonstrated in the analysis below:

- The proposed project is consistent with the applicable CMP because it would not cause any CMP facility to degrade to level of service (LOS) F since new trips would occur outside the peak traffic hours when LOS is evaluated (Hexagon Transportation Consultants 2020a);
- According to the California Department of Transportation, in 2019 (the latest year uninfluenced by the COVID pandemic for which data is available), the daily traffic volume at the intersection of SR-25 and U.S. Highway 101 was 29,500 vehicles per day, with a peak hour volume of 2,400 vehicles per hour. Daily traffic volumes on U.S. Highway 101 in this location were 68,000 vehicles per day in 2019, with peak hour volume of 6,100 vehicles per hour (Caltrans 2019). Existing peak hour traffic volume at the interchange is therefore 8,500 vehicles per hour, which is well below the threshold of 44,000 vehicles per hour. The proposed project would add a total of 378 daily trips to the roadway network (Hexagon Transportation Consultants 2020a, Table 4). The majority of these trips would be distributed to the west towards the SR-25/U.S. Highway 101 interchange; however, none of the additional truck trips would be during peak traffic hours. Therefore, the project traffic would not increase traffic volumes at the interchange to more than 44,000 vehicles per hour; and
- The project vicinity does not include any intersections where mixing is limited.

The proposed project is consistent with the applicable CMP. The project traffic would not increase traffic volumes at the interchange to more than 44,000 vehicles per hour, and the project vicinity does not include any intersections where mixing is limited. Therefore, although the proposed project would generate carbon monoxide emissions, the

proposed project would result in a **less-than-significant** impact with respect to exposure to carbon monoxide concentrations.

7.4.4 Toxic Air Contaminants from Truck Trips

IMPACT AIR-4	Operational vehicle trips would not expose sensitive receptors to substantial concentrations of Toxic Air Contaminants	Less than Significant

As presented in the Environmental Setting above, land uses associated with sensitive receptors include residential areas, schools, retirement homes, and hospitals. The only sensitive receptors in the vicinity of the proposed project site are scattered rural residences within the SR-25 corridor. The nearest school is about 2.8 miles away in the City of Gilroy. The proposed project has potential to expose residents to health risks due to TAC emissions from new truck trips traveling SR-25.

The Health Risk Assessment for Increased Truck Traffic ("health risk assessment") dated February 26, 2020, was prepared by Illingworth and Rodkin to address the health risk impacts from project-generated truck traffic on sensitive receptors along SR-25. The health risk assessment is included in Appendix B-2.

The primary health risk impacts to off-site sensitive receptors would be caused by the increase in heavy-duty diesel trucks traveling to and from the project site on SR-25. Diesel particulate matter emitted by these trucks is a potent TAC that increases cancer risk. The U.S. EPA AERMOD dispersion model was used to predict diesel particulate matter and $PM_{2.5}$ concentrations at sensitive receptors in the vicinity of the project truck travel. Residences along SR-25 both east and west of the project site were included as sensitive receptors. The locations of residences along SR-25 and their distances from SR-25 are presented in Figure 1 of the health risk assessment. The residences vary from 80 feet to about 600 feet from SR-25. The residence located 80 feet from SR-25 to the east of the project site (residence #7 as shown in Figure 1 of the health risk assessment) represents the receptor with the maximum increased cancer risk (or Maximally Exposed Individual [MEI]) caused by project truck traffic. Risk at all of the other receptors would be lower. Exposure at the MEI is a worst-case indicator of diesel health risk impacts.

The health risk assessment calculated maximum cancer risk, $PM_{2.5}$ concentration and non-cancerous health risk impacts (i.e., Hazard Index) at residence #7, the MEI. Table 7-8, Project Traffic Health Risk Impacts at the Maximally Exposed Individual, reports the community risk impacts of project truck traffic at the residence. Table 7-8 shows that project-related truck traffic would not result in health risks that exceed the BAAQMD thresholds for new sources associated with an individual project. As described previously, because this MEI represents the worst-case indicator for diesel health risk impacts, health risks would be lower at all other sensitive residential receptors along SR-25.

Table 7-8 Project Traffic Health Risk Impacts at the Maximally Exposed Individual

Source	Lifetime Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ ($\mu g/m^3$)	Maximum Annual Hazard Index
Project Increase	7.0	0.04	<0.01
BAAQMD Thresholds	*>10.0*	*>0.3*	*>1.0*
Exceeds Thresholds?	*No*	*No*	*No*

SOURCE: Illingworth and Rodkin 2020
Notes
$\mu g/m^3$ = micrograms per cubic meter
BAAQMD = Bay Area Air Quality Management District
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns

As demonstrated in Table 7-8 above, diesel emissions concentrations would not exceed the BAAQMD thresholds of significance. Therefore, the proposed project would have a **less-than-significant** impact on nearby sensitive receptors from diesel TACs.

7.4.5 Toxic Air Contaminants from Composting Operations

IMPACT AIR-5	Project site operations would not expose sensitive receptors to substantial concentrations of Toxic Air Contaminants	Less Than Significant

As presented in the Environmental Setting above, land uses associated with sensitive receptors include residential areas, schools, retirement homes, and hospitals. The only sensitive receptors in the vicinity of the project site are scattered rural residences within the SR-25 corridor. The proposed project has potential to expose residences to health risks due to TACs generated during the decomposition of MSW.

Yorke Engineering prepared the *Toxic Air Contaminant Emissions Evaluation for Proposed Capacity Expansion of the Z-Best Composting Facility* ("TAC evaluation") in June 2020. The TAC evaluation includes a review of TAC emissions generated during decomposition of MSW and applies currently accepted methodologies to assess the potential change in TAC emissions between existing conditions and post-project conditions from the proposed change in MSW composting technology and volume. The TAC evaluation is included in Appendix B-3. Although there have been minor changes in project details since the preparation of the TAC evaluation, the general site layout, proposed MSW throughput, and proposed composting system technology remain the same since preparation of the original Draft EIR; therefore, the TAC evaluation included in Appendix B-3 is still applicable.

The TAC evaluation addresses three scenarios: 1) composing TAC emissions from existing conditions where up to 700 TPD of MSW is composted using CTI technology; 2) composting TAC emissions from processing the proposed additional 875 TPD of MSW with the proposed ECS aerated static pile technology; and 3) composting TAC emissions from processing a total of 1,575 TPD of MSW (700 TPD of existing MSW plus the proposed increase of 875 TPD) using the proposed ECS aerated static pile technology. Scenario 3 is relevant to the CEQA analysis because in addition to the 875

TPD, it analyzes the change in composting processing technology applied to the total volume post project. The difference between TAC volumes under scenario 1 and scenario 3 represents the degree to which the proposed project would generate a higher or lower volume of TACs relative to existing conditions. If TAC volumes are lower under proposed project conditions using ECS technology, the project could have a positive impact from reducing TAC emissions and the associated reduction in health risk from exposure to TACs.

The following information is referenced from Yorke Engineering's TAC evaluation. The first section includes an overview of the TAC calculation methodology. The second is a summary of TAC generation under existing CTI composting process conditions. The third section presents TAC emissions from processing an additional 875 TPD of MSW using proposed ECS technology. The fourth section summarizes TAC emissions from processing 1,575 TPD of MSW using ECS technology, and includes a table comparing existing TAC volumes to post-project TAC volumes to illustrate the difference in volumes.

7.4.5.1 Analysis Methodology Overview and Terms Used

Ozone Precursor Organic Compounds

All composting TACs currently assessed by the BAAQMD and other California air districts are chemicals in a class of compounds called reactive organic gases (ROG). Ammonia is also produced, but is not classified as a ROG. ROG are called precursor organic compounds. The BAAQMD uses the acronym POC to represent ROGs in its regulations. In other California air districts and under EPA regulations, these same compounds are referred to as VOCs. These are all different names for the same class of compounds.

ROG, VOC, and POC are organic compounds that can undergo photochemical reaction with nitrogen oxides in the atmosphere in the presence of sunlight to form photochemical oxidants, which are respiratory irritants. POCs (ROGs) are considered criteria air pollutants because they are precursors to an air pollutant with an ambient air quality standard photochemical oxidants measured as ozone.

Ammonia

Ammonia is also a chemical released over the composting cycle, and is also a TAC. It is formed by nitrogen in the waste feed. The chemical formula for ammonia is NH_3. Ammonia is not an organic molecule, so it is not a POC. Although the content of MSW is chiefly organic (high carbon content), some of the organic compounds contain nitrogen. That nitrogen can form ammonia in the composting emissions. The amount of ammonia in the emissions depends on the carbon-to-nitrogen ratio in the feed streams, as well as how well the composting is aerated. The better the aeration, the lower the ammonia (and POC) emissions because more ammonia is produced in the decomposition process under anaerobic conditions (absence of air circulating through the compost).

7.4.5.2 Basic Calculation Methodology Approach

The basic methodology to estimate TAC emissions begins with the application of POC and ammonia "emission factors" to the amount of MSW being composted. Higher POC and ammonia emission factors are applied to the amount of MSW that is actively undergoing decomposition in the primary or secondary composting process. Lower

POC and ammonia emission factors are applied to the MSW feed storage piles on the tipping floor where decomposition can actually begin for the short time MSW is being screened and processed prior to being placed into active composting.

If POC and ammonia emissions are controlled by an air pollution control device after being emitted during the composting process, as would be the case with the ECS technology, then a control efficiency factor is applied to reflect that emissions controlled through improved aeration would be further reduced by the device. For example, if the composting process emissions are 80 percent controlled, then 20 percent of the composting emissions will vent to the atmosphere.

Ammonia emissions are estimated using the emission factors and control device efficiencies, discussed in detail on pages 2 through 5 in Appendix B of Yorke's TAC evaluation (Appendix B-3). Emissions of the other TACs are fractions of the POC emissions from the composting process. Therefore, the estimated TAC emissions after any emission control occurs are determined by first estimating the POC emissions, then applying a factor to reflect that TACs are a fraction of the POC emissions. Each measured individual VOC (POC) is a percentage constituent of the total VOC (POC) emissions. The emissions of the class of POCs from composting that are also TACs are estimated by applying the percentage fractions, referenced in Appendix B of the TAC evaluation in Appendix B-3. The TACs that are POCs include: isopropyl alcohol, methanol, naphthalene, propene, and acetaldehyde.

More specifics on the emission factors and control equipment assumptions used for the existing CTI bag composting process and proposed ECS aerated static pile composting process emissions are described below.

7.4.5.3 TAC Emissions from Existing CTI MSW Composting

To assess potential POC emissions from the CTI bags from which TAC estimates are derived, POC emission factors were taken from a CARB report referenced in the TAC evaluation. A POC emission factor of 3.58 pounds of POC per ton of waste composted (lb/ton) over the composting (active and curing) cycle and a POC emission factor of 0.2 pounds per ton per day for storage piles on the tipping floor were used. TAC emissions from these POC emissions were then determined as described earlier using the percentage factors discussed in detail on pages 2 through 5 in Appendix B of Yorke's TAC evaluation in Appendix B-5. The recommended ammonia emission factor in the CARB report is 0.78 lb/ton. Ammonia emissions from storage piles were not addressed in the CARB report. An ammonia emission factor of 0.02 lb/ton was used from BAAQMD Application 26437 (for Waste Management of Alameda County – Altamont Pass).

The existing CTI composting process at Z-Best does not employ air pollution control devices, thus no emissions control factors were applied.

Tables 1 and 2 under the "Existing MSW/Food Waste Processing" heading on page 1 of Attachment 1 to the TAC evaluation in Appendix B-5 provide details on POC/ammonia emissions and TAC emissions from the CTI bags resulting from the currently permitted throughput of 700 TPD of MSW using the cited emission factors. Example calculations used to derive the ammonia and TAC emissions in Tables 1 and 2 are shown on page 2 of Attachment 1. The TAC volumes shown in Table 2 are replicated below in Table 7-9, Existing and Post-Project Conditions TAC Emissions, under the column heading "Existing Conditions (700 TPD/CTI Process)".

Table 7-9 Existing and Post-Project Conditions TAC Emissions

Compounds	Existing Conditions (700 TPD/CTI Process)[1]		Total Post-Project (1,575 TPD/ECS Process)[2]		Net Change	
	Hourly Emissions (lbs/hr)	Annual Emissions (lbs/yr)	Hourly Emissions (lbs/hr)	Annual Emissions (lbs/yr)	Hourly Emissions (lbs/hr)	Annual Emissions (lbs/yr)
Isopropanol	44.80	392,000	1.68	14,700.00	-43.10	-377,300.00
Methanol	13.50	25,700	0.51	4,460.00	-13.00	-21,240.00
Naphthalene	0.53	1,000	0.02	174.00	-0.51	-826.00
Propene	0.23	441	0.01	76.70	-0.22	-364.30
Acetaldehyde	0.15	281	0.01	48.80	-.0.14	-232.20
Ammonia	22.9	201,000	1.46	12,800.00	-21.40	-188,200.00
Total	**82.11**	**620,422**	**3.69**	**32,259.50**	**-78.37**	**-588,162.50**

SOURCE: Yorke Engineering, June 2020
Notes:
1. Values taken from Table 2, TAC Composting Emissions, on p. 1 of Attachment 1 of the TAC evaluation report in Appendix B-5.
2. Values taken from Table 2, TAC Composting Emissions, on p. 5 of Attachment 1 of the TAC evaluation report in Appendix B-5.
Notes:
CTI = Compost Technologies, Inc.
ECS = Engineered Composting System
lbs/hr = pounds per hour
TAC = toxic air contaminant
TPD = tons per day

7.4.5.4 TAC Emissions from Proposed ECS Composting Process with 875 Tons Per Day of New MSW Composting

As a Responsible Agency, the BAAQMD provided scoping comments in response to the NOP for the proposed project. The comments are included in Appendix A-2. At the request of Z-Best, SCS Engineers, as consultants to the applicant, prepared responses to the BAAQMD letter. The responses are included in SCS' December 20, 2019, response letter (SCS Letter), included as Appendix B-1, which incorporates revisions to reflect a peer review undertaken by EMC Planning Group. The following summarizes MSW composting air emissions calculations from the proposed ECS system as presented in the SCS Letter.

SCS cited a source test report for a facility in Southern California similar to the proposed ECS system proposed at the project site. POC emission factors from that source test were used to calculate POC emissions from the primary CASP and secondary eASP phases of the composting process for the additional 875 TPD of MSW. For primary phase composting, a biofilter would provide emissions control, providing 80 percent POC emissions reduction. For the secondary curing phase, a moist compost cover layer would provide for emissions control that would provide 50 percent POC emissions reduction. For MSW storage piles on the tipping floor, the POC emission factor of 0.2 lb/ton described above was used. Waste would also be tipped directly into the CASP bunkers, which would result in no emissions from tipped waste before being added to the bunkers. Total POC emissions from in-building tipping, primary composting in CASP bunkers and secondary composting in eASP bunkers from the additional 875 TPD of

MSW, were calculated at 9.67 tons per year. See Table 1, POC Emissions from the Additional 875 TPD MSW/Food Waste Composting, in the TAC evaluation in Appendix B-3. The 9.67-ton value is derived from calculations shown in Table 1 on page 3 of Attachment 1 of the TAC evaluation.

The TAC emissions for this scenario are largely derived from the POC calculation as previously described. Table 2 under the "Post-Project Additional MSW/Food Waste Processing" heading on page 3 of Attachment 1 of the TAC evaluation includes the TAC emissions estimates. Sample TAC calculations for this scenario are shown on page 4 of the Attachment. The TAC emissions estimates for this scenario represent an "interim" condition. They are provided for informational purposes and represent the incremental change in TAC emissions from composting an additional 875 TPD of MSW using ECS technology. Therefore, the results are not shown in Table 7-9.

7.4.5.5 TAC Emissions from Proposed ECS Composting Process at 1,575 Tons per Day of MSW Composting

Calculations for TAC emission for this post-project scenario are shown on pages 5 and 6 of Attachment 1 to the TAC evaluation. The analysis methodology is the same as that used for the 875 TPD scenario presented above, but the methodology is applied to processing the maximum permitted daily MSW processing capacity of 1,575 TPD. This scenario represents the worst-case TAC emissions scenario for the proposed project, because it addresses both the proposed increase in composting tonnage and the proposed change in composting technology from CTI to ECS. Calculations for this scenario start on page 5 of Attachment 1 of the TAC evaluation under the heading "Post-Project Total MSW/Food Waste Processing." Table 2 under that heading, also on page 5, shows the TAC volumes that would be produced. Those TAC values are replicated in Table 7-9 under the column heading "Total Post-Project (1,575 TPD/ECS Process)."

As shown in the "Net Change" column in Table 7-9, annual TAC emissions from composting 1,575 TPD under post-project conditions using the ECS technology would decline substantially compared to existing conditions. TAC reductions ranging from about 83 percent (e.g., acetaldehyde) to about 96 percent (e.g., isopropanol) would occur relative to existing conditions where 700 TPD of MSW are processed using the CTI technology. As identified in one of the applicant's project objectives listed in Section 4.2, use of the ECS aerated static pile technology is considered a best management practice for MSW composting.

7.4.5.6 Conclusion

The CASP technology would significantly improve control of composting-related TACs relative to the existing CTI technology process. Under proposed project conditions, annual TAC emissions from MSW composting would decline by approximately 95 percent relative to existing conditions. Therefore, this impact would be **less than significant**, and no mitigation is required.

7.4.6 Odor Emissions

IMPACT AIR-6	The project would not result in increased odor emissions affecting a substantial number of people	Less Than Significant

The *Air Dispersion Modelling Report Z-Best Composting Facility Current & Proposed Expansion Gilroy, California, USA* (hereinafter "air dispersion report") was prepared for the proposed project by Englobe (2019) on behalf of Z-Best (the project applicant). The air dispersion report was peer reviewed by Yorke Engineering, a subconsultant to the County's consultant for the original Draft EIR, EMC Planning. In the Review of Odor Modeling letter dated August 6, 2019, Yorke Engineering found the air dispersion report by Englobe to be adequate and consistent with professional practice. The air dispersion report and peer review letter are included in Appendix B-4. While there have been minor changes to the project since preparation of the original Draft EIR, the general site layout, proposed composting system technology, and odor emission sources remain the same. Minor changes to the project since the report was prepared include factors such as a reduction in the total volume of air delivered per ton of feedstock in the proposed composting system technology. A decrease in airflow through the ECS bunkers would be anticipated to decrease odor generation, because the odor release rate is a function of the source odor concentration and the air flow through the source (ECS 2019), Therefore, the air dispersion report included in Appendix B-4 is considered to be conservative and the minor changes to the project would not substantially affect the conclusions of the report.

The purpose of the air dispersion report was to compare the odor footprint of the current CTI composting technology with the odor footprint from the proposed ECS composting technology using air dispersion modeling and based on increased MSW composting capacity. Odor emission rates for the current CTI composting technology were derived from on-site odor measurements and averaged and modeled as a single source. For the proposed ECS composting technology, odor emissions rates were obtained from odor sampling measurements at a similar facility in Mariposa, California. It is difficult to obtain existing emissions factors to estimate odor characteristics of new sources that are highly specific to the new source. Finding specific references for odor emission rates from existing literature is challenging because odor units are not currently universally used. Using emissions rates from similar facility types, as was done for the air dispersion report, is common professional practice.

Green waste windrows and other emissions sources at the project site were not part of the air dispersion report because those functions would remain unchanged from existing conditions (in terms of both type of process and volume processed), therefore odor emissions associated with those sources would also remain unchanged.

A threshold of 4 OU/m^3 was used as the level at which odor reaches a nuisance level. This standard establishes an odor threshold requirement of four volumes of odor free air to one volume of exhaust air to reach the odor detection threshold consistent with typical practice for projects within the BAAQMD's jurisdiction (Yorke Engineering 2019). The air dispersion report presents average results over a six-year period (2010-2015) and maximum results over a 1-hour exposure period (98 percentile) for both existing operations and proposed operations at the Z-Best facility. The air dispersion report uses preprocessed data (5th-generation Mesoscale Model or MM5) for the six-year averaging

period 2010-2015. The MM5 data was utilized because the Gilroy meteorological station is no longer recording site data. Utilizing MM5 data is a common practice in air dispersion modeling and is widely accepted by the EPA and local air districts (Yorke Engineering 2019). The 2010-2015 data was the most recently available data at the time the original air dispersion report was prepared in 2017.

The results of the modeling are presented in Figures 7-1 through 7-4. Figure 7-1, Maximum 98 Percentile Odor Concentration in Current CTI Technology, indicates that existing 1-hour (98 percentile) odor concentrations at five of the discrete receptors is above 4 OU/m^3, suggesting odors could be perceived at these locations. Figure 7-2, Maximum Averaging Percentile Odor Concentration in Current CTI Technology, shows that the 6-year average odor concentration at two of the discrete receptors is below 4 OU/m^3.

As shown on Figure 7-3, Maximum 98 Percentile Odor Concentration in Proposed ECS Technology, 1-hour (98 percentile) odor concentrations at all of the discrete receptors would be located within areas that are below the 4 OU/m^3 threshold. As shown on Figure 7-4, Maximum Averaging Percentile Odor Concentration in Proposed ECS Technology, all of the discrete receptors would be located within areas below the six-year average odor concentrations of 4 OU/m^3 level.

Odor concentrations for the proposed ECS technology would be well below 4 OU/m^3 at the discrete neighboring receptors and would be significantly lower relative to the current CTI technology. This can be attributed to the fact that the proposed ECS technology would facilitate more complete aerobic decomposition of compost feedstock, with the result that odor emissions would be substantially reduced. With the proposed change in technology, odor emissions under post-project conditions would decline relative to existing conditions. Therefore, this impact would be **less than significant.**

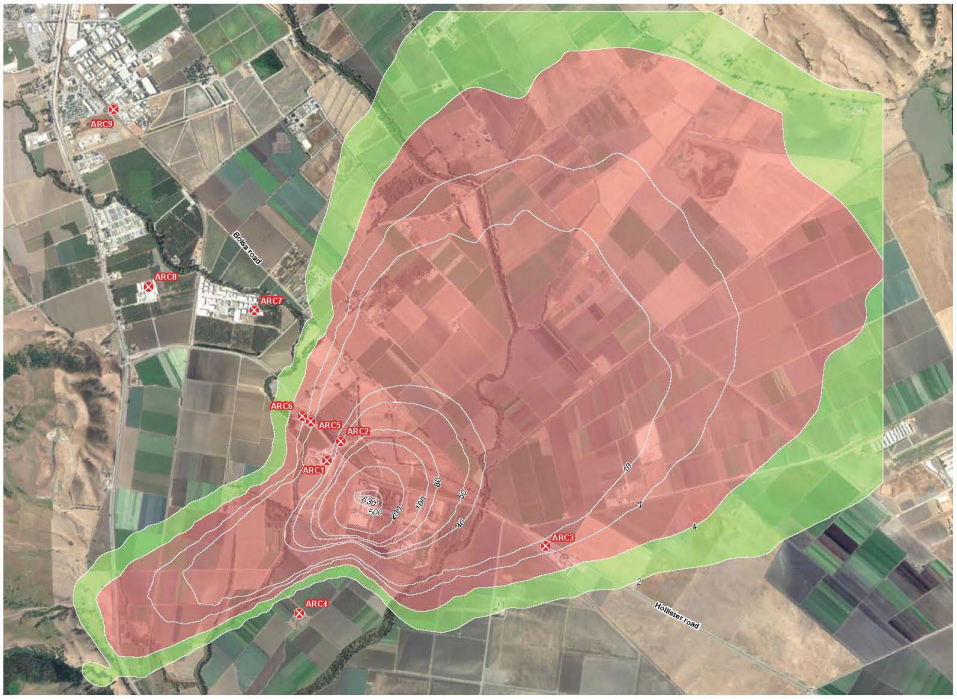


Figure 7-1 Maximum 98 Percentile Odor Concentration with Current CTI Technology

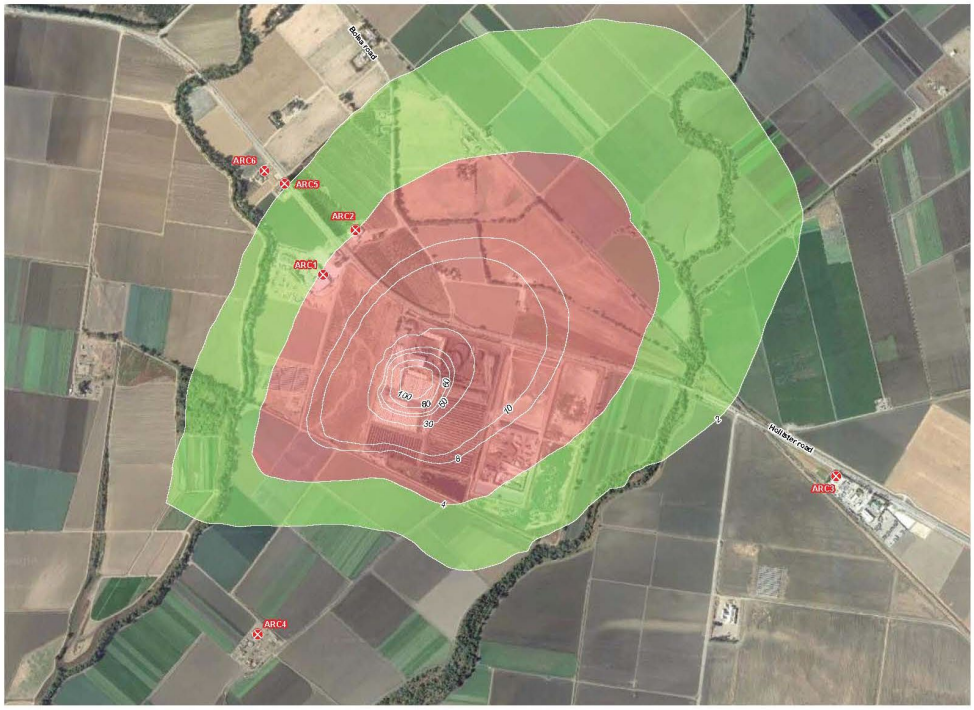


Figure 7-2 Maximum Averaging Percentile Odor Concentration with Current CTI Technology

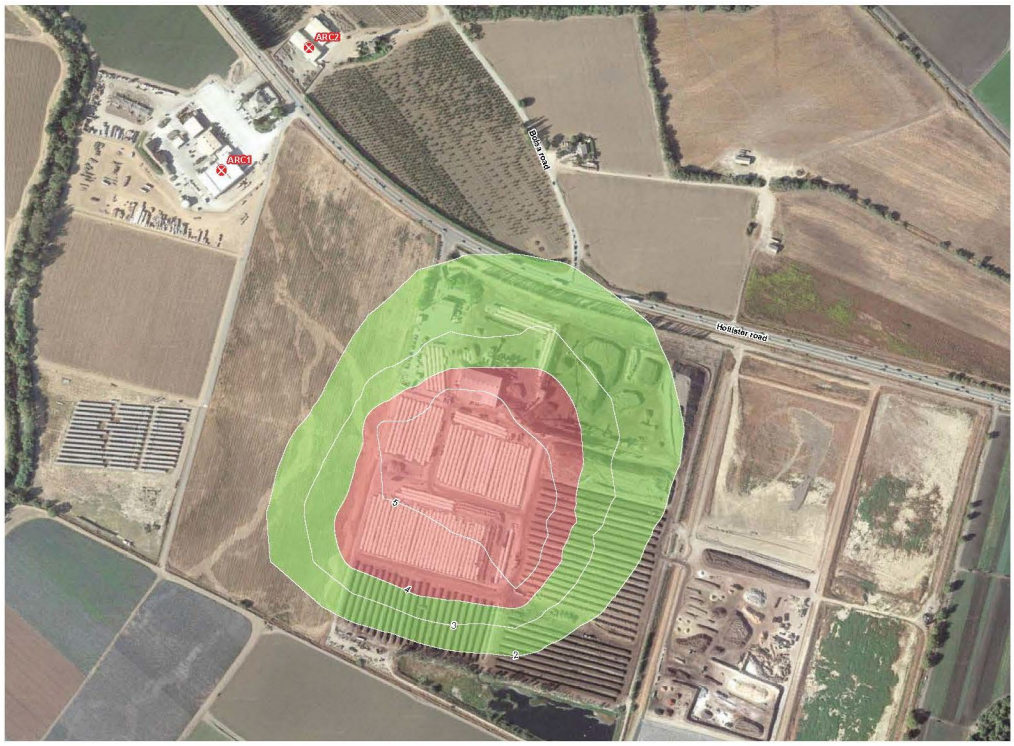


Figure 7-3 Maximum 98 Percentile Odor Concentration with Proposed ECS Technology

Figure 7-4 Maximum Averaging Percentile Odor Concentration with Proposed ECS Technology

7.4.7 Bioaerosol Emissions

IMPACT AIR-7	The project could result in increased bioaerosol emissions affecting a substantial number of people	Significant and Unavoidable

An analysis of the proposed project's potential to generate bioaerosol emissions and potential impacts of such emissions on agricultural workers on adjacent properties or on the viability of horticultural activities on adjoining parcels was conducted by AECOM and is provided in Appendix B-6. Bioaerosol emissions from the Z-Best facility are expected to include a wide variety of microorganisms including but not limited to bacteria, fungi, viruses, protozoa, algae as well as their metabolic byproducts and toxins including β-1,2 Glucans, microbial volatile organic compounds, endotoxins, mycotoxins, other toxins. Most of these bioaerosols are ubiquitous in the environment and already exist in rural and agricultural areas.

As detailed in Appendix B-6, bioaerosol emission rates and dispersal at composting sites are influenced by many factors, including compost temperature, sorting, shredding and turning of the piles, geographic area, topography, meteorological conditions (e.g., temperature, humidity, wind and weather), and the composition of the source organic material (Conza et al 2013). Emission of bioaerosols at the Z-Best facility would be anticipated to occur during activities such as unloading/loading, sorting/grinding, turning of the green waste windrows, aeration of MSW compost piles, and screening/blending, as well as during movement of materials from one step of the process to another. The volume of emissions would be anticipated to vary based on the frequency and duration of such activities and the volume of feedstock being processed.

Although the source composition of inbound materials is not anticipated to change, the volume of materials processed would be increased substantially (more than double) as a result of the proposed project. If all other factors were held equal, then this increase in volume would be anticipated to result in a doubling of bioaerosol emissions at the facility. However, because the proposed project would also use a new process for MSW composting, other factors would also influence the quantity and type of bioaerosol emissions and their dispersal.

Some of these factors may increase the quantity of bioaerosol emissions released from the facility. For example, the proposed ECS system involves concrete bunkers that are open to the air on the top surface and one side during the active composting phase; whereas, the active composting phase of the existing CTI system occurs inside bags for the entire duration. Thus, the proposed project would increase the surface area of materials exposed to wind, which in turn would increase the potential for bioparticles to be dispersed. In addition, the proposed aeration system for the proposed ECS system would involve positive and negative aeration through a biofilter. The primary purpose of the biofilter is to capture larger particulate matter and odors associated with the primary compost phase. While similar biofilters have been demonstrated to reduce *A. fumigatus* bioaerosols to levels that are equivalent to background levels (Sanchez-Monedero et al 2003), the biofilter materials could be an additional source of bioaerosols if bacteria and fungi are able to grow within the biofilter matrix. The proposed ECS system would also include an extra step of material movement (from primary bunkers to secondary bunkers) that is not present within the current CTI system. This additional material

handling would be expected to increase bioaerosol emissions, due to the additional agitation of materials.

However, other factors associated with the proposed project may reduce the quantity of bioaerosol emissions and/or the viability of organisms within them. For example, the proposed ECS system is expected to reach pathogen reduction temperatures of 55 degrees Celsius in the primary composting phase after 48 hours, whereas the existing CTI system has been documented to take up to 6 days to reach the same temperature. Attainment of pathogen reduction temperatures over a shorter period of time is expected to reduce the number of viable organisms, particularly pathogenic enteric bacteria. Similarly, the leachate and stormwater capture improvements associated with the proposed ECS system are expected to reduce bioaerosol production and distribution and the installation of a liner on the existing Detention Basin #1 would also reduce the potential risk of microbiological contamination of the groundwater.

Another factor in the evaluation of whether the proposed bioaerosol emissions would result in significant adverse effects for nearby residents or agricultural workers, is distance. Bioaerosol concentrations quickly reduce with distance, and previous studies at other facilities have found that concentrations typically reduce to background levels within approximately 75 to 300 meters (246 to 984 feet) downwind of composting activities. The closest residential sensitive receptor is 225 meters (735 feet) from the boundary of the Z-Best facility, and is approximately 400 meters (1,312 feet) from the area of the site where the new ECS technology would be installed and operated (Area 1B). Thus, the risk to residents within the nearest residence is expected to be minimal. All other residential dwellings are beyond 300 meters. As described in Appendix B-6, the risk to agricultural workers on adjacent properties is also expected to decrease with distance from the property boundaries and would be highly dependent on wind direction and the amount of time that such workers would spend in close proximity to the facility during downwind conditions.

The predominant wind direction in the vicinity of the site is from the west-southwest (Englobe 2019). Because active MSW composting (and proposed changes to the MSW composting process) occurs within the southwest portion of the Z-Best facility (Area 1B), the majority of the time the adjacent farmland would not be directly downwind of these potential new bioaerosol sources, as the other areas of the Z-Best facility to the east and north (Areas 1A, 1C, and 2) would act as a buffer between the ECS bunkers and adjacent properties. Furthermore, it is understood that the northernmost fields of the adjacent ranch are currently fallowed, in accordance with industry guidance requiring setback of food crop fields from active composting facilities (Taylor 2021; Willoughby Farms 2021). Therefore, farm workers are unlikely to spend substantial periods of time in the fields closest to the project site.

The potential for bioaerosol emissions to affect nearby food crops was also evaluated, as requested by one of the comments on the original Draft EIR. As discussed in Appendix B-6, the majority of enteric pathogens would become inactivated by the heat of the primary composting process and thus it is not expected for there to be any increased risk of enteric pathogens to nearby food crops as a result of the proposed project. In addition, because the industry guidelines for setbacks of food crop production from composting facilities appear to be based on a fixed distance from the facility and not the quantity of material processed or the method of composting, and the proposed project would not alter the boundaries of the facility, no food crops would be grown in

areas immediately adjacent to the project, and bioaerosols would quickly reduce before reaching food crop fields beyond the setbacks identified in industry guidelines.

Therefore, while the proposed project would double the volume of MSW that would be processed, as shown in Appendix B-6, the understood risk from bioaerosols based on published studies appears to be distance-related and not volume-related. Because the distance between the Z-Best facility and adjacent uses would not change, it would be unlikely for adverse health and environmental impacts to occur. However, since regulatory exposure limits have not been established, and due to the uncertainties explained above and detailed in Appendix B-6, potential health and environmental impacts due to bioaerosol emissions cannot be ruled out. Thus, this impact is identified as **potentially significant**. Implementation of Mitigation Measures MM-AIR-7a and MM-AIR-7b would be required.

MM-AIR-7a: Dust Monitoring

Prior to issuance of an operating permit, the project applicant shall retain a qualified industrial hygienist to design and conduct a fenceline dust monitoring program (as a proxy for the monitoring of bioaerosols) to establish baseline conditions at the site under normal (existing) operating conditions. Following installation of the new composting equipment and when the project is fully operational and at maximum composting volume, the industrial hygienist shall perform a second round of dust monitoring during typical project operations to determine if the new technology causes an increase in fugitive dust emissions (which may also indicate an increase in bioaerosol emissions). The monitoring plan shall be submitted to the County Planning Department for review and approval prior to implementation, and results shall be reported to the County Planning Department. If dust emissions under full project conditions are equal to or less than the baseline conditions, then no further monitoring is required. If dust emissions under full project conditions are greater than baseline conditions, then additional dust control measures or other operational practices shall be implemented to reduce dust and bioaerosol concentrations to the extent feasible, and additional monitoring, designed and undertaken by a qualified industrial hygienist, and reviewed and approved by County Planning Department, shall be undertaken to verify the effectiveness of the controls and to determine whether further control measures are warranted.

MM-AIR-7b: Equipment Maintenance and Biofilter Replacement

To prevent the growth of bacteria and fungi within the biofilter matrix, the matrix shall be maintained and properly replaced in accordance with manufacturer's specifications. All equipment within the ECS system, including monitoring that the proposed ECS system is attaining the appropriate pathogen reduction temperatures within the anticipated timeframe (i.e., 48 hours), shall be checked by a qualified technician and determined to be running in proper condition prior to daily operation. Records of required daily monitoring and maintenance shall be retained by the applicant and provided to the County Planning Department annually, or more frequently upon request.

With implementation of MM-AIR-7a and MM-AIR-7b, it is anticipated that the potential for health and environmental impacts due to bioaerosol emissions would be reduced, as measures to minimize fugitive dust emissions would also serve to reduce bioaerosol

emissions. Dust monitoring is suggested as a proxy for bioaerosol monitoring, due to the complexity of sampling for bioaerosols, the wide variety of types of bioaerosols, and the lack of regulatory exposure limits. However, since the effectiveness of MM-AIR-7a and MM-AIR-7b cannot be quantified and there are no regulatory exposure levels for this impact, this impact has been conservatively determined to be **significant and unavoidable**.

7.4.8 Consistency with Clean Air Plan

IMPACT AIR-8	**The project would be inconsistent with the Clean Air Plan due to NO_X emissions from operational truck trips**	**Significant and Unavoidable**

New on-road truck trips generated during project operations would result in NO_X emissions that exceed BAAQMD thresholds as described in Impact AIR-2 above. As explained by the BAAQMD in its 2009 report justifying the criteria air pollutant significance thresholds (BAAQMD 2009), the thresholds for the ozone precursors ROG and NOx are tied to the air district's offset requirements for ozone precursors, based on the fact that the SFBAB is not in attainment with the federal ozone standard. Therefore, such an approach is appropriate "to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevention of a regionally cumulative significant impact (e.g., worsened status of nonattainment)." As discussed in Impact AIR-2, NO_X emissions during operations would remain significant and unavoidable even with implementation of mitigation measure MM-AIR-2. However, it should be noted that implementation of the proposed project would be consistent with strategies included in the 2017 Clean Air Plan related to waste management, including WA3 (Green Waste Diversion), which calls for the development of model policies to facilitate local adoption of ordinances and programs to reduce amount of green waste going to landfills. Since the proposed project would increase MSW capacity at Z-Best, and this MSW may include green waste, the proposed project would also be consistent with the goals of the 2017 Clean Air Plan to reduce all pollutants.

Although the proposed project would be consistent with strategies included in the 2017 Clean Air Plan, because the proposed project would result in an exceedance of NOx emissions, it would conflict with the overall purpose of the Clean Air Plan, which is to implement strategies to continue progress toward attaining all state and federal ambient air quality standards, including ozone. Therefore, this impact is **significant and unavoidable.**

8 Biological Resources

This section addresses existing biological resources within the project site and the impact areas along State Route 25 (SR-25); the federal, state, and regional/local regulatory framework pertaining to biological resources; and potential impacts to biological resources as a result of the proposed project. This evaluation is based on two reconnaissance field surveys conducted by an EMC Planning Group biologist (February 5, 2019, and February 6, 2020); a review of existing scientific literature, aerial photographs, and technical background information; and policies applicable to projects located in unincorporated Santa Clara County. The section was updated in July 2022 to reflect revised project details and updated biological database searches.

Information in this section is derived from a variety of sources including:

- California Red-legged Frog Habitat Assessment at the Z-Best Composting Facility, Santa Clara County, California (WRA 2014) in Appendix C-1;
- Verification of Absence of Sensitive Species and Habitat covered by the SCVHP (WRA 2017) in Appendix C-2;
- Biological Report for Site Access Change at the Z-Best Composting Facility (EMC Planning Group 2020a) in Appendix C-3;
- California Natural Diversity Database (California Department of Fish and Wildlife 2022) in Appendix C-4;
- Inventory of Rare and Endangered Plants (California Native Plant Society 2022) in Appendix C-4;
- Endangered Species Program (U.S. Fish and Wildlife Service 2022a); and
- National Wetlands Inventory (U.S. Fish and Wildlife Service 2022b).

There were no NOP comments regarding biological resources. Comments on the original Draft EIR relating to biological resources were limited to concerns regarding the potential for increased vector (e.g., birds and mammal) activity at the site, and the relationship between loss of on-site nesting habitat and impacts on adjacent crop land, as discussed previously in Section 6, *Agriculture and Forestry Resources*.

8.1 Environmental Setting

The composting facility was surveyed by WRA in 2014 to determine the potential presence of California red-legged frog (*Rana draytonii*). EMC Planning Group biologist Gail Bellenger conducted two reconnaissance-level field surveys on February 5, 2019, and on February 6, 2020, to verify conditions for California red-legged frog (*Rana draytonii*) as described in the 2014 WRA Environmental Consultants (WRA) report, to document existing plant communities and wildlife habitats, and to evaluate the potential for other special-status biological resources to occur within or adjacent to the facility, specifically where improvements are proposed. For both surveys, qualitative estimations of plant cover, structure, and spatial changes in species composition were used to determine plant communities and wildlife habitats. Habitat quality and disturbance level

were also noted. In 2022, AECOM biologists reviewed current and historic aerial photographs of the site to confirm that previous descriptions were still accurate.

Because the project site is currently operational and contains little or no biological resources, the environmental setting has been narrowed down to the areas where improvements have been proposed and additional biological analysis is warranted. Please refer to Section 4.3, Project Description, for more information on these improvements. For purposes of analysis of potential impacts to biological resources, project improvements have been categorized as follows:

- Compost Facility. This includes “Area 1” as shown on Figure 4-1, Site Plan, where the elevation of the existing CTI process composting pad would be raised by one foot as part of this project. No habitat or biological resources occur at the Compost Facility due to existing operation of the facility.
- Survey Area 1. The existing Detention Basin #1, for which modifications are proposed, and an approximately one-acre area adjacent to SR-25, in which disturbance to expand Z-Best’s existing flood storage facility would occur. The Detention Basin #1 and proposed flood storage areas are shown on Figure 4-1, Site Plan, and Figure 8-1, Habitat Map: Survey Area 1.
- Survey Area 2. The three separate impact areas as shown on Figure 4-8, Project Entrance/Driveway and SR-25 Improvements-Areas of Impact, and Figure 8-2, Habitat Map: Survey Area 2. These impact areas correspond to the locations of a proposed new site access/entrance road and to areas on both the north and south sides of SR-25 where the highway would be widened to accommodate new turn lanes on the highway.

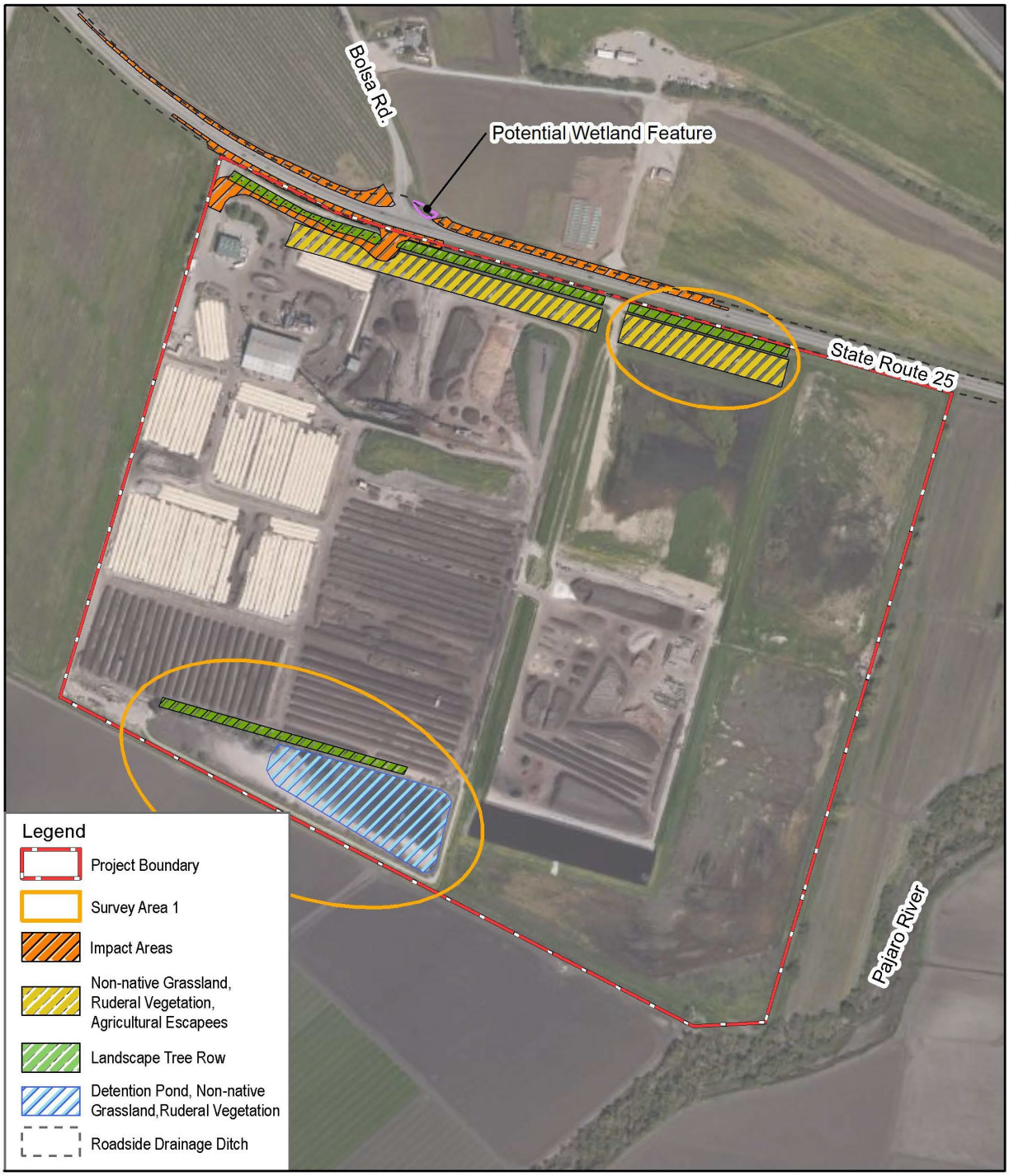
The first reconnaissance-level survey included a general survey of the compost facility and detailed surveys of Detention Basin #1 and the flood storage expansion within Survey Area 1. The second reconnaissance-level survey was conducted in response to a change in the project description wherein three additional improvements were proposed and is referred to as Survey Area 2. The WRA reports for Survey Area 1 and the EMC Planning Group reconnaissance survey results for Survey Area 2 are included in Appendices C-1 and C-3.

The compost facility and impact areas along SR-25 are situated on the Chittenden U.S. Geological Survey (USGS) 7.5-minute quadrangle map, with ranges in elevation from approximately 143 to 151 feet. Agricultural land surrounds the facility and SR-25. The Pajaro River is adjacent to the compost facility to the southeast and Carnadero Creek is approximately 1,700 feet to the west. The facility is within the Central Western California region, and San Francisco Bay Area sub-region, which encompasses a diversity of plant communities (Baldwin 2012). The climate in the area is Mediterranean, with warm and dry summers, and winters tending to be cool and wet. Most of the annual rainfall occurs between the months of December and March. The soil types mapped across the project site, according to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service Web Soil Survey, are Clear Lake clay, drained, Clear Lake clay, saline, Pacheco clay, and Sunnyvale silty clay (USDA Natural Resources Conservation Service 2022).

The National Wetland Inventory mapped one aquatic riverine feature within the western portion of the existing compost facility, however, aerial imagery suggests this feature has been developed over and no longer exists (USFWS 2022b). Irrigation ditches within

the study area are maintained for stormwater and irrigation run-off, but are not mapped by the NWI. Other aquatic features within the vicinity of the project, but not within the project footprint, include freshwater emergent wetlands and freshwater forested/shrub wetlands associated with the Pajaro River to the east and the Carnadero Creek to the west.

The main facility was constructed on agricultural fields between 1998 and 2002. Since then, almost the entire parcel has been modified with access roads and buildings, graded and compacted MSW and green waste composting pads, surface water drainage facilities, a parking lot, pads for processing MSW and green waste, detention facilities, etc.



Source: ESRI 2018, Santa Clara County GIS 2015, Ruggeri-Jensen-Azar 2020

Figure 8-1 Habitat Map: Survey Area 1

Source: ESRI 2018, Santa Clara County GIS 2015, Ruggeri-Jensen-Azar 2020

Figure 8-2 Habitat Map: Survey Area 2

8.1.1 Survey Area 1

Survey Area 1 was surveyed on February 5, 2019, by an EMC Planning Group biologist and included the existing Detention Basin #1 and an approximately one-acre area adjacent to SR-25 in which an expansion of the existing Z-Best flood storage facility is planned. Figure 8-1, Habitat Map: Survey Area 1, presents the general survey boundaries and habitat features present. The area in and around Detention Basin #1 supports planted landscape trees, non-native grasses, and ruderal vegetation. No wetland or riparian vegetation was identified in or adjacent to the detention basin during the survey. The constructed basin was designed to collect rainfall and runoff from the site; however, it is also used to support the decomposition process by storing water for use on the compost windrows. Leachate from the compost is continuously pumped, sprayed, and cycled from the basin, resulting in the accumulation of highly turbid (nearly black) water.

The flood storage expansion area south of SR-25 was utilized for row crop agriculture until 2016, when it was graded for use as part of the composting operation. At the time of the survey, vegetation present was dominated by non-native grassland species, including cheeseweed (*Malva neglecta*), bristly ox-tongue (*Helminthotheca echioides*), curly dock (*Rumex crispus*), filaree (*Erodium botrys*), and an agricultural escapee, chard (*Beta vulgaris*). A row of landscape trees has been planted along the northern boundary. The 2022 project plans include a larger flood storage expansion area south of SR-25 than was previously surveyed and described above as Survey Area 1. However, based on current aerial photography of the project site (Google 2022) and information provided by the applicant, this expanded area has been extensively modified by existing operations at the site, and contains little to no vegetation, and much of the vegetation previously described within the original flood storage area, other than the ornamental trees and associated groundcover, has also been removed since the survey was undertaken.

Bird species observed within Survey Area 1 included American crow (*Corvus brachyrhynchos*) and seagulls (*Larus occidentalis*). There were no mammal species observed, but several small one- to three-inch wide animal burrows were found in the flood storage expansion area south of SR-25, adjacent to the road. These could be used by California vole (*Microtus californicus*) or California ground squirrel (*Spermophilus beecheyi*). No other animal signs were found. Other wildlife that could use this area include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Botta's pocket gopher (*Thomomys bottae*). Several gopher moles with plugged holes were noted within survey area 2, but no other burrows were observed.

8.1.2 Survey Area 2

EMC Planning Group surveyed Area 2 on February 6, 2020, and included the three impact areas and general vicinity associated with construction of a new entrance as shown on Figure 4-8. Figure 8-2, Habitat Map: Survey Area 2, shows the general survey boundaries and habitat features present.

The proposed new access driveway parallel to and south of SR-25 is planned within a heavily disturbed area containing a compacted gravel road used by vehicles that is bordered by a row of ornamental poplar trees Z-Best has planted as a visual screen

along the site frontage with SR-25, as shown in Figure 8-2. To widen SR-25, new paving would be required along both the northern and southern sides of the highway. The road shoulders currently consist of compacted dirt and gravel with scattered non-native grasses.

Storm water drainage ditches approximately 15-feet wide run parallel along both sides of the highway. To accommodate the paving, the ditches would be filled and replaced with 24-inch storm water drainage pipes. At the time of the survey, the drainage ditches were dry but densely vegetated with ruderal (weedy) species such as cheeseweed *(Malva parviflora*), bristly ox-tongue (*Helminthotheca echiodies*), filaree (*Erodium botrys*), and chard (*Beta vulgaris*), most likely an agricultural escapee. Scattered cattail (*Typha* sp.) remnants were periodically interspersed with the ruderal species within the drainage ditch north of SR-25. A row of planted poplar trees used for visual screening of the compost facility is present along the south side of SR-25. A small wetland area was identified east of the intersection of Bolsa Road and SR-25. The wetland contained evidence of wetland vegetation (cattails), however the identification of additional wetland species potentially present was not possible due to the time of the year. No substantial changes to the vegetation in Survey Area 2 have occurred since the original survey.

Bird species noted within Survey Area 2 include American crow (*Corvus brachyrhynchos*), seagull (Larus occidentalis), and mourning dove (*Zenaida macroura*). No mammal or amphibian species were observed, but several gopher mounds were noted in the grassy area in the center of the driveway impact area. No other small mammal burrows were found.

8.1.3 Special-Status Species

Special-status species in this report are those listed as endangered, threatened, or rare, or as candidates for listing by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW) under the state and/or federal endangered species acts. The special-status designation also includes CDFW Species of Special Concern and Fully Protected species, California Native Plant Society (CNPS) Rare Plant Rank 1B and 2B species, and other locally rare species that meet the criteria for listing as described in Section 15380 of CEQA Guidelines. Special-status species are generally rare, restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring.

A search of the CDFW California Natural Diversity Database (CNDDB) was conducted for the Mount Madonna, Gilroy, Gilroy Hot Springs, Watsonville East, Chittenden, San Felipe, Prunedale, San Juan Bautista, and Hollister USGS quadrangles to evaluate potentially occurring special status plant and wildlife species in the project vicinity (CDFW 2022). Records of occurrence for special-status plants were reviewed for those same USGS quadrangles in the CNPS Inventory of Rare and Endangered Plants (CNPS 2022). Figures 8-3 and 8-4 present the locations of the documented occurrences for special-status plant and animal species, respectively. A search for records within a 3.1-mile radius was conducted, consistent with site assessment requirements for the California tiger salamander [*Ambystoma californiense]* (USFWS 2003). A USFWS Endangered Species Program threatened and endangered species list was also generated for the project site and surrounding areas (USFWS 2022a).

Table 8-1, Special-Status Plants Potentially Occurring in the Vicinity, and Table 8-2, Special-Status Wildlife Potentially Occurring in the Vicinity, show special-status species documented within the vicinity of the compost facility and the Survey Areas, their listing status, suitable habitat description, and their potential to occur on the compost facility and the Survey Areas.

8.1.4 Special-Status Plants

Special-status plant species potentially occurring in the project vicinity were evaluated for potential to occur on the compost facility and the Survey Areas. Information on special-status plants, including listing status, suitable habitat conditions, and potential to occur on the compost facility and the Survey Areas is presented in Table 8-1, Special-Status Plant Species with Potential to Occur in Vicinity.

Special-status plant species typically occur in relatively undisturbed native habitat areas. The entire compost facility has been heavily disturbed as a result of facility operations. Detention Basin #1 and the flood storage expansion area within Survey Area 1 have been heavily modified to accommodate facility operations, support only limited ruderal (weedy) species and do not provide suitable habitat for special-status plant species. The areas along SR-25 and the driveway expansion within Survey Area 2 have also been frequently disturbed, and support only limited ruderal species. Plant species with the potential to occur within the compost facility or Survey Areas are discussed in Section 8.4.

8.1.5 Special-Status Wildlife

Special-status wildlife species potentially occurring in the project vicinity were evaluated for their potential to occur within the compost facility, Survey Area 1 and Survey Area 2. Information on special-status wildlife species, including listing status, suitable habitat conditions, and potential to occur on the compost facility and the Survey Areas is presented in Table 8-2, Special-Status Wildlife Species with Potential to Occur in Vicinity. Wildlife species with the potential to occur within the compost facility or Survey Areas are discussed in Section 8.4.

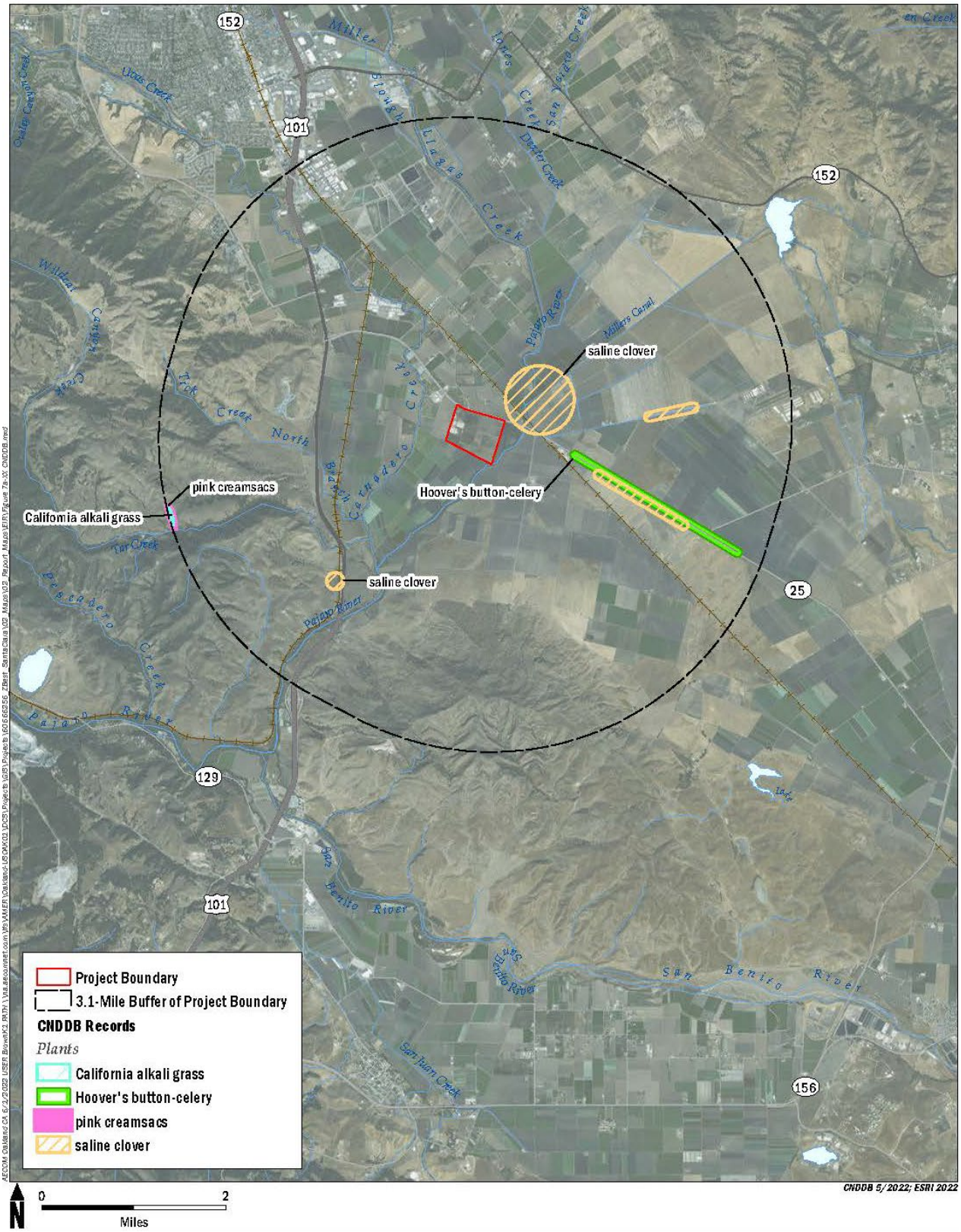


Figure 8-3 Documented Occurrences of Special-Status Plant Species

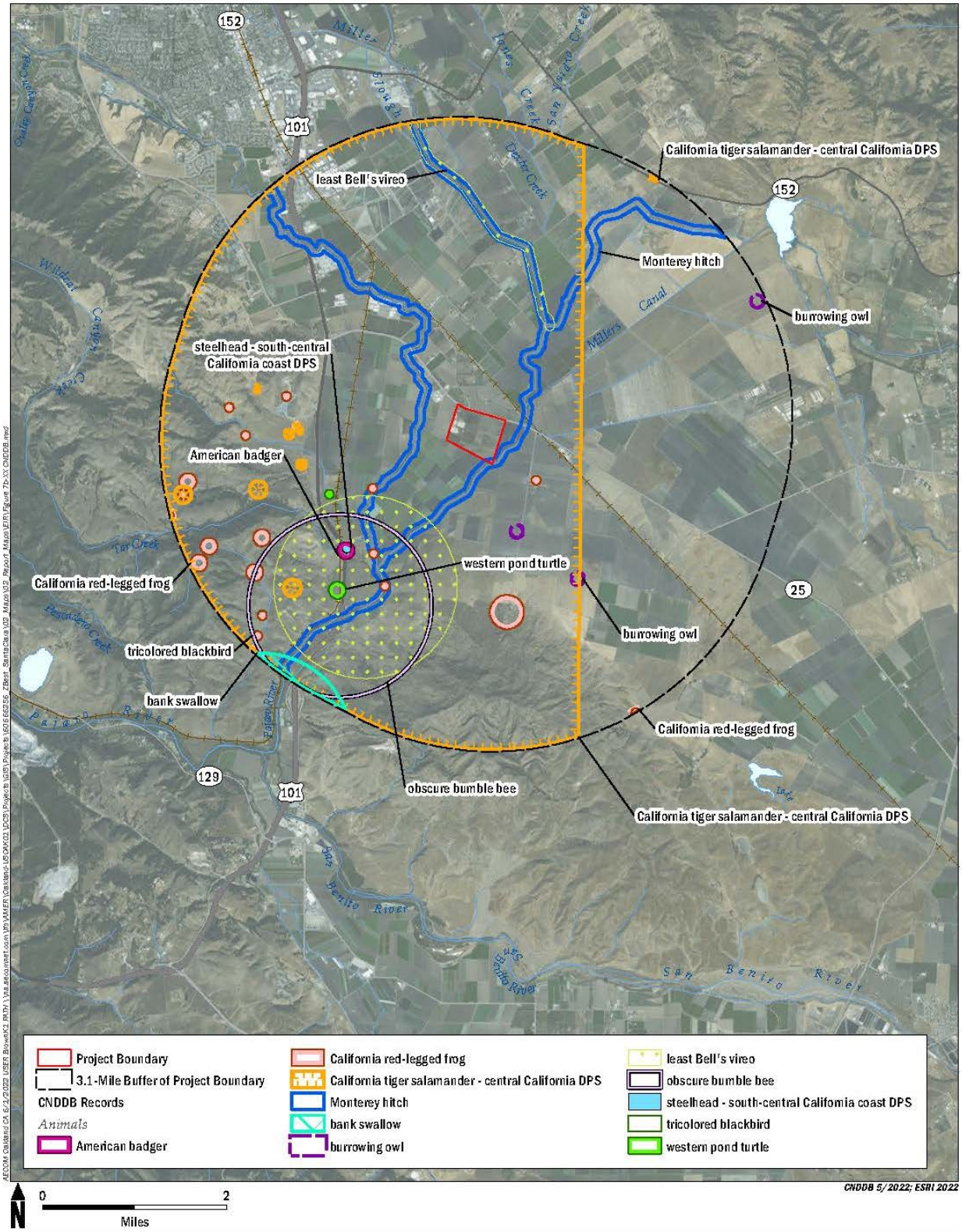


Figure 8-4 Documented Occurrences of Special-Status Animal Species

Table 8-1 Special-Status Wildlife Species with Potential to Occur in the Vicinity

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur at Project Site
American badger (*Taxidea taxus*)	--/SSC	Most abundant in drier, open stages of shrub, forest, and herbaceous habitats. Needs sufficient food and open, uncultivated ground with friable soils to dig burrows. Preys on burrowing rodents.	Not expected. No suitable habitat found at the compost facility or Survey Areas. American badger was recorded in 2007 approximately two miles south of the compost facility and the Survey Areas. The compost facility and the Survey Areas do not contain friable soils and open, uncultivated ground supporting a sufficient food source for this species.
Bank swallow (*Riparia riparia*)	ST	Prefers foraging habitat along open riparian areas, wetlands, water, and grassland. Requires vertical banks and cliffs with sandy soils near streams, rivers, ponds, and lakes. Uses holes dug in cliffs and river banks for cover.	Not expected. No suitable habitat (vertical banks or cliffs near riverine systems) found at the compost facility or Survey Areas. The nearest record of this species is approximately 4 miles southwest of the compost facility and Survey Area and is from 1931.
Bay checkerspot butterfly (*Euphydryas editha bayensis*)	FT	Requires shallow, serpentine-derived soil. Larvae need the dwarf plantain (*Plantago erecta*) as the primary host plant and purple owl's clover (*Castilleja densiflora*) as a secondary host plant if dwarf plantain dries up.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is more than 10 miles north of the compost facility and Survey Area.
Burrowing owl (*Athene cunicularia*)	--/SSC	Open, dry, annual or perennial grasslands, desert, or scrubland, with available small mammal burrows.	Not expected. No suitable habitat found at the compost facility or Survey Areas. Infrequent, scattered burrows, likely created by voles or other small rodents, were found in the flood storage expansion area and within the driveway and small wetland area in Survey Area 2. These small pockets of available prey are not likely to provide adequate habitat for foraging or habitation. There was no sign or observation of burrowing owls during field surveys, and this species is not expected to occur. The two closest burrowing owl observations are 0.8 and 1.6 miles southeast of the project site, and are from 1994 and 1992, respectively. Both observations were updated in 2007 to confirm that these burrows have been destroyed by agricultural disking.
California giant salamander (*Dicamptodon ensatus*)	-/SSC	Aquatic adults and larvae hide within spaces between rocks in streambeds. Terrestrial adults are found under surface litter and in tunnels underground. Usually found in cool, moist, forest habitat and associated with rocky streams and springs.	Not expected. No suitable habitat found at the compost facility or Survey Areas. CDFW records indicate occurrences of California tiger salamander between 1.3 and 3.1 miles of the compost facility and the Survey Areas, predominantly within the foothills of the Santa Cruz Mountains to the west. Based on the 2014 and 2017 WRA reports and subsequent site survey, water quality within Detention Basin #1 is

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur at Project Site
			considered extremely poor and a perennial water source is lacking within the flood storage expansion area, small wetland, and the drainage ditches along SR-25 (WRA 2014, WRA 2017, EMC Planning Group 2020a). Breeding habitat for California tiger salamander is, therefore, considered absent from the compost facility and Survey Areas. Infrequently scattered burrows were found in the flood storage expansion area and within the driveway and small wetland area in Survey Area 2. However, frequent disturbance and the low quality of habitat present make it unlikely that California tiger salamander would utilize these areas as upland habitat.
California red-legged frog (*Rana draytonii*)	FT/SSC	Rivers, creeks, and stock ponds with pools and overhanging vegetation. Requires dense, shrubby or emergent riparian vegetation, and prefers short riffles and pools with slow-moving, well-oxygenated water. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter.	Moderate Potential. Species may utilize drainage ditches and the adjacent Pajaro River as migratory corridors. See further discussion in Section 8.4.1.
California Ridgway's rail (*Rallus obsoletus obsoletus*)	FE/SE	Salty and brackish water marshes with pickleweed and cordgrass. Range is the marshes of San Francisco estuary.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is more than 15 miles southwest of the composting facility, within a salty marsh near the coast.
California tiger salamander (*Ambystoma californiense*)	FT/ST	Grasslands and oak woodlands near seasonal pools and stock ponds in central and coastal California. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter. Requires seasonal water sources that persist into late March for breeding.	Not expected. No suitable upland habitat or breeding ponds found at the compost facility or Survey Areas. Based on the 2014 and 2017 WRA reports and subsequent site survey, water quality within Detention Basin #1 is considered extremely poor and a perennial water source is lacking within the flood storage expansion area, small wetland, and the drainage ditches along SR-25 (WRA 2014, WRA 2017, EMC Planning Group 2020a). Breeding habitat for California tiger salamander is, therefore, considered absent from the compost facility and Survey Areas. Infrequently scattered burrows were found in the flood storage expansion area and within the driveway and small wetland area in Survey Area 2. However, frequent disturbance and the low quality of

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur at Project Site
			habitat present make it unlikely that California tiger salamander would utilize these areas as upland habitat.
Coast horned lizard (*Phrynosoma blainvillii*)	-/SSC	Open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently near ant hills.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is from 1994 and located more than 10 miles north of the composting facility.
Coast range newt (*Taricha torosa*)	-/SSC	Wet forests, oaks forests, chaparral, and rolling grasslands. Found along coast and coast range mountains.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is from 1998 and located approximately 10 miles south of the composting facility.
Foothill yellow-legged frog (*Rana boylii*)	SE/SSC	Bask on exposed rock surfaces near streams. During cold weather, will seek cover under rocks in the streams or on shore within a few meters of water. Rarely encountered far from permanent water.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is from 2000 and located approximately 10 miles northwest of the composting facility.
Golden eagle (*Aquila chysaetos*)	--/FP	Needs open terrain for hunting, grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats. Uses secluded cliffs with overhanging ledges and large trees for cover.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The compost facility and Survey Area is surrounded by agricultural fields and roads, thus, any foraging habitat is fragmented and does not constitute an open terrain which this species requires for hunting. Additionally, there are no suitable cliffs for nesting within close proximity to the compost facility and Survey Area. The nearest record of this species is approximately 12 miles southwest of the composting facility and Survey Area.
Least Bell's vireo (*Vireo bellii pusillus*)	FE/SE	Require fairly dense riparian shrubbery, preferably where flowing water is present, but can favor dry watercourses in the desert, bordered by mesquite and arrow-weed. Nests in willow, wild rose, and other dense vegetation.	Not expected. No suitable habitat found at the compost facility or Survey Areas. CDFW records indicate there was a historical occurrence (1932) documented approximately 1.3 miles southwest of the compost facility and the Survey Areas. There is no potential habitat for this species within the compost facility or the Survey Areas. The nearest location of potential habitat for this species is along the Pajaro River, approximately 1,200 feet from Detention Basin #1. Even if present within the riparian corridor along the Pajaro River, project activities are not expected to impact this species due to the distance and lack of intervening suitable habitat areas.

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur at Project Site
Monterey hitch (*Lavinia exilcauda harengus*)	--/SSC	Most abundant in lowland areas with large pools or in small reservoirs that mimic such conditions. They are widely distributed in the Pajaro and Salinas river systems.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 9 miles southeast of the composting facility and Survey Area.
Northern California legless lizard (*Anniella pulchra*)	--/SSC	Forages at the base of shrubs or other vegetation either on the surface or just below, in leaf litter or sandy soil. Seek cover under surface objects such as flat boards and rocks where they lie barely covered in loose soil.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 14 miles southwest of the composting facility and Survey Area.
Pallid bat (*Antrozous pallidus*)	--/SSC	Roosts in caves, crevices, mines, and occasionally in hollow trees and buildings. Roost must protect bats from high temperatures. Prefers rocks outcrops, cliffs, and crevices with access to open habitats for foraging.	Moderate Potential. Species may utilize trees adjacent to Detention Basin #1. See further discussion in Section 8.4.3.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	--/SSC	Open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub. Avoids dense vegetation where it cannot move quickly, including mixed oak chaparral woodland. Takes refuge in rodent burrows, under shaded vegetation, and under surface objects.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 9 miles southeast of the composting facility and Survey Area.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE/ST	Loose-textured soils preferable for dens. Can use small remnants of native habitat (annual grassland/prairie, scrub and subshrub communities) interspersed with development provided there is minimal disturbance, dispersal corridors, and sufficient prey-base.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 9 miles southeast of the composting facility and Survey Area.
Santa Cruz black salamander (*Aneides flavipunctatus niger*)	--/SSC	Mixed deciduous woodland, coniferous forests, coastal grasslands. Found under rocks near streams, in talus, under damp logs, and other objects.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 9 miles northwest of the composting facility and Survey Area within the Santa Cruz Mountains.
Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*)	FE/SE/FP	Dense, riparian vegetation such as willows, thick coastal scrub, and oak woodland.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 11 miles west of the composting facility and Survey Area near the coast.

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur at Project Site
Southern coastal roach (*Hesperoleucus venustus subditus*)	--/SSC	Predominantly found in small warm streams but can thrive in larger colder streams with diverse conditions. This species can adapt to varying habitats from coastal streams to mountain foothill streams.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 17 miles northwest of the composting facility and Survey Area within the Santa Cruz Mountains.
Steelhead-south-central California coast DPS (*Oncorhynchus mykiss irideus* pop.9)	FT	Coastal streams, western slopes of the Sierra Nevada in waters draining to the Pacific Ocean.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Swainson's hawk (*Buteo swainsoni*)	ST	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.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 5 miles east of the composting facility and Survey Area.
Townsend's big-eared bat (*Corynorhinus townsendii*)	--/SSC	Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. Maternity roosts are found in caves, tunnels, mines, and buildings. Prefers mesic habitats.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 5 miles northeast of the composting facility and Survey Area.
Tricolored blackbird (*Agelaius tricolor*)	ST/SSC	Wetlands, cultivated agricultural fields, irrigated pastures, feedlots associated with dairy farms, for nesting and foraging.	Not expected. No suitable habitat found at the compost facility or Survey Areas. There are 5 records of this species within 5 miles of the composting facility and Survey Area, the nearest being 2 miles to the south.
Western mastiff bat (*Eumops perotis californicus*)	--/SSC	Requires extensive open areas with abundant roost locations. Requires cover in crevices in cliff faces, high buildings, trees, and tunnels. When roosting in rock crevices, needs vertical faces to drop off to take flight. Nursery roosts are tight rock crevices or crevices in buildings.	Moderate Potential. Species may utilize trees adjacent to Detention Basin #1. See further discussion in Section 8.4.3.
Western pond turtle (*Emys marmorata*)	--/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites (such as rocks or partially submerged logs), and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest observation was recorded in 2003, about 1.5 miles southwest of the compost facility and Survey Areas. Western pond turtle is a highly aquatic species requiring a perennial water source. Water quality within Detention Basin #1 is considered extremely poor and there is a lack of a perennial water source within

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur at Project Site
			the flood storage expansion area, small wetland and drainage ditches along SR-25. Western pond turtle is, therefore, not expected to utilize the compost facility or the Survey Areas.
Western red bat (*Lasiurus blossevillii*)	--/SSC	Prefers edges or habitat mosaics that have trees for roosting and open areas for foraging. Requires water. Roosts primarily in trees, less often in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 10 miles southeast of the composting facility and Survey Area.
Western spadefoot (*Spea hammondii*)	--/SSC	Grasslands with shallow temporary pools are optimal habitats. Spend most of the time in underground burrows up to 36 inches deep. Can use mammal burrows. Juveniles seek refuge in immediate vicinities of breeding ponds. Breeding and egg laying occur almost exclusively in shallow, temporary pools formed by heavy winter rains.	Not expected. No suitable habitat found at the compost facility or Survey Areas. The nearest record of this species is approximately 10 miles southeast of the composting facility and Survey Area.
White-tailed kite (*Elanus leucurus*)	FP	Uses herbaceous lowlands with variable tree growth and dense populations of voles. Substantial groves of dense, broad-leafed deciduous trees used for nesting and roosting. Uses trees with dense canopies for cover.	Not expected at project site but moderate potential within Pajaro River riparian corridor. No suitable nesting or foraging habitat found at the compost facility or Survey Areas. This species could nest within the riparian corridor along the Pajaro River and forage in agricultural fields adjacent to the compost facility and Survey Area, but is not expected to use any of the land within the project footprint. The nearest record of this species is approximately 7 miles northwest of the composting facility and Survey Area.

SOURCES: CDFW 2022, EMC Planning Group 2020, WRA 2014, WRA 2017.
NOTE: Listing Status Codes:
Federal (USFWS)
-- = not applicable
FE - Listed as Endangered under the Federal Endangered Species Act.
FT - Listed as Threatened under the Federal Endangered Species Act.
FC - Candidate for listing under the Federal Endangered Species Act.
State (CDFW)
SE - Listed as Endangered under the California Endangered Species Act.
ST - Listed as Threatened under the California Endangered Species Act.
SR - Listed as Rare under the California Endangered Species Act.
SSC - Candidate for listing under the California Endangered Species Act.
FP - Fully protected

Table 8-2 Special-Status Plant Species with Potential to Occur in the Vicinity

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur at Project Site
Alkali milk-vetch (*Astragalus tener var. tener*)	--/--/1B.2	Alkaline sites in playas, valley and foothill grassland (on adobe clay), and vernal pools; elevation 1-60 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Anderson's manzanita (*Arctostaphylos andersonii*)	--/--/1B.2	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Known only from the Santa Cruz Mountains. Prefers open sites in redwood forest; elevation 180-800 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Arcuate bush-mallow *(Malacothamnus arcuatus)*	--/--/1B.2	Chaparral and cismontane woodland, on gravelly alluvium; elevation 80-355 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Big-scale balsamroot *(Balsamorhiza macrolepis)*	--/--/1B.2	Valley and foothill grassland, and cismontane woodland; sometimes on serpentine; elevation 35-1,000 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
California alkali grass *(Puccinellia simplex)*	--/--/1B.2	Alkaline, vernally mesic sites in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools; prefers sinks, flats, and lake margins; elevation 2-930 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Chaparral harebell *(Campanula exigua)*	--/--/1B.2	Chaparral (rocky, usually serpentine); elevation 275-1,250 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Congdon's tarplant *(Centromadia parryi* ssp. *congdonii)*	--/--/1B.1	Valley and foothill grassland (alkaline); elevation 1-230 meters. Known to occur on various substrates, and in disturbed and ruderal (weedy) areas.	Not expected. Compost facility and Survey Areas are outside geographic distribution range for species.
Eastwood's goldenbush *(Ericameria fasciculata)*	--/--/1B.1	Closed cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub/sand; elevation 30-275 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Fragrant fritillary *(Fritillaria liliacea)*	--/--/1B.2	Coastal scrub, valley and foothill grassland, cismontane woodland, and coastal prairie. Often on serpentine or clay substrates; elevation 3-410 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Hairless popcornflower *(Plagiobothrys glaber)*	--/--/1A	Marshes and swamps, meadows and seeps; elevation 15-180 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Hall's tarplant (*Deinandra halliana)*	--/--/1B.1	Chenopod scrub, Cismontane woodland, Valley and foothill grassland. Sometimes found on alkaline soils; elevation 260-950 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Hooker's manzanita *(Arctostaphylos hookeri* ssp. *hookeri)*	--/--/1B.2	Sandy soils in coastal scrub, chaparral, and closed-cone coniferous forest habitats; evergreen; elevation 45-215 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur at Project Site
Hoover's button-celery *(Eryngium aristulatum* var. *hooveri)*	--/--/1B.1	Vernal pools. Alkaline depressions, roadside ditches, and other wet places near the coast; elevation 5-45 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Hospital Canyon larkspur *(Delphinium californicum* ssp. *interius)*	--/--/1B.2	Cismontane woodland and chaparral, in wet, boggy meadows, openings in chaparral, and in canyons; elevation 225-1,060 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Indian Valley bush-mallow *(Malacothamnus aboriginum)*	--/--/1B.2	Chaparral and cismontane woodland; rocky, often burned areas. Prefers granitic outcrops and sandy bare soil; elevation 150-1,700 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Kellogg's horkelia *(Horkelia cuneata var. sericea)*	--/--/1B.1	Coastal sand hills and old dunes; occurs in sandy or gravelly openings in closed-cone coniferous forest, coastal scrub, coastal dunes, and chaparral; elevation 10-200 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Legenere *(Legenere limosa)*	--/--/1B.1	In beds of vernal pools; elevation 1-880 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Loma Prieta hoita *(Hoita strobilina)*	--/--/1B.1	Chaparral, cismontane woodland, and riparian woodland. Often found in mesic sites on serpentine substrate; elevation 30-860 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Monterey pine *(Pinus radiata)*	--/--/1B.1	Cismontane woodland, closed-cone coniferous forest; elevation 25-185 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Monterey spineflower *(Chorizanthe pungens* var. *pungens)*	FT/--/1B.2	Sandy openings in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland; elevation 3-450 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Most beautiful jewel-flower *(Streptanthus albidus* ssp. *peramoenus)*	--/--/1B.2	Chaparral, valley and foothill grassland, and cismontane woodland; prefers serpentine outcrops, on ridges and slopes; elevation 120-730 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Mt. Hamilton thistle *(Cirsium fontinale* var. *campylon)*	--/--/1B.2	Serpentine seeps in chaparral, cismontane woodland, and valley and foothill grassland; elevation 100-890 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Pajaro manzanita *(Arctostaphylos pajaroensis)*	--/--/1B.1	Sandy soils in chaparral habitat; evergreen; elevation 30-760 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Pine rose *(Rosa pinetorum)*	--/--/1B.2	Closed-cone coniferous forest; elevation 2-300 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur at Project Site
Pink creamsacs *(Castilleja rubicundula* ssp. *rubicundula)*	--/--/1B.2	Chaparral, meadows and seeps, and valley and foothill grassland. Prefers openings in chaparral or grasslands on serpentine soils; elevation 20-900 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Pinnacles buckwheat (*Eriogonum nortonii*)	--/--/1B.3	Chaparral, and valley and foothill grassland; sandy sites; often on recent burns; elevation 300-975 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Prostrate vernal pool navarretia *(Navarretia prostrata)*	--/--/1B.1	Coastal scrub, valley and foothill grassland, and vernal pools. Alkaline soils in grassland, or in vernal pools; elevation 15-700 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Saline clover *(Trifolium hydrophilum)*	--/--/1B.2	Marshes and swamps, valley and foothill grassland, and vernal pools. Prefers wet, alkaline sites; elevation 0-300 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
San Francisco popcornflower *(Plagiobothrys diffusus)*	--/SE/1B.1	Valley and foothill grassland, and coastal prairie. Occurs on grassy slopes with marine influence; elevation 60-485 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
San Francisco collinsia (*Collinsia multicolor)*	--/--/1B.2	Closed-cone coniferous forest, coastal scrub; 30-275 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
San Joaquin spearscale *(Extriplex joaquinana)*	--/--/1B.2	Alkaline sites in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland; elevation 1-320 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Santa Clara Valley dudleya *(Dudleya abramsii* ssp. *setchellii)*	FE/--/1B.1	Valley and foothill grassland, and cismontane woodland. Endemic to serpentine outcrops and rocks within grassland or woodland in Santa Clara County; elevation 80-335 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Santa Cruz Mountains beardtongue *(Penstemon rattanii* var. *kleei)*	--/--/1B.2	Chaparral and lower montane coniferous forest. Prefers sandy shale slopes in transition zone between forest and chaparral; elevation 400-1,100 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Santa Cruz tarplant *(Holocarpha macradenia)*	FT/SE/1B.1	Coastal prairie, coastal scrub, and valley and foothill grassland. Occurs on light, sandy or sandy clay soils; elevation 10-220 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Seaside bird's-beak *(Cordylanthus rigidus* ssp. *littoralis)*	--/SE/1B.1	Closed-cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub; in sandy and often disturbed sites; elevation 0-215 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Smooth lessingia *(Lessingia micradenia* var. *glabrata)*	--/--/1B.2	Chaparral and cismontane woodland; endemic to Santa Clara County. Occurs on serpentine substrates; elevation 120-485 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur at Project Site
Woodland woollythreads *(Monolopia gracilens)*	--/--/1B.2	Broadleaved upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland. Occurs in grassy openings on sandy to rocky soils; elevation 100-1200 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Yadon's rein orchid *(Piperia yadonii)*	FE/--/1B.1	Sandy sites in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral; elevation 10-510 meters.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

SOURCES: CDFW 2022, CNPS 2022, EMC Planning Group 2020, WRA 2014, WRA 2017.
Listing Status Codes:
Federal (USFWS)
-- = not applicable
FE - Listed as Endangered under the Federal Endangered Species Act.
FT - Listed as Threatened under the Federal Endangered Species Act.
FC - Candidate for listing under the Federal Endangered Species Act.

State (CDFW)
-- = not applicable
SE - Listed as Endangered under the California Endangered Species Act.
ST - Listed as Threatened under the California Endangered Species Act.
SR - Listed as Rare under the California Endangered Species Act.
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California Native Plant Society (CNPS) Rare Plant Ranks and Threat Code Extensions
1B: Plants that are considered Rare, Threatened, or Endangered in California and elsewhere.
2B: Plants that are considered Rare, Threatened, or Endangered in California, but more common elsewhere.
.1: Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).
.2: Fairly endangered in California (20-80% occurrences threatened).
.3: Not very threatened in California (less than 20% of occurrences threatened low degree and immediacy of threat or no current threats known).

8.2 Regulatory Setting

8.2.1 Federal Plans and Regulations

8.2.1.1 Endangered Species Act

The federal Endangered Species Act of 1973 protects species that the USFWS has listed as endangered or threatened. Permits may be required from USFWS if activities associated with a proposed project would result in the "take" of a federally listed species or its habitat. Under the Act, 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. Take of a listed species is prohibited unless: (1) a Section 10(a) permit has been issued by the USFWS, which requires preparation of a habitat conservation plan; or (2) an Incidental Take Statement has been obtained through formal consultation between a federal agency and the USFWS pursuant to Section 7 of the Act.

8.2.1.2 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act of 1989 prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This Act includes whole birds, parts of birds, bird nests, and eggs of over 800 native birds, and many other common species.

8.2.1.3 Clean Water Act

Section 404 of the Clean Water Act of 1972 regulates the discharge of dredge and fill material into Waters of the U.S., including wetlands. Certain natural drainage channels and wetlands are considered jurisdictional Waters of the U.S. The U.S. Army Corps of Engineers (USACE) is responsible for administering the Section 404 permit program. The agency determines the extent of its jurisdiction as defined by ordinary high-water marks on channel banks. Wetlands are habitats with soils that are intermittently or permanently saturated or inundated. The resulting anaerobic conditions naturally select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 *Corps of Engineers Wetlands Delineation Manual* and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*.

Activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. Discharge permits are typically issued on the condition that the applicant agrees to provide compensatory mitigation which results in no net loss of wetland area, function, or value, either through wetland creation, restoration, or the purchase of wetland credits through an approved wetland mitigation bank.

In November of 2021, the EPA and USACE put back into place the pre-2015 definition of “waters of the United States” (WOTUS) to reflect consideration of U.S. Supreme Court decisions in order to support a stable implementation of “waters of the United States” while agencies continue to consult with states, Tribes, local governments, and stakeholders in both the implementation of WOTUS and future regulatory actions (EPA 2021).

8.2.2 State Plans and Regulations

8.2.2.1 California Endangered Species Act

Pursuant to the California Endangered Species Act and Section 2081 of the California Fish and Game Code, an Incidental Take Permit from the CDFW is required for projects that could result in the “take” of a state-listed threatened or endangered species. Take is defined under these laws as an activity that would directly or indirectly kill an individual of a species. If a project would result in the take of a state-listed species, then a CDFW Incidental Take Permit, including the preparation of a conservation plan, would be required.

8.2.2.2 Nesting Birds and Birds of Prey

Sections 3505, 3503.5, and 3800 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, including their nests or eggs. Birds of prey (the orders Falconiformes and Strigiformes) are specifically protected in California under provisions of the California Fish and Game Code, Section 3503.5. This section of the Code establishes that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code. Disturbance that causes nest abandonment and/or loss of reproductive effort, such as construction during the breeding season, is considered take by the CDFW.

8.2.2.3 Streambed Alterations

The CDFW has jurisdiction over the bed and bank of natural drainages according to provisions of Sections 1601 through 1603 of the California Fish and Game Code. Diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that support wildlife resources and/or riparian vegetation are subject to CDFW regulations. Activities that would disturb these drainages are regulated by the CDFW; authorization is required in the form of a Streambed Alteration Agreement. Such an agreement typically stipulates measures that would protect the habitat values of the drainage in question.

8.2.2.4 California Porter-Cologne Water Quality Control Act

Under the California Porter-Cologne Water Quality Control Act, the applicable Regional Water Quality Control Board (regional board) may necessitate Waste Discharge Requirements for the fill or alteration of Waters of the State, which according to California Water Code Section 13050 includes “any surface water or groundwater, including saline waters, within the boundaries of the state.” The regional board may, therefore, necessitate Waste Discharge Requirements even if the affected waters are not under USACE jurisdiction.

Also, under Section 401 of the Clean Water Act, any activity requiring a USACE Section 404 permit must also obtain a state Water Quality Certification (or waiver thereof) to ensure that the proposed activity would meet state water quality standards. The applicable state regional board is responsible for administering the water quality certification program and enforcing National Pollutant Discharge Elimination System permits.

8.2.3 Local Plans and Regulations

8.2.3.1 Santa Clara Valley Habitat Plan

The Santa Clara Valley Habitat Plan (Habitat Plan) provides a framework to protect, enhance, and restore natural resources in specific area of Santa Clara County, while improving and streamlining the environmental permitting process for impacts on threatened and endangered species. The Habitat Plan is both a habitat conservation plan and a natural community conservation plan, addressing impact mitigation as well as contributing to the recovery and delisting of listed species. Incidental take authorization is granted by the USFWS and CDFW. The Habitat Plan lists covered activities, those projects that may receive incidental take authorization through the Endangered Species Act and natural community conservation plan permits.

The proposed improvements to the compost facility and along SR-25 are not considered a “covered project” under the Santa Clara Valley Habitat Plan because the parcels are designated as “Area 3: Rural Development Not Covered” (Rook, pers. comm. 2017).

8.2.3.2 County Tree Preservation Ordinance

The County’s Tree Preservation and Removal Ordinance (County Code of Ordinances, Title C, Division C16) stipulates that it is unlawful for any person to remove any protected tree from any private or public property in designated areas of the County without having first obtained a permit. A protected tree is considered any of the following:

- Any tree having a main trunk or stem measuring 37.7 inches or greater in circumference (12 inches or more in diameter) at a height of 4½ feet above ground level, or in the case of multi-trunk trees a total of 75.4 inches in circumference (24 inches or more of the diameter) of all trunks in the following areas of the County:
    - Parcels zoned “Hillsides” (3 acres or less)
    - Parcels within a “-d” (Design Review) combining zoning district
    - Parcels within the Los Gatos Hillside Specific Plan Area
- Any tree within the "-h1" Historic Preservation zoning district for New Almaden having a main trunk or stem measuring six inches or more in diameter (18.8 inches or greater in circumference) at a height of 4.5 feet above ground level, or in the case of multi-trunk trees, a total of 12 inches in diameter (37.7 inches in circumference) of all trunks at 4.5 feet above ground. For parcels having a base zoning district of "HS, Hillside" within the "-h1" combining zoning district, this provision supersedes C16-3(a)(1).

- Any heritage tree, as that term is defined in Section C16-2.
- Any tree required to be planted as a replacement for an unlawfully removed tree, pursuant to Section C16-17(e) of this division.
- Any tree that was required to be planted or retained by the conditions of approval for any use permit, building site approval, grading permit, architectural and site approval, design review, special permit or subdivision.
- On any property owned or leased by the County, any tree which measures over 37.7 inches in circumference (12 inches or more in diameter) measured 4.5 feet above the ground, or which exceeds 20 feet in height.
- Any tree, regardless of size, within road rights-of-way and easements of the County, whether within or without the unincorporated territory of the County.

Section C16-4 outlines several exceptions to the above requirements, including (e), Tree removal necessary to carry out building site approval or other land use application approved by the County. However, no removal shall be permitted until such grading or building permit has been issued by the County as indicated on approved plans. The number of trees cut may not exceed the minimum number necessary to carry out the permitted action.

8.3 Thresholds of Significance and Analysis Methodology

8.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact relating to biological resources would occur if implementation of the proposed project would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

b) 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 the CDFW or USFWS;

c) 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;

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

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

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

8.3.2 Issues or Potential Impacts not Discussed Further

8.3.2.1 Special-Status Plants Species

No special-status plants are expected to occur within the compost facility or the Survey Areas due to the high level of ongoing disturbance and frequent clearing or grading activities. Table 7-1, above, includes a list of each special-status plant species, their suitable habitat, and potential to occur within the compost facility and the Survey Areas. As presented in Table 7-1, the project site does not contain suitable habitat for special-status plants. Therefore, the proposed project would not result in the loss of special-status plants and there would be no impact.

8.3.2.2 Common Wildlife Movement

Wildlife movement includes migration (i.e., usually movement one way per season), inter-population movement (i.e., long-term dispersal and genetic flow), and small travel pathways (i.e., daily movement within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities, such as foraging or escape from predators, they also provide connection between outlying populations and the main populations, permitting an increase in gene flow among populations. These habitat linkages can extend for miles and occur on a large scale throughout the greater region. Habitat linkages facilitate movement between populations located in discrete locales and populations located within larger habitat areas.

It is possible that common mammals such as striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), or rodents could utilize the compost facility and the Survey Areas for limited wildlife movement. However, wildlife movement through the compost facility and the Survey Areas is restricted by SR-25 and current activities at the compost facility. Wildlife movement is likely more common along and adjacent to the Pajaro River and Carnadero Creek, where no development is proposed. Due to lack of habitat to support wildlife movement, no impacts to wildlife movement are anticipated as a result of the proposed project.

8.3.2.3 Sensitive Natural Communities

As described in the Existing Conditions section, most of the compost facility and the Survey Areas are heavily disturbed with no vegetation. The dominant vegetation within Survey Area 1 adjacent to Detention Basin #1 is landscaped trees and shrubs with non-native grasses and ruderal plants. The dominant vegetation in the flood storage expansion area is non-native grasses, ruderal species, and escaped agricultural crop plants such as chard. Survey Area 2 contains similar non-native ruderal species, with a row of poplar trees along the south side of SR-25. The drainage ditches within Survey Area 2 support non-native grasses and ruderal species, however, the small wetland area near the intersection of SR-25 and Bolsa Road may be considered a sensitive community. This small wetland area is addressed in the Analysis, Impacts, and Mitigation Measures section, presented below. With the exception of the small wetland

area, sensitive natural communities are absent and no impacts to sensitive natural communities are anticipated as a result of the proposed project.

8.3.2.4 Local Policies or Ordinances Protecting Biological Resources

The project site is not within an area zoned as “Hillsides”, within a “-d” (Design Review) combining zoning district, or in other areas where trees are specifically protected under the County’s Tree Preservation Ordinance. Furthermore, none of the trees to be removed are designated as heritage trees; were required to be planted as replacement for an unlawfully removed tree; or are located within road rights-of-way, easements of the County, or on property owned or leased by the County. The trees along the site frontage were required to be planted as a condition of approval of the previous use permit, which would normally require a permit for their removal. However, the ordinance contains an exception for tree removal necessary to carry out a land use application approved by the County, provided no removal shall be permitted until such grading permit has been issued by the County, and that the number of trees cut may not exceed the minimum number necessary to carry out the permitted action. Because the proposed tree removal would be necessary to carry out the proposed project and would be subject to the conditions of the use permit granted by the County (which may include conditions of approval relating to replanting) a separate Tree Removal Permit is not required for the project. For these reasons, the project would be consistent with the Tree Preservation Ordinance and there would be no impact from conflicts with local policies or ordinances protecting biological resources.

8.3.2.5 Habitat Conservation Plan

Although the compost facility and the Survey Areas are located within the Santa Clara Valley Habitat Plan Area, the project is not a covered project and no habitat conservation plans apply (Rook, pers. comm. 2017). There would be no impact.

8.3.3 Analysis Methodology

The analysis in Section 8.4 below is based on a review of existing scientific literature, aerial photographs, technical background information; relevant documents addressing biological resources at the project site; two reconnaissance field surveys conducted by an EMC Planning Group biologist (February 5, 2019, and February 6, 2020); and policies applicable to projects located in Santa Clara County. See the beginning of this EIR section for a list of relevant documents used in this analysis. There have been no major modifications to the habitat types within the project footprint since the original Draft EIR and the 2019 and 2020 biological resources surveys. As described previously, the additional area of flood storage proposed by the latest project that was not part of the original Draft EIR is highly disturbed and does not contain any habitat or vegetation. Updates have been made to the original Draft EIR to reflect the most recent database search results and any recent policy changes.

8.4 Analysis, Impacts, and Mitigation Measures

8.4.1 Special-Status Species - California Red-legged Frog

IMPACT BIO-1	**The project could result in loss or disturbance of special-status wildlife species (California red-legged frog)**	**Less than Significant with Mitigation**

California red-legged frog is federally listed as threatened and is a California Species of Special Concern. The compost facility and Survey Areas are not located within federally designated critical habitat for this species. California red-legged frog is California's largest native frog and is generally restricted to riparian and lacustrine (lake) habitats. This species prefers deep, still pools, usually greater than two feet in depth, and creeks, rivers or lakes below 5,000 feet in elevation (USFWS 2002).

As shown in Figure 8-4, there are known occurrences of California red-legged frog within 1.5 miles of the compost facility and the Survey Areas, with the closest recorded sightings approximately 1.0 miles to the southwest (2017) and 0.5 miles to the east (1997). In addition, occurrences of California red-legged frog have been documented downstream in both Carnadero Creek and the Pajaro River (CDFW 2022).

In general, potential California red-legged frog habitat is divided into three types: breeding habitat, upland habitat and dispersal habitat. The 2014 WRA report addressed the potential for the occurrence of California red-legged frog within the compost facility boundary (including Survey Area 1) and general vicinity. EMC Planning Group assessed the potential for California red-legged frog habitat within Survey Area 2 in 2019. Survey Area 2 includes two long linear drainage ditches along both sides of SR-25 and a small wetland area near the intersection of SR-25 and Bolsa Road.

According to the 2014 WRA report, potential breeding habitat is absent within the facility boundary, including Detention Basin #1 and the flood storage expansion area. The lack of suitable breeding habitat within the facility boundary was confirmed during the site reconnaissance surveys conducted in 2019 (EMC Planning Group 2020a). As previously described, there are several small one- to three-inch wide animal burrows found in the flood storage expansion area south of SR-25, adjacent to the road. These burrows are adjacent to the ditches that provide dispersal habitat, and could provide upland habitat for California red-legged frog. However, this potential upland habitat is not optimal due to its proximity to SR-25 and other busy streets that act as barriers to movement. Other suitable upland habitat for California red-legged frog is in the extreme southeastern corner, adjacent to the Pajaro River riparian corridor (WRA 2014). Agricultural activities and frequent disturbance immediately adjacent to the SR-25 corridor have limited the presence of features utilized as upland habitat, such as burrows, leaf-litter, deep soil cracks, dense vegetation or debris for individual frogs to shelter within or under. Although some small mammal activity was observed, it is unlikely that the area is utilized as upland habitat.

The compost facility and Survey Areas are situated between the Pajaro River and Carnadero Creek; therefore, the potential for overland dispersal between them cannot be dismissed. According to the 2014 WRA report, any dispersal of California red-legged

frog between Carnadero Creek and the Pajaro River would most likely occur via the network of existing irrigation and drainage ditches. Within Survey Area 2, the drainage ditches were dry at the time of the 2020 survey and it is unlikely that they or the small wetland would retain water long enough to support California red-legged frog breeding activity.

The project site does not contain breeding habitat for the California red-legged frog, and only limited upland habitat is present. However, as discussed above, the compost facility and Survey Area 2 are located between Carnadero Creek and the Pajaro River; therefore, the drainage ditches within the facility or along both sides of SR-25 may be used during dispersal movements. If California red-legged frog is present in the compost facility or the Survey Areas, construction activities such as grading or excavation could result in the loss or disturbance of individual red-legged frog. This potential impact would be **significant**. Implementation of mitigation measure MM-BIO-1 is proposed to address this impact.

MM-BIO-1: California Red Legged Frog Avoidance and Minimization Measures

A. Prior to issuance of a grading permit, the applicant shall consult with the U.S. Fish and Wildlife Service (USFWS) to determine if potential project impacts to California red-legged frog require authorization from USFWS. If such authorization is required, the applicant shall obtain a Biological Opinion and take permit from USFWS and implement all avoidance, minimization, and/or compensatory mitigation measures required by the Biological Opinion and take permit. At a minimum, whether or not a Biological Opinion or take permit is required, the applicant shall implement all of the following avoidance and minimization measures to reduce potential impacts to California red-legged frog:

- *A qualified consulting biologist shall conduct preconstruction surveys following the guidance documented in the Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (USFWS 2005) no more than two weeks (14 days) prior to the start of construction activities. All areas of disturbance from the project, including Area 1, the existing Detention Basin #1, the flood storage expansion area in Area 2, and the access road and SR-25 impact areas shall be surveyed for potential migratory and/or upland activity.*
- *A qualified biologist shall be on site during all activities within 200 feet from the outer edge of potential habitat areas that may result in take of the California red-legged frog, including any drainage ditches within Area 1 of the compost facility and within the impact areas along SR-25.*
- *All ground-disturbing work within 200 feet from the outer edge of potential habitat (any drainage ditches within Area 1 of the compost facility and within the impact areas along SR-25) shall be avoided between November 1 and March 31, the time period when California red-legged frogs are most likely to be moving through upland areas. No construction activities shall occur within 200 feet from the outer edge of potential habitat (any drainage ditches within Area 1 of the compost facility and within the impact*

areas along SR-25) during rain events or within 24-hours following a rain event.

- *To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, equipment staging, storage, parking, and stockpile areas.*
- *If a California red-legged frog is encountered, all activities which have the potential to result in the harassment, injury, or death of the individual shall be immediately halted. A qualified biologist shall then assess the situation and select a course of action that shall avoid or minimize adverse effects to the animal.*
- *Uneaten human food and trash attracts crows, ravens, coyotes, and other predators of the California red-legged frog. A litter control program shall be instituted at each construction site. All construction workers and operational staff shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers shall be removed from the site at the end of each working day.*
- *Loss of soil from run-off or erosion shall be prevented with straw bales, straw wattles, or similar means provided they do not have the potential to entangle or block escape or dispersal routes of the California red-legged frog.*
- *No insecticides or herbicides listed by the Environmental Protection Agency as potentially harmful to California red-legged frog shall be used within 60 feet of aquatic habitat, such as drainage ditches, wetlands, or ponds within the compost facility or within the impact areas along SR-25 during construction or project operation.*
- *No pets shall be permitted at the construction site, to avoid and minimize the potential for harassment, injury, and death of the California red-legged frog.*
- *For on-site storage of pipes, conduits, and other materials that could provide shelter for special-status species, an open-top trailer shall be used to elevate the materials above ground to reduce the potential for animals to climb into the conduits and other materials.*
- *No night-time grading or construction shall occur between dusk and dawn, which is when the California red-legged frog is most actively moving and foraging.*
- *No plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall be used at the project site because California red-legged frogs can become entangled and trapped in them. Materials utilizing fixed weaves (i.e., strands cannot move), polypropylene, polymer, or other synthetic materials shall not be used. Acceptable substitutes would include coconut coir matting or tackifying hydroseeding compounds.*

- *To prevent inadvertent entrapment of California red-legged frog during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered with plywood or similar materials at the close of each working day, or will be equipped with one or more escape ramps constructed of earth fill or wooden planks.*
- *Before the start of work each day, the qualified biologist shall check for animals under any equipment such as vehicles and stored pipes within active construction zones. The qualified biologist shall also check all excavated steep-walled holes or trenches greater than one foot deep for trapped animals. If a California red-legged frog is observed within an active construction zone, all work within 100 feet of the individual shall be halted and all equipment turned off until the individual frog has left the construction area.*

B. *Prior to any grading or construction activity at the project site, a qualified biologist shall conduct a training session for all construction personnel involved in ground-disturbing activities throughout the duration of construction. All new construction personnel shall also undergo this mandatory environmental awareness training. This training shall be documented in training records and the applicant shall submit evidence of completion of this training to the County Planning Department prior to any ground-disturbing activities. The training shall include the following, at a minimum:*
   - *Description of the California red-legged frog and their habitat;*
   - *General measures that shall be implemented to conserve species as they relate to the project;*
   - *Boundaries within which construction activities will occur; and*
   - *Informational handouts with photographs clearly illustrating the species' appearances shall be used in the training session.*

Implementation of mitigation measure MM-BIO-1 would reduce the potential impact to California red-legged frog to less than significant by requiring consultation with and authorization from USFWS for potential impacts, if necessary, conducting pre-construction surveys to determine if they are located within the proposed construction area, providing worker awareness training, and identifying actions to be taken to protect individual frogs in the event one or more are present before or during construction. Therefore, with implementation of MM-BIO-1, this impact would be **less than significant with mitigation incorporated**.

8.4.2 Special-Status Species - Nesting Raptors and Migratory Birds

IMPACT BIO-2	**The project could result in loss or disturbance of special-status wildlife species (nesting raptors and migratory birds)**	**Less than Significant with Mitigation**

The proposed project includes removal of ornamental poplar trees and other vegetation along the property frontage to accommodate the proposed new access. Additionally, the proposed modifications of Detention Basin #1 would also likely require ruderal vegetation and the existing trees that border the basin to be removed.

Birds and their nests are protected by the federal Migratory Bird Treaty Act of 1918 and Section 3503 of the California Fish and Game Code. Several bird species were observed within the Survey Areas during the field surveys, including crows (*Corvus brachyrhynchos*) and seagulls (*Larus pacificus*). Protected nesting birds, including non-special-status raptor species, have the potential to nest in buildings or structures, on open ground, or in any type of vegetation, including trees, during the nesting bird season (January 15 through September 15). No nesting activity was observed during the surveys. However, various bird species may nest throughout the compost facility and Survey Areas, including in buildings or structures, on open ground, or in any type of vegetation, including trees.

Nesting birds protected by state and federal regulations have the potential to be present within or adjacent to the compost facility or within the access road and SR-25 impact areas. Soil-disturbing or construction activities associated with the proposed project may directly result in loss of active nests, or indirectly result in nest abandonment and thereby cause loss of fertile eggs or nestlings. Sustained noise can cause indirect impacts by creating stress in birds. As previously discussed, the special-status white-tailed kite could potentially nest within the Pajaro River riparian corridor; however, because the river is more than 1,000 feet from proposed construction areas at the project site, project construction noise is not anticipated to disturb nesting birds within the riparian corridor. However, direct loss of nests from proposed tree removal on the project site, or indirect impacts to nesting birds on or close to the project site from construction noise and activities would be a **significant impact**. Implementation of the following mitigation measure is proposed to address this impact.

MM-BIO-2: Nesting Bird Avoidance and Minimization Measures

Any tree removal, pruning, grading, grubbing, or demolition within the compost facility or within the access road and SR-25 impact areas shall be conducted outside of the bird nesting season (January 15 through September 15) to the maximum extent feasible and with express prior approval from the County Planning Department. If these types of activities, or noise resulting from construction activities, occurs during the bird nesting season, then a qualified biologist shall conduct pre-construction surveys for nesting birds to ensure that no active nests would be disturbed during project activities.

If project-related work is scheduled during the nesting season (January 15 through September 15), or if construction activities are suspended for at least 15 days and recommence during the nesting season, a qualified biologist shall conduct additional nesting bird surveys before any construction activities recommence. Two surveys for active nests of such birds shall occur within 15 days prior to the start of construction, with the second survey conducted within 48 hours prior to the start of construction. Appropriate minimum survey radii surrounding each work area are 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys shall be conducted at the appropriate times of day, as determined by the qualified biologist, to observe nesting activities when birds are most active. Off-site locations where access is

not available may be surveyed from within the site or from public areas. A report documenting survey results and plan for active bird nest avoidance (if active nests are found) shall be completed by the qualified biologist and submitted to the County Planning Department prior to initiation of construction activities.

If the qualified biologist documents active nests within the survey areas, an appropriate buffer between each nest and construction shall be established. The buffer shall be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist shall conduct baseline monitoring of each nest to characterize normal bird behavior and establish a buffer distance that allows the birds to exhibit normal behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, all construction work in the area shall cease until the young have fledged and the nest is no longer active.

Any modifications to this measure, such as encroachment of construction activities into established buffer zones, must be coordinated with CDFW.

Implementation of MM-BIO-2 would reduce the impact to a less-than-significant level by requiring pre-construction surveys to identify active nests and avoidance of disturbance to any active nest(s) if present by prohibiting construction activities within established buffer zones. Therefore, this impact would be **less than significant with mitigation incorporated.**

8.4.3 Special-Status Species - Western Mastiff Bat and Pallid Bat

IMPACT BIO-3	**The project could result in loss or disturbance of special-status wildlife species (western mastiff bat and pallid bat)**	**Less than Significant with Mitigation**

The proposed project includes removal of ornamental poplar trees to accommodate the proposed new access and the removal of other existing trees that border Detention Basin #1 to accommodate reconfiguration.

The nearest recorded bat sightings are over four miles to the northwest and include Western mastiff bat (*Eumops perotis californicus*), and pallid bat (*Antrozous pallidus*). Western mastiff bat requires cover in crevices in cliff faces, high buildings, trees, and tunnels. Pallid bat typically roosts in rock crevices, caves, mine shafts, under bridges, or in buildings and tree hollows. Potential roosting sites for bats are limited within or adjacent to the compost facility and the Survey Areas due to frequent disturbance, noise and vibration. Buildings and structures within the facility and the poplar trees adjacent to SR-25 are likely too often disturbed (noise and vibration) to provide sufficient roosting habitat. However, the numerous trees that line the north side of Detention Basin #1 and the additional trees scattered along the other three sides of the basin are further from disturbance activities and could provide potential roosting habitat. If these bats are present or in the vicinity, tree removal and other construction activities could result in

harassment or the loss of individual animals. This would be a **significant** impact. Implementation of mitigation measure MM-BIO-3 is proposed for this impact.

MM-BIO-3: Roosting Bat Avoidance and Minimization Measures

The Applicant shall retain a qualified biologist to conduct a bat habitat assessment in all project areas that require tree removal. The qualified biologist shall identify and document the location of potentially suitable bat roosting habitat prior to construction activities. If no suitable bat habitat is observed, the biologist shall inform the County Planning Department, the Applicant and its Construction Contractor, and no further measures are required. If bat roosting habitat is observed, the locations of all such habitat areas shall be provided to the County Planning Department, the Applicant and its Construction Contractor, and all of the following requirements shall be implemented throughout the construction period:

- *Removal of trees that provide suitable bat roosting habitat shall be conducted outside of the bat maternity season (April 15 to August 31) and overwintering season (October 16 to January 15) to the maximum extent feasible and with express prior approval from the County Planning Department.*
- *Bat presence/absence surveys shall be conducted 2 to 3 days prior to removal of any trees in suitable bat habitat, at any time of year. If presence/absence surveys are negative, work may proceed with no restrictions. If presence/absence surveys detect bats within trees planned for removal, work should proceed in accordance with all of the following restrictions:*
    - *If a maternity colony of bats is observed during maternity season (April 15 to August 31), tree removal shall not occur until August 31 or when maternity season has ended as confirmed based on surveys conducted by a qualified biologist.*
    - *If bats are observed during overwintering season (October 16 to January 15), tree removal shall not occur until January 15 or until bats are no longer present as confirmed based on surveys conducted by a qualified biologist.*
    - *If bats are present outside of maternity or overwintering seasons, construction shall follow a two-phase tree removal system conducted over 2 consecutive days. On the first day (in the afternoon), any limbs and branches shall be removed using chainsaws or other hand tools. Limbs with cavities, crevices, or deep bark fissures shall be avoided, and only branches or limbs without those features may be removed. On the second day, the entire tree shall be removed.*

Any modifications to this measure, such as bat eviction, must be coordinated with CDFW.

Implementation of this mitigation measure would reduce the potential impact to less than significant by requiring pre-construction surveys for bat roosting activity, and establishing consultation with the CDFW to protect roosting bats if they are present on

or adjacent to the compost facility or SR-25 impact areas. Therefore, this impact would be **less than significant with mitigation incorporated.**

8.4.4 Wetlands

IMPACT BIO-4	The project could result in loss of potential state or federally protected wetlands	Less than Significant with Mitigation

Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils intermittently or permanently saturated by water), and wetland hydrology. Waterways or drainage channels are defined by their ordinary high-water marks on channel banks and their connection to other waterways or aquatic features.

There are two types of aquatic features present within the compost facility boundary: shallow drainage ditches and constructed ponds. Survey Area 1 includes Detention Basin #1, a constructed pond used to store and recycle storm water leachate as part of the composting process. At the time of the surveys in 2014 and 2019, water collected in the pond was nearly black from turbidity, and limited vegetation was present around the edges. Due to its use in industrial operations and poor quality for vegetation or wildlife, this feature was unlikely to be considered jurisdictional by any resource agency when the original analysis was done. Since then, the pre-2015 definition of WOTUS has been readopted and thus, Detention Basin #1 may now be considered a jurisdictional wetland by one or more resource agencies.

The Pajaro River is located adjacent to, but outside of the compost facility boundary to the southeast, and therefore no impact would occur to the river.

Within Survey Area 2, long linear drainage ditches approximately 15 feet wide are present parallel to the north and to the south of SR-25. The ditches are periodically cleared and vegetation present at the time of the survey was dominated by ruderal species. The ditches north of SR-25 also supported scattered cattails. No standing water was observed. These ditches appear to connect to Carnadero Creek and the Pajaro River and may be considered jurisdictional by one or more resource agencies.

An approximately 0.02-acre wetland area was identified east of the intersection of Bolsa Road and SR-25. The area was wet but did not contain ponded water. Remnants of wetland vegetation (cattails) were identifiable, though the time of year precluded additional plant identification. If the wetland area supports the necessary criteria, one or more resource agencies may consider this feature jurisdictional.

Construction of the new access driveway and SR-25 improvements would impact approximately 1,600 feet of linear drainage ditch along the north side of SR-25, 1,800 feet of linear drainage ditch along the south side of SR-25, and the approximately 0.02-acre wetland near the intersection of Bolsa Road and SR-25. The drainage ditches and small wetland area are within Caltrans right-of-way and potentially under the regulatory jurisdiction of the USACE and RWQCB. If considered jurisdictional by the USACE and/or RWQCB, permits may be required from these agencies for construction of the new access driveway and widening of SR-25.

The proposed modifications to Detention Basin #1 could also require permits from USACE and/or RWQCB, if the Detention Basin is considered jurisdictional. Direct impacts would include cut, fill and grading associated with the new berm around the eastern portion of the basin and drainage ditch along the northern edge of the western portion, while indirect impacts would include the cessation of stormwater flows into the western portion because of the presence of the ditch.

The impact to potential jurisdictional wetlands and waterways could be **significant**. Implementation of mitigation measure MM-BIO-4 is proposed for this potential impact.

MM-BIO-4: Delineation of Aquatic Features, Permit Acquisition, and Compliance with Permit Conditions

Prior to initiation of ground disturbance or construction activities within the new access driveway, SR-25 impact areas, and Detention Basin #1, the applicant shall retain a qualified biologist to delineate the extent of drainage ditches, potential wetlands, and other waters of the United States regulated by the USACE and RWQCB. If there are jurisdictional features that would be modified by the project, the applicant shall obtain a Clean Water Act Section 404 Nationwide Permit or Individual Permit from USACE and obtain a Clean Water Act Section 401 Water Quality Certification from the RWQCB.

To compensate for temporary and/or permanent impacts to wetlands and other waters of the U.S. that would be impacted as a result of the proposed project, compensation shall be provided as required by the conditions of the regulatory permits. Compensation shall be provided through one of the following mechanisms:

- *A Wetland Mitigation and Monitoring Plan shall be developed that outlines mitigation and monitoring obligations for temporary impacts to wetlands and other jurisdictional waters from the project. The Wetland Mitigation and Monitoring Plan shall include thresholds of success, monitoring and reporting requirements, and site-specific plans to compensate for wetland losses resulting from the project. The Wetland Mitigation and Monitoring Plan shall be submitted to the appropriate regulatory agencies for review and approval during the Section 404/401 permit application process.*
- *To compensate for permanent impacts, the dedication of land to provide suitable wetland restoration or creation shall ensure no net loss of wetland values or functions. For compensation lands or improvements on the project site, the applicant shall comply with all terms and conditions of the regulatory permits, including measures to protect and maintain water quality, restore work sites, and compensatory mitigation to offset temporary and permanent wetland impacts. The Applicant shall prioritize onsite compensation, and dedication of offsite compensation shall only be considered if the County Planning Department determines that onsite compensation is infeasible. The Applicant shall develop, as necessary, a mitigation and monitoring plan, which will include success criteria for waters enhancement or creation on- or off-site. The Applicant shall be responsible for securing funding for the implementation and management of compensatory mitigation prior to issuance of a grading permit, with oversight by the County of Santa Clara.*

- *For improvements within the Caltrans right-of-way, the applicant shall comply with terms and conditions of the permits, including measures to protect and maintain water quality, restore work sites, and compensatory mitigation to offset temporary and/or permanent wetland impacts. The applicant shall be responsible for implementation of this mitigation measure prior to issuance of an encroachment permit from Caltrans.*

Implementation of MM-BIO-4 would ensure that impacts to potentially jurisdictional wetlands and waterways are mitigated by requiring a wetland assessment/jurisdictional determination to confirm if, and to what extent, the project would disturb jurisdictional aquatic features. If jurisdictional features would be impacted by the project, appropriate regulatory permits would be required, which would include compensation for any loss of wetland value or function either on- or off-site. With implementation of this mitigation measure, construction of the new driveway, improvements along SR-25, and modifications to Detention Basin #1 would not have a substantial adverse effect on federally or state-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Therefore, this impact would be **less than significant with mitigation incorporated**.

9 Cultural and Tribal Cultural Resources

This section addresses known cultural and tribal cultural resources on or near the project site; the federal, state, and regional/local regulatory framework pertaining to cultural and tribal cultural resources; and potential impacts to cultural and tribal cultural resources as a result of the proposed project. This evaluation is based on a review of previous archaeological studies conducted at and in the vicinity of the Z-Best facility and two pedestrian surveys conducted by an EMC Planning Group archaeologist (February 5, 2019, and on February 6, 2020). The section was updated in July 2022 to reflect revised project details and additional outreach to the Native American Heritage Commission and local tribes.

Information in this section is derived from a variety of sources, including:

- California Historical Resources Information System (Northwest Information Center Sonoma State 2017);
- Phase I Archaeological Investigation for the Z-Best Aerated Static Pile Composting Project (Albion Environmental Inc. 2017);
- Initial Study/Mitigated Negative Declaration Z-Best Composting Facility Expansion project (Jones & Stokes 2012);
- Archaeological Report for Proposed Site Access and State Highway 25 Improvements for the Z-Best Composting Facility at 980 CA-25, Gilroy (EMC Planning Group 2020); and
- Sacred Lands File Search Results (NAHC 2022).

Because these reports may contain sensitive information relating to cultural resources, they are not included as an appendix to this EIR, but are on file with the County Department of Planning and Development.

The California Native American Heritage Commission submitted a comment letter in response to the NOP. The comment letter was not specific to the project; rather, it summarized the CEQA process for considering historical resources and tribal cultural resources. No comments pertaining to cultural resources were received during the public comment period for the original Draft EIR.

Tribal consultation letters were sent in November 2022 to tribes on the Native American Heritage Commission (NAHC) list, and to the Tamien Nation, who have requested formal notification under AB 52 for all projects for which the County is lead agency. Follow up letters were also sent to the Amah Mutsun Tribal Band in December 2022 following the positive Sacred Lands File Search. No responses have been received from any tribes to date.

9.1 Environmental Setting

9.1.1 Existing Conditions

The Z-Best facility is in Santa Clara County, on the Chittenden U.S. Geological Survey (USGS) 7.5-minute quadrangle, Universal Transverse Mercator 10S 631639 easting, 4090014 northing. Surrounding the facility is agricultural land, SR-25 adjacent to the north, Carnadero Creek to the west, and the Pajaro River adjacent to and within one-quarter mile to the east. Elevation ranges from approximately 143 to 151 feet above sea level. The site does not contain any built structures of historic age, and there are no known built historic resources in the immediate vicinity of the site.

In December 2005, a Jones & Stokes archaeologist conducted a pedestrian survey of the site and concluded that most of the site's native soils were obscured or degraded due to previous agricultural activities, grading, development, and general use of the facility (Jones & Stokes 2012). The site contains native soils that are obscured by thick, dense areas of non-native grasses and covered with impervious surfaces and other disturbed surfaces associated with ongoing composting activities.

In August 2017, Albion Environmental, Inc. conducted an archaeological pedestrian survey and resulting shovel test pit analysis of an area north of SR-25, across from the facility which at that time was being considered as a site for a flood storage facility. The information from the Albion survey is relevant due to the adjacency of that study site to the current project site and the value of that study for indicating potential cultural resource considerations at the Z-Best site. One obsidian flake was identified on the surface of a dirt road. This led to three shovel test pits, with negative results for archaeological resources (Albion 2017).

The Northwest Information Center database search of April 19, 2017, conducted in association with the Albion investigation reported that there were two recorded prehistoric resources, a habitation site and a prehistoric isolate, adjacent to that study area, and in 1992, a human burial was identified within a quarter mile of the Albion study site. The exact locations of these resources are not shared in order to protect them.

EMC Planning Group archaeologist Gail Bellenger conducted two reconnaissance field surveys on February 5, 2019, and on February 6, 2020, to determine whether cultural resources were present within the two areas surveyed on the respective survey dates:

- Survey 1 included the following two areas:
    - Existing Detention Basin #1.
    - An approximately 1-acre area in the north of Area 2 that matched the boundary of the flood storage expansion area that was anticipated as part of the project (as proposed at that time). This area is hereafter referred to as the "original flood storage expansion area". Note that this area is substantially smaller than the approximately 5.5-acre area now proposed for flood storage expansion. However, the southern portion of the current flood storage expansion area that was not included within the 2019 survey area is highly disturbed from existing Z-Best operations.

- Survey 2 included three separate impact areas as shown on Figure 4-8, Project Entrance/Driveway and SR-25 Improvements. These impact areas correspond to the locations of the proposed new site access/entrance road, and to areas on both the north and south sides of SR-25 where the highway would be widened to accommodate new turn lanes on the highway.

The results of these surveys are presented below. The cultural resources surveys were limited to the areas noted above because other construction activities associated with the project (as proposed at the time) would take place in locations that had already been highly modified and disturbed by prior construction activities (e.g., replacement of existing CTI technology with ECS technology improvement within the same composting pad boundary). No new impacts on cultural resources, if such were to exist in these areas, are anticipated. The areas surveyed were therefore limited to areas with less previous disturbance, which therefore have greater potential to contain previously unidentified cultural resources that could be adversely affected during construction activities.

A Sacred Lands File Search was requested in November 2022, which returned a positive result. Tribal consultation letters were sent in November 2022 to tribes on the NAHC list, and also to the Tamien Nation, who have requested formal notification under AB 52 for all projects for which the County is lead agency. Follow up letters were also sent to the Amah Mutsun Tribal Band in December 2022 following the positive Sacred Lands File Search. No responses have been received from any tribes to date; therefore, no additional information is known about potential tribal cultural resources in the area.

9.1.2 Archaeological Survey Results

9.1.2.1 Survey Area 1 Results

The archaeological survey was conducted on February 5, 2019, mostly from a vehicle with some of the survey conducted as a pedestrian survey around the detention basin and the flood storage expansion area. Exposed soil was examined to the greatest extent possible. However, muddy conditions prevented a complete pedestrian survey. Scattered trash such as paper products, was found in most places, blown or carried by storm water runoff.

The Detention Basin #1 area has been substantially disturbed by prior construction activities associated with the detention basin. The Detention Basin #1 area contains planted trees, non-native grasses, and ruderal vegetation.

The ground surface in the original flood storage facility expansion footprint that was included in Survey Area 1 has been previously disturbed by Z-Best operations including vegetation control, surface grading and movement of vehicles and equipment. It is dominated by non-native grassland plant species. It contains no structures or known subsurface improvements. The larger footprint of the flood storage area that is currently proposed (in 2022) is similarly highly disturbed by previous vegetation control, grading, and equipment and contains no structures or known subsurface improvements.

No cultural resources were identified in Survey Area 1.

9.1.2.2 Survey Area 2 Results

The archaeological survey was conducted in two- to three-meter meandering transects. The ground visibility was poor in most areas, especially within the drainage ditch areas of impact, but excavated soil from animal burrows was examined for resources, as well as several areas of bare soil or mud.

The proposed new driveway alignment is within a very disturbed area. The surface has been modified through grading and vegetation management. There are no known subsurface improvements in the alignment area. There is a planted row of poplar trees bordering the alignment on the north and ruderal vegetation throughout. Ground visibility within the access/entrance impact area varied from poor to average. Several gopher mounds were observed and the subsurface soil around the mounds was examined carefully for indications of cultural resources. Scattered modern trash items such as glass fragments and shards, bottle caps, plastic materials, broken pieces of brick, and fragments of white glazed ceramic were found throughout survey area.

No surface historic or prehistoric materials were found in the access/entrance impact area or the drainage ditch impact areas or in areas immediately adjacent to them.

9.2 Regulatory Setting

9.2.1 Federal Regulations

9.2.1.1 National Historic Preservation Act (1966)

This Act was passed into law in 1966. The purpose of the Act is to establish systems and standards for coordinating historic preservation efforts between the federal government and state, local, and tribal governments. This Act includes Title I, Historic Preservation Programs, Section 101, which states the Secretary may expand and maintain a National Register of Historic Places composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Additional information about this Act can be found under Title 54 United States Code [U.S.C.] Chapter 3021-National Register of Historic Places, 54 U.S.C. 302101 (National Park Service 2018).

9.2.1.2 Native American Graves Protection and Repatriation Act

This Act was passed into law on November 16, 1990, and has been amended twice. This Act describes the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation. Additional information about this Act can be found under Public Law 101-601; 54 U.S.C. (National Park Service 2018).

9.2.2 State Laws, Regulations, and Statutes

9.2.2.1 CEQA Archaeological Resources (California PRC § 21083.2)

CEQA requires the lead agency to 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. 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 (California Office of Historic Preservation 2019).

9.2.2.2 State Historical Resources Commission (California PRC § 5020)

Under California PRC section 5020.5, the State Historical Resources Commission shall develop criteria and methods for determining the significance of archaeological sites, for selecting the most important archaeological sites, and for determining whether the most significant archaeological sites should be preserved intact or excavated and interpreted. The commission shall also develop guidelines for the reasonable and feasible collection, storage, and display of archaeological specimens. The commission oversees the California Register (California Office of Historic Preservation 2019).

State Historic Preservation Officer (California PRC § 5020.6)

In consultation with the State Historical Resource Commission, the State Historic Preservation Officer acts as the executive secretary of the commission and shall be the chief administrative officer of the Office of Historic Preservation (California Office of Historic Preservation 2019).

California Register of Historical Resources (California PRC § 5024.1)

The California Register is an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change (California Office of Historic Preservation 2019).

9.2.2.3 Native American Heritage Commission (California PRC § 5097.9)

The California Native American Heritage Commission shall identify and catalog places of special religious or social significance to Native Americans, and known graves and cemeteries of Native Americans on private lands. The Commission shall notify landowners on whose property such graves and cemeteries are determined to exist, and shall identify the Native American group most likely descended from those Native Americans who may be interred on the property. The Commission shall make recommendations relative to Native American sacred places that are located on private lands, are inaccessible to Native Americans, and have cultural significance to Native Americans for acquisition by the state or other public agencies for the purpose of facilitating or assuring access thereto by Native Americans (California Office of Historic Preservation 2019).

9.2.2.4 Human Remains (California Health and Safety Code § 7050.5)

Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstance, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his/her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The coroner shall make his/her determination within two workings days from the time the person responsible for the excavation, or his/her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his/her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he/she shall contact, by telephone within 24 hours, the Native American Heritage Commission (California Office of Historic Preservation 2019).

9.2.3 Local Regulations and Ordinances

9.2.3.1 Santa Clara County Historical Heritage Commission

The Board of Supervisors created the Historical Heritage Commission to protect, preserve, and promote historic resources within Santa Clara County. Composed of volunteers from the community and two commissioners that represent each of the five county supervisorial districts.

9.2.3.2 Santa Clara County Cemeteries and Indian Burial Grounds Ordinance

County Ordinance Code Sections B6-18 through B6-20 set forth the procedures to be followed in the event of an encounter with human skeletal remains or artifacts and discovery of a Native American burial site.

Upon discovering or unearthing any burial site as evidenced by human skeletal remains, the person making such discovery shall immediately notify the County Coroner. Upon determination by the County Coroner that the remains are Native American, the coroner shall contact the California Native American Heritage Commission, pursuant to Health and Safety Code Section 7050.5 (c) and the County Coordinator of Indian Affairs.

No further disturbance of the site may be made except as authorized by the County Coordinator of Indian Affairs in accordance with the provisions of state law and this ordinance. The County Coordinator of Indian Affairs shall contact the California Native

American Heritage Commission and assist in contacting persons believed to be most likely descendants. Within 24 hours following receipt of information that a Native American burial site has been discovered or unearthed, the County Coordinator of Indian Affairs shall conduct inspection of the site in accordance with the provisions set forth in Public Resources Code Section 5097.98. Any agreement reached in accordance with Public Resources Code Section 5097.98 shall be presented to the County Engineer. The County Engineer shall issue a permit setting forth the conditions of the agreement to be met by the owner of the property.

Such conditions of the permit shall be in furtherance of the intent of this ordinance and shall be formulated by a Costanoan Advisory Committee appointed by the County Board of Supervisors and shall consist of three persons of Costanoan descent, two professional archeologists with fieldwork experience and with a degree in archaeology and one person with a background in civil engineering.

The process involves the County Engineer, the County Coroner, the County Coordinator of Indian Affairs, the Native American Heritage Commission, and advisory committee made up of three persons of Costanoan descent, two professional archaeologists, and a person with background in civil engineering. These professionals contribute to the determination of how to handle archaeological resources discovered (County of Santa Clara 2019).

9.3 Thresholds of Significance and Analysis Methodology

9.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact relating to cultural resources or tribal cultural resources would occur if implementation of the proposed project would:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;

b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5;

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

d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

    i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources code section 5020.1(k), or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

9.3.2 Analysis Methodology

This evaluation is based a review of existing scientific literature, aerial photographs, technical background information; relevant documents addressing cultural resources at the project site and vicinity; two reconnaissance field surveys conducted by an EMC Planning Group archaeologist (February 5, 2019, and February 6, 2020); and policies applicable to projects located in the County of Santa Clara. Relevant comments on the NOP were also reviewed and considered. See the beginning of this EIR section for a list of relevant documents used in this analysis.

9.4 Analysis, Impacts, and Mitigation Measures

9.4.1 Historical Resources and Unique Archaeological Resources

IMPACT CUL-1	The project could result in significant impacts to historical resources or unique archaeological resources	Less than Significant with Mitigation

Although there are no recorded cultural resources within the Z-Best facility boundary, two recorded archaeological resources (P-43-000214 and P-43-001442) are located immediately north of SR-25. Although archaeological surveys of areas 1 and 2 did not identify any surface archaeological resources, due to the proximity of the recorded resources, there is always the possibility that historical resources or unique archaeological resources could be accidentally discovered during earth-moving activities associated with construction. Disturbance of soils has the potential to result in significant impacts to historical resources or unique archaeological resources. This would be considered a **potentially significant** impact. Implementation of mitigation measure MM-CUL-1 is proposed for this potential impact.

MM-CUL-1: Accidental Discovery Protocols

A. *Prior to the start of ground-disturbing activities, the applicant shall retain a qualified archaeologist to implement archaeological awareness training for all construction personnel involved with earthmoving or grading activities. The training shall include information regarding the possibility of encountering buried cultural resources (including tribal cultural resources), the appearance and types of resources likely to be seen during construction, notification procedures, and proper protocol to be followed should resources be*

encountered. This training shall be provided to all workers involved in ground-disturbing activities throughout the duration of construction and shall be documented in training records that shall be submitted to the County prior to those workers undertaking any ground-disturbing activities at the site.

B. *A qualified archaeologist shall be on site to monitor project-related ground-disturbing activities. The contract for this work shall be provided to the County prior to issuance of a grading permit. The frequency of monitoring shall be determined by the archaeologist based on the rate of excavation and grading activities, the materials being excavated, the depth and location of excavation, and, if found, the abundance and type of archaeological resources encountered.*

C. *If buried historic or prehistoric cultural resources or suspected resources (such as chipped stone or groundstone, shell middens, historic debris such as trash dumps, building foundations, or old roadways) are inadvertently discovered during ground-disturbing activities, work shall stop within a 100-foot radius of the find, and the County Planning Department shall be notified, and the qualified archaeologist shall evaluate the find to determine if it meets the definition of a historical, unique archaeological, and/or tribal cultural resource, and all of the following shall be required:*

- *If the find(s) does not meet the definition of a historical resource or unique archaeological resource, no further study or protection is necessary prior to resuming project implementation.*
- *If the find(s) does meet the definition of a historical resource or unique archaeological resource, then it shall be avoided by project activities. If avoidance is not feasible, as determined by the County Planning Department, the qualified archaeologist, shall make appropriate recommendations regarding the treatment and disposition of such find(s), and significant impacts to such resources shall be mitigated in accordance with the recommendations of the archaeologist, and evidence of such mitigation shall be submitted to the County Planning Department, prior to resuming any construction activities within the 100-foot radius of the find(s).*
- *If the find(s) is potentially a tribal cultural resource, then tribal representatives shall be consulted. If, after consultation with tribal representatives, it is determined that the find(s) is a tribal cultural resource, then the find(s) shall be avoided by project activities. If avoidance is not feasible, as determined by the County Planning Department, the qualified archaeologist, in consultation with tribal representatives, shall make appropriate recommendations regarding the treatment and disposition of such finds and significant impacts to such resources shall be mitigated in accordance with the recommendations of the archaeologist, and evidence of such mitigation submitted to the County, prior to resuming construction activities within the 100-foot radius.*
- *If the find(s) are human remains or grave goods, the requirements of Public Resources Code Section 5097.98 and County Ordinance Code Sections B6-18 through B6-20 shall be followed.*

Implementation of MM-CUL-1 would reduce the potential for inadvertent disturbance or damage to significant historical resources and/or unique archaeological resources within the project site by educating construction workers to recognize potential cultural resources and halting operations in the event of a discovery and require that appropriate treatment measures are implemented to avoid significant adverse effects to the resources. With implementation of MM-CUL-1, the impact would be reduced to **less than significant with mitigation**.

9.4.2 Human Remains

IMPACT CUL-2	**The project would not result in significant impacts to human remains**	**Less than Significant**

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California Public Resources Code. The California Health and Safety Code (Sections 7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protect them from disturbance, vandalism, or destruction, and established procedures to be implemented if Native American skeletal remains are discovered. Public Resources Code Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and established the NAHC to resolve any related disputes. County Ordinance Code Sections B6-18 through B6-20 set out specific procedures to be followed in the event of inadvertent discovery or disturbance of human remains within Santa Clara County.

Due to a record from 1992 of a human burial within a quarter mile of the Z-Best facility, and a positive Sacred Lands File search result, there is a possibility that unrecorded Native American burials may underlie areas that would be disturbed by project construction activities. Human remains can be encountered in fill, re-deposited, or disturbed soils, as well as intact soils. If human remains were uncovered during demolition or excavation activities, the procedures in County Ordinance Code Sections B6-18 through B6-20 would be followed, which would reduce potential impacts to **less than significant**.

9.4.3 Tribal Cultural Resources

IMPACT CUL-3	**The project could result in significant impacts to tribal cultural resources**	**Less than Significant with Mitigation**

PRC Section 21074 defines a tribal cultural resource 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 that is listed or eligible for listing on the California Register for Historical Resources or in a local register of historical resources as defined in PRC Section 5020.1(k), or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In

applying the criteria in Section 5024.1(c), the lead agency shall consider significance of the resource to the relevant California Native tribe.

The project site contains no tribal cultural resources listed in the California Register of Historical Resources; however, a Sacred Land File search undertaken for the project did return a positive result. The County has requested information from the Amah Mutsun Tribal Band (identified by the Native American Heritage Commission as having potential information pertaining to the positive result) as well as other tribes with a potential interest in the study area. The County has also notified the Tamien Nation Tribe regarding the proposed project, in accordance with the requirements of PRC § 21080.3.1 (AB 52). To date, no response has been received from any tribe.

Due to a record from 1992 of a human burial within a quarter mile of the Z-Best facility, and a positive Sacred Lands File search result, there is a possibility that unrecorded tribal cultural resources may underlie areas that would be disturbed by project construction activities.

Disturbance of such resources during construction, if present, would be considered a **potentially significant** impact.

Implementation of mitigation measure **MM-CUL-1, Accidental Discovery Protocols**, which is described above under Impact CUL-1 in Section 9.4.1, is proposed to address this impact.

Mitigation measure MM-CUL-1, which requires training for construction workers and that specified procedures be followed if precontact or historic period archaeological resources are encountered during project construction, is recommended to reduce impacts to subsurface tribal cultural resources that may be present on the project site. This mitigation measure would require stoppage of work if a suspected prehistoric or historic resource is encountered during construction, to allow a qualified archaeologist to evaluate the find to determine if it meets the definition of a historical or archaeological resource. If the find is determined to be a tribal cultural resource, consultation with recognized tribes would be undertaken and their input would be sought on the most appropriate treatment and disposition of the finds. Therefore, with implementation of MM-CUL-1, project impacts to tribal cultural resources (Impact CUL-3) would be reduced to **less than significant with mitigation**.

10 Greenhouse Gases

This section of the EIR includes a discussion of the science of climate change, existing setting conditions, applicable policy and regulatory direction regarding climate change, the sources and projected GHG emissions that would be generated by the proposed project, and an evaluation of the potential for the proposed project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

The proposed project would generate GHG emissions that contribute to climate change, an effect which is global in scale. Therefore, the analysis in this section is inherently cumulative in nature. The analysis is conducted within the framework of the State of California's climate change legislative and regulatory framework, which is designed to reduce GHG emissions in the state over time to levels that substantially reduce California's contribution to global climate change.

The section was updated in July 2022 to reflect the updated project description, changes in the regulatory framework, and additional analysis pertaining to GHG emissions.

Information in this section is derived from a variety of sources including the following:

- 2017 Clean Air Plan: Spare the Air, Cool the Climate (Bay Area Air Quality Management District 2017a);
- CEQA Air Quality Guidelines (Bay Area Air Quality Management District 2017b);
- Emissions from Proposed Changes to Z-Best Facility in Gilroy, California (SCS Engineers 2019) and associated peer review (EMC 2020) in Appendix B-1;
- Emissions from Proposed Changes to Z-Best Facility in Gilroy, California (SCS Engineers October 9, 2020) and associated peer review (AECOM 2023) in Appendix B-5; and
- Estimated Power Use Comparison: ECS Primary CASP & Secondary ASP versus CTI Bags (Engineered Compost Systems 2022) in Appendix D-1.

This section also addresses comments raised during the scoping period and on the original Draft EIR relating to GHGs, to the extent that they are still relevant to the currently proposed project. Such comments include:

- During scoping, BAAQMD requested an estimate of construction-related GHGs, and an estimate of on-road and off-road mobile sources of GHGs be included in the EIR.
- BAAQMD's comments on the original Draft EIR included a request for a discussion of the proposed project's consistency with the State's long-term climate goals as well as additional on-site GHG operational emission reductions.

10.1 Environmental Setting

This section provides a general overview of climate change science, climate change issues in California, the GHG emissions setting in Santa Clara County, and GHG emissions produced from the current use of the project site.

10.1.1 Climate Change Science

Scientists worldwide agree that global warming is happening, and that human activity causes it (IPCC 2007). The resulting change in climate has serious global implications and consequently, human activities that contribute to climate change may have a potentially significant effect on the environment. In recent years, concern about climate change and its potential impacts has risen dramatically. That concern has translated into a range of international treaties and national and regional agreements aimed at diminishing the rate at which global warming is occurring. Over time, the federal government has been tackling concerns about climate change to varying degrees through a range of initiatives and regulatory actions. Many states and local agencies, private sector interests, and other public and private interests have also taken initiative to combat climate change. At the state level, California has taken a leadership role in tackling climate change, as evidenced by the programs outlined in the Regulatory Setting section below.

10.1.2 Causes of Climate Change

The greenhouse effect naturally regulates the Earth's temperature. However, human activity has increased the intensity of the greenhouse effect by releasing increasing amounts of GHGs into the atmosphere. GHGs can remain in the atmosphere for decades or even hundreds of thousands of years, depending on the particular GHG. Atmospheric GHGs will continue to cause climate change for years to come, just as the warming being experienced now is the result of emissions produced in the past. Climatic changes are happening now and are projected to increase in frequency and severity before the benefits of GHG emission reductions will be realized.

10.1.3 Effects of Climate Change

Increased concentrations of GHGs in the atmosphere result in increased air, surface, and ocean temperatures. Many of the effects and impacts of climate change stem from resulting changes in temperature and meteorological responses to those changes.

10.1.3.1 Rising Temperatures

The Intergovernmental Panel on Climate Change, which includes more than 1,300 scientists from the United States and other countries, estimated that global temperatures have increased by about two degrees Fahrenheit (°F) during the 20th century (IPCC 2021). The Intergovernmental Panel on Climate Change forecasts indicate that global temperatures can be expected to continue to rise between 2.5 and 10°F over the next century. According to the *California Climate Adaptation Strategy*

(California Natural Resources Agency 2009), average state temperatures are currently predicted to increase 1.8 to 5.4°F by 2050 and 3.6 to 9°F by 2100.

Cal-Adapt, a climate change projection modeling tool developed by the California Energy Commission, identifies that temperatures in Gilroy (nearest measurement site) have historically (1950-2005) averaged about 72.9°F. Temperatures are projected to rise between 1.6 and 4.1°F by 2099, based on average low and high emissions scenarios. Gilroy has historically experienced four extreme heat days per year (over 99.7°F). The model projections fluctuate on an annual basis. The number of extreme heat days per year is expected to increase to ten days by 2099 (Cal-Adapt 2022a).

10.1.3.2 Reduced Snowpack

The Sierra Nevada snowpack acts as a large natural reservoir that stores water during the winter and releases it into rivers and reservoirs in the spring and summer. It is expected that there will be less average annual snowfall in the Sierra Nevada and that the elevations at which snow falls will rise. Similarly, there will be less snowpack water storage to supply runoff water in the warmer months. It has already been documented that California's snow line is rising. More precipitation is expected to fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack. The average annual spring snowpack in the Sierra Nevada decreased by 10 percent in the last century and may decrease as much as 70 to 90 percent by 2100 (Cal-Adapt 2022b). It is estimated that for each 1.8°F increase in Earth's average temperature, the Sierra snowpack will retreat 500 feet in elevation and an overall reduction of 25 to 40 percent reduction in average annual snowpack by 2050 is projected. The Sierra Nevada snowpack provides approximately 80 percent of California's annual water supply. The rapid decrease in snowpack and spring melt poses a threat to groundwater resources in many parts of the state where rivers that recharge groundwater with melt water from the Sierra Nevada will have reduced groundwater recharge potential.

10.1.3.3 Water Supply

Climate change is expected to increase pressure on and competition for water resources, further exacerbating already stretched water supplies. Decreasing snowpack and spring stream flows and increasing demand for water from a growing population and hotter climate could lead to increasing water shortages. Water supplies are also at risk from rising sea levels. Competition for water between cities, farmers, and the environment is expected to increase.

Anticipated changes to source water conditions including more intense storm events, longer drought periods, reduced snowpack at lower elevations, and earlier spring runoff will likely impact the quality of the source waters. Changes in source water quantity and quality may result in increased treatment needs and increased treatment costs.

10.1.3.4 Precipitation Levels

Precipitation levels are difficult to predict compared to other indicators of climate change. Annual rain and snowfall patterns vary widely from year to year. On average, Cal-Adapt projections show little change in total annual precipitation in California. Furthermore, among several models, precipitation projections do not show a consistent trend during the next century.

The Gilroy area has historically averaged about 18.9 inches of rainfall per year. That number is forecast to increase to about 21.2 inches and 23.9 inches by the end of the century under the medium (representative concentration pathways 4.5) and high (representative concentration pathways 8.5) emissions scenarios, respectively (Cal-Adapt 2023).

10.1.3.5 More Frequent and Extreme Storm Events

Extreme weather is expected to become more common throughout California as a result of climate change. More extreme storm events are expected to increase water runoff to streams and rivers during the winter months, heightening flood risks. Warmer ocean surface temperatures have caused warmer and wetter conditions in the Sierra Nevada, increasing flood risk. Strong winter storms may produce atmospheric rivers that transport large amounts of water vapor from the Pacific Ocean to the California coast. As the strength of these storms increases, the risk of flooding increases.

10.1.3.6 Sea Level Rise

Sea level rise is one of the most significant effects of climate change. Sea level has been rising over the past century, and the rate has increased in recent decades. Global mean sea level in 2017 was the highest annual average in the satellite era (since 1993) with a value of 77 millimeters above the 1993 average (Hartfield, Blunden, and Arndt 2018). Globally, sea levels are rising due to two main reasons: thermal expansion of warming ocean water and melting of ice from glaciers and ice sheets. Rising sea levels amplify the threat and magnitude of storm surges in coastal areas. Water infrastructure, often located along the coast or tidally-influenced water bodies, can be vulnerable to greater changes in storm surge intensity. The threat of flooding and damage to water infrastructure will continue to increase over time as sea levels rise and the magnitude of storms increase. Rising sea levels will create stress on coastal ecosystems that provide recreation, protection from storms, and habitat for fish and wildlife, including commercially valuable fisheries. Rising sea levels can also introduce new, or exacerbate existing, saltwater intrusion into freshwater resources.

10.1.3.7 Diminished Air Quality

Climate change is expected to exacerbate air quality problems by increasing the frequency, duration, and intensity of conditions conducive to air pollution formation. Higher temperatures and increased ultraviolet radiation from climate change are expected to facilitate the chemical formation of more secondary air pollutants (e.g., ozone) from ground-level sources. Conversely, decreased precipitation is expected to reduce the number of particulates cleansed from the air. Incidents of wildfires are expected to increase due to climate change, further contributing to air quality problems.

According to the American Lung Association's 2020 *State of the Air* report, nearly half of all Americans were exposed to unhealthy air in 2016-2018. The report found that California cities dominate the rankings of the nation's most widespread air pollutants, ozone and particle pollution. In California, over 38 million residents live in counties where ozone or particulate pollution placed their health at risk (American Lung Association 2020).

10.1.3.8 Ecosystem Changes

Climate change effects will have broad impacts on local and regional ecosystems, habitats, and wildlife as average temperatures increase, precipitation patterns change, and more extreme weather events occur. Species that cannot rapidly adapt are at risk of extinction. As temperatures increase, California vegetation is expected to change. Desert and grassland vegetation are projected to increase while forest vegetation is projected to generally decline. The natural cycle of plant flowering and pollination, as well as the temperature conditions necessary for a thriving locally adapted agriculture, may also be affected. Perennial crops, such as grapes, may take years to recover. Increased temperatures also provide a foothold for invasive species of weeds, insects, and animals.

10.1.3.9 Social Vulnerability to Climate Change

The impacts of climate change will not affect people equally. Some people are more likely to be impacted than others. People exposed to the most severe climate-related hazards are often those least able to cope with the associated impacts, due to their limited adaptive capacity. Climate change is expected to have a greater impact on larger populations living in poorer and developing countries with lower incomes that rely on natural resources and agricultural systems that will likely be affected by changing climates.

Certain groups in developed countries like the United States will also experience more impacts from climate change than others. People in rural areas are more likely to be affected by climate change related droughts or severe storms compared to their urban counterparts. However, certain groups living in cities will also be at higher risk than others.

Santa Clara County residents who are at greatest risk include children, the elderly, those with existing health problems, the socially and/or economically disadvantaged, those who are less mobile, and those who work outdoors. Place of residence is another vulnerability indicator, as renters, households without air conditioning, households lacking access to grocery stores, households in treeless areas, and households on impervious land cover are also more vulnerable to climate change impacts.

10.1.3.10 Health Effects/Illness

As temperatures rise from global warming, the frequency and severity of heat waves will grow and increase the potential for bad air days, which can lead to increases in illness and death due to dehydration, heart attack, stroke, and respiratory disease. Additionally, dry conditions can lead to a greater number of wildfires producing smoke that puts people with asthma and respiratory conditions at risk of illness or death.

Higher temperatures and the increased frequency of heat waves are expected to significantly increase heat-related illnesses, such as heat exhaustion and heat stroke, while also exacerbating conditions associated with cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. An increase of 10°F in average daily temperature is associated with a 2.3 percent increase in mortality. During heat waves mortality rates can increase to about nine percent. As temperatures in the area increase, vulnerable populations such as children, the elderly,

people with existing illnesses, and people who work outdoors will face the greatest risk of heat-related illness.

As climate change affects the temperature, humidity, and rainfall levels across California, some areas could become more suitable habitats for insects (especially mosquitoes), ticks, and mites that may carry diseases. Wetter regions are typically more susceptible to vector-borne diseases, especially human hantavirus cardiopulmonary syndrome, Lyme disease, and West Nile virus.

10.1.4 Greenhouse Gases

GHGs are emitted by natural processes and human activities. The human-produced GHGs most responsible for global warming and their relative contribution to it are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

The contribution of these GHGs to global warming based on the U.S. inventory of GHGs in 2020 (United States Environmental Protection Agency 2022) is summarized in Table 10-1, GHG Types and Their Contribution to Global Warming.

Table 10-1 GHG Types and their Contribution to Global Warming

Greenhouse Gas	Percent of all Greenhouse Gas	Typical Sources
Carbon Dioxide (CO_2)	79 percent	Combustion of fuels, solid waste, wood
Methane (CH_4)	11 percent	Fuel production/combustion, livestock, decay of organic materials
Nitrous Oxide (N_2O)	7 percent	Combustion of fuels, solid waste, agricultural/industrial processes
Fluorinated Gases	3 percent	Industrial processes

SOURCE: United States Environmental Protection Agency 2022
NOTE: Percentages reflect weighting for global warming potential

10.1.5 Greenhouse Gas Global Warming Potentials

Each type of GHG has a different capacity to trap heat in the atmosphere and each type remains in the atmosphere for a particular length of time. The ability of a GHG to trap heat is measured by an index called the global warming potential expressed as carbon dioxide equivalent (CO_2e). Carbon dioxide is considered the baseline GHG in this index and has a global warming potential of one.

The GHG volume produced by a particular source is often expressed in terms of carbon dioxide equivalent (CO_2e). Carbon dioxide equivalent describes how much global warming a given type of GHG will cause, with the global warming potential of CO_2 as the base reference. Carbon dioxide equivalent is useful because it allows comparisons of the impact from many different GHGs, such as methane, perfluorocarbons, or nitrous oxide. If a project is a source of several types of GHGs, their individual global warming potential can be standardized and expressed in terms of CO_2e. Table 10-2, GHG Global Warming Potentials presents a summary of the global warming potential of various GHGs.

Table 10-2 GHG Global Warming Potentials

Greenhouse Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1	124
PFC Tetrafluoromethane (CF_4)	50,000	7,390
PFC Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

SOURCE: Intergovernmental Panel on Climate Change 2007.
NOTE: The GWPs provided in this table are consistent with the GWPs used for the California Air Resources Board 2000-2020 statewide emission inventory.

Methane has a global warming potential of 24 times that of CO_2, and N_2O has a global warming potential of 298 times that of CO_2. The families of chlorofluorocarbons and hydrofluorocarbons, and perfluorocarbons have a substantially greater global warming potential than other GHGs, generally ranging from approximately 1,300 to over 10,000 times that of CO_2. While CO_2 represents the vast majority of the total volume of GHGs released into the atmosphere, the release of even small quantities of other types of GHGs can be significant for their contribution to climate change.

10.1.6 Inventories of Greenhouse Gases

10.1.6.1 California GHG Emissions Inventory

The California Air Resources Board (CARB) prepares annual GHG emission inventories. Based on the CARB's most recent state GHG inventory, California generated approximately 369.2 million net metric tons (MMT) of CO_2e in 2020 (California Air Resources Board 2022a). In 2020, the sources of GHG emissions in California and their contribution is presented in Figure 10-1.

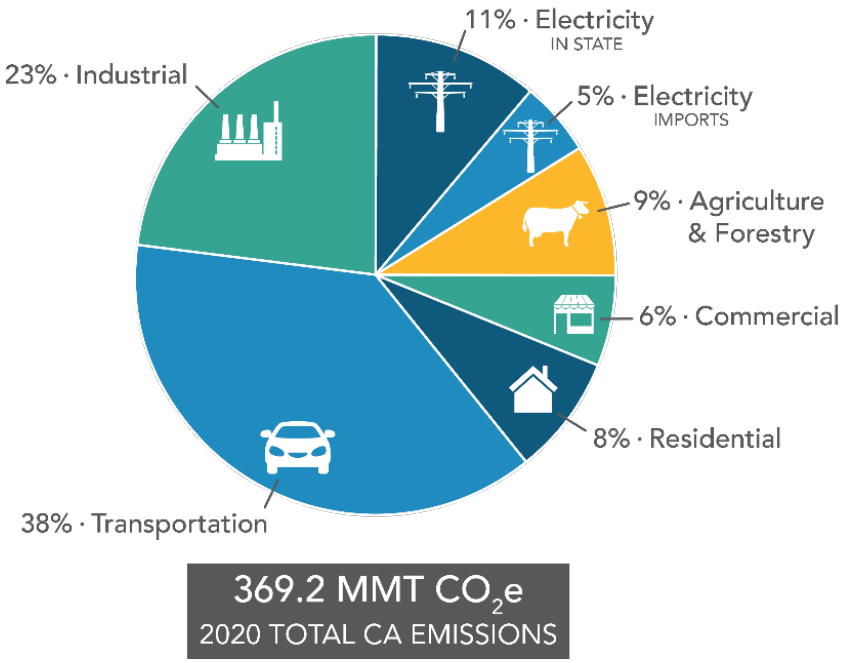


Figure 10-1 2020 Sources of GHG Emissions in California

Source: CARB 2022.

10.1.6.2 Bay Area GHG Emissions Inventory

BAAQMD has developed an emission inventory for the Bay Area that includes direct and indirect GHG emissions due to human activities. The emissions are estimated for industrial, commercial, transportation, residential, forestry, and agriculture activities. Both direct GHG emissions from locally generated electricity in the Bay Area and indirect emissions from out-of-region generated electricity for consumption in the region are reported.

BAAQMD's most recent GHG emissions inventory for the region was prepared in support of its *2017 Clean Air Plan: Spare the Air, Cool the Climate* (Bay Area Air Quality Management District, 2017a). As identified in *Greenhouse Gas Emission Estimates and Draft Forecasts Update and Work in Progress* (Bay Area Air Quality Management District, 2017c), as of the 1990 baseline year, 87.7 million metric tons CO_2e per year were generated within the air basin. By 2015, that number had declined to about 85 million metric tons CO_2e. According to the BAAQMD (2017c), total emissions are summarized in Figure 10-2.

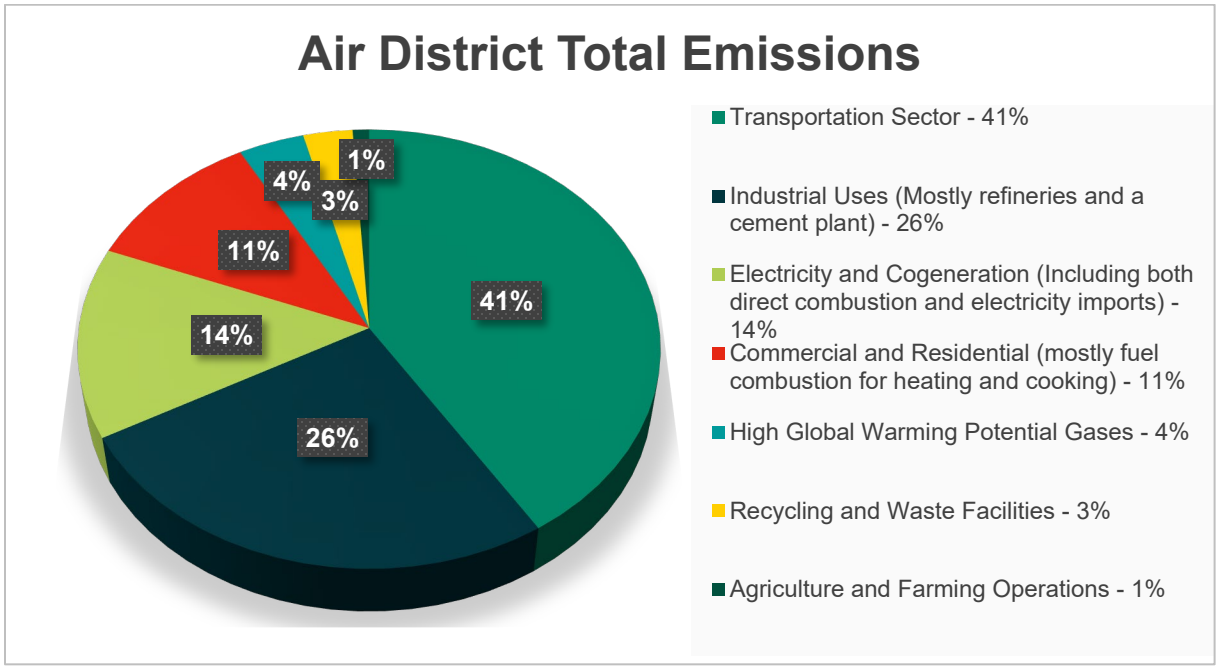


Figure 10-2 Bay Area Air Quality Management District Total Emissions

Source: Adapted from BAAQMD 2017c.

10.1.7 Existing Sources of GHG Emissions within the Project Site

Z-Best's current operations include several activities that generate GHG emissions. Refer to Section 9.4, Analysis, Impacts and Mitigation Measures, for a discussion of these emissions sources. Existing GHG emissions are presented in that section in order to compare them with projected emissions.

10.2 Regulatory Setting

Federal, state, and regional policies and regulations pertaining to climate change are summarized below. These provide context for how climate change is being addressed and to identify policy and regulatory actions whose implementation would lessen the contribution of the proposed project to climate change. The federal government has taken significant regulatory steps toward addressing climate change. Generally, California policy and regulations are as, or more comprehensive and stringent than, federal actions; therefore, this regulatory section focuses on state activity. A number of policies and programs are included in the Santa Clara County General Plan are directly or indirectly targeted to reduce GHGs.

10.2.1 Federal

10.2.1.1 Climate Change Action Plan

In October 1993, former President Clinton announced the Climate Change Action Plan, which had a goal of returning GHG emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in GHG emissions. On March 21, 1994, the U.S. joined several countries around the world in signing the United Nations Framework Convention on Climate Change. Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of global climate change.

In June 2013, the Executive Office of the President released President Obama's Climate Action Plan. The Climate Action Plan has three key pillars: cut GHG pollution in America, prepare the United States for the impacts of climate change, and lead international efforts to combat global climate change and prepare for its impacts. The Climate Action Plan was prepared as a blueprint for national and international action and contains new steps to achieve the stated goals.

10.2.1.2 Endangerment and Cause or Contribute Findings for GHGs

On April 2, 2007, in the court case of Massachusetts et al. vs. the United States Environmental Protection Agency, the United States Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act. The Supreme Court held that the Administrator of the United States Environmental Protection Agency ("EPA") must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six, key, well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose any requirements on industry or other entities. This action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the EPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

10.2.1.3 Mandatory Reporting of GHGs Rule

On September 22, 2009, the EPA issued a final rule for the mandatory reporting of GHG data and other relevant information from large sources in the United States (Code of Federal Regulations Title 40, Part 98). This comprehensive, nationwide emissions data is intended to provide a better understanding of the sources of GHGs and guide development of policies and programs to reduce emissions. The mandatory reporting rule applies to direct GHG emitting sources; suppliers of fossil fuel, industrial gas, and other products that would result in GHG emissions if released, combusted, or oxidized; and facilities that inject carbon dioxide underground for geologic sequestration or other reasons. In general, facilities that emit 25,000 MT CO_2e or more per year of GHGs are required to submit annual reports to the EPA.

10.2.1.4 Corporate Average Fuel Economy Standards

First enacted by Congress in 1975, the purpose of the Corporate Average Fuel Economy standards is to reduce energy consumption by increasing the fuel economy of passenger cars and light trucks. On April 1, 2010, the NHTSA and EPA issued a joint final rule establishing a new national program to regulate passenger cars and light trucks in order to improve fuel economy and reduce GHG emissions. According to the latest update, issued on July 18, 2016, the NHTSA, EPA and CARB increased Corporate Average Fuel Economy standards for passenger cars and light trucks from an average fuel economy of 34.1 miles per gallon by model year 2016 to 38.3 miles per gallon by model year 2021 and 46.3 miles per gallon by model year 2025. Together with the EPA's standards for GHG emissions, which also enable manufacturers to achieve compliance by improving the air conditioners of their vehicles, the national program overall is expected to result in improvement levels equivalent to 50.8 miles per gallon. In 2019, these standards were rolled back by the federal government with implementation of the Safer Affordable Fuel-Efficient Vehicles Rule. However, on December 21, 2021, the NHTSA finalized the Corporate Average Fuel Economy Preemption rulemaking to withdraw its portions of the Safer Affordable Fuel-Efficient Part One Rule. On April 1, 2022, the NHTSA finalized the standards for passenger cars and light trucks for model years 2024 to 2026. The final rule establishes standards that would require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024 and 2025, and 10 percent annually for model year 2026.

10.2.1.5 Clean Power Plan

On August 3, 2015, the EPA issued the Clean Power Plan, which would have cut GHG emissions from existing power plants. The Clean Power Plan establishes interim and final carbon dioxide emission performance rates for two types of electric generating units—steam electric and natural gas fired power plants—under Section 111(d) of the Clean Air Act. The Clean Power Plan also establishes state-specific interim and final goals for each state, based on these limits and each state's mix of power plants.

On June 19, 2019, EPA issued the final Affordable Clean Energy rule, which repealed the final Clean Power Plan and promulgated new guidelines for coal-fired power plants, in response to Executive Order 13783 – Promoting Energy Independence and Economic Growth. However, on January 19, 2021, the D.C. Circuit vacated the Affordable Clean Energy rule and remanded to the EPA for further proceedings

consistent with its opinion. Because the court vacated the Affordable Clean Energy rule and did not expressly reinstate the Clean Power Plan, EPA does not expect states to take any further action to develop and submit plans under Clean Air Act section 111(d) with respect to GHG emissions from electric generating units at this time.

10.2.2 State

10.2.2.1 Overall Statutory Framework

California has enacted a series of statutes addressing the need to reduce GHG emissions across California. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the state; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the statutes and recent building code requirements intended to reduce energy consumption.

10.2.2.2 Statutes Setting Statewide GHG Reduction Targets

Assembly Bill 32 (Global Warming Solutions Act)

In September 2006, California enacted the California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

Senate Bill 32

Effective January 1, 2017, Senate Bill (SB) 32 added a new section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by the year 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the State has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000

levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, Governor Schwarzenegger directed several state agencies to cooperate in the development of a climate action plan. The Secretary of California Environmental Protection Agency leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued another Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

The Legislature has not yet set a 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. In the 2015 legislative session, the State enacted SB 350, which is discussed in more detail below. This legislation added to the Public Utilities Code language that codified the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain state agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission, in consultation with CARB and the California Energy Commission, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, achieve the goals set forth in the Charge Ahead California Initiative (Chapter 8.5 of Part 5 of Division 26 of the Health and Safety Code), and reduce emissions of GHGs to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Senate Bill 1383

In September 2016, former Governor Brown signed into law SB 1383, establishing methane emissions reduction targets in a statewide effort to reduce emissions of shortlived climate pollutants (SLCP) in various sectors of California's economy. SB 1383 established the following targets: 50 percent reduction of organic waste disposal in landfills by 2020; 75 percent reduction of organic waste disposal in landfills by 2025; and 20 percent rescue of currently wasted surplus food by 2025. Statutes Setting Targets for the Use of Renewable Energy for the Generation of Electricity.

California Renewables Portfolio Standard

In September 2002, California enacted SB 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. The legislation set a target

by which 20 percent of the State's electricity would be generated by renewable sources. As described in the Legislative Counsel's Digest, SB 1078 required "[e]ach electrical corporation … to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year."

In September 2006, the State enacted SB 107, which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. In April 2011, the Legislature, in a special session, enacted SB X1-2, which set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in California, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.

In 2015, the State enacted SB 350. SB 350 embodies a policy encouraging a substantial increase in the use of electric vehicles and increased the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. On September 10, 2018, Governor Brown signed into law SB 100 and Executive Order B-55-18. SB 100 raises California's Renewable Portfolio Standard requirement to 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for California by 2045; and sets a goal to maintain net negative emissions thereafter.

As noted earlier, the Public Utilities Code now states that the California Public Utilities Commission, in consultation with CARB and the California Energy Commission, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of GHGs to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

In March 2012, Governor Brown issued an Executive Order, B-16-12, which embodied a similar vision of a future in which zero-emission vehicles will play a big part in helping the state meet its GHG reduction targets. Executive Order B-16-12 directed state government to accelerate the market for zero-emission vehicles in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "zero-emission vehicles ready";
- By 2020, the state will have established adequate infrastructure to support one million zero-emission vehicles in California;
- By 2025, there will be 1.5 million zero-emission vehicles on the road in California; and
- By 2050, virtually all personal transportation in California will be based on zero-emission vehicles, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In sum, California has set a goal that, by the year 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to be sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other zero-emission vehicles. The State is looking to California drivers to buy electric cars, powered by green energy, to help the state meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

10.2.2.3 Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

Assembly Bill 1493, Pavley Clean Cars Standards

In July 2002, the State enacted AB 1493 ("Pavley Bill"), which directed CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards."

In January 2012, CARB adopted an Advanced Clean Cars program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the EPA and National Highway Traffic Safety Administration, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the Advanced Clean Cars program are the low-emission vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the zero-emission vehicle regulation, which requires manufacturers to produce an increasing number of pure zero-emission vehicles (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years.

It is expected that the Advanced Clean Car regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Executive Order N-79-20

On September 23, 2020, Governor Gavin Newsom issued Executive Order N-79-20 which directs the State to require that, by 2035, all new cars and passenger trucks sold in California be zero-emission vehicles. This target would achieve more than a 35 percent reduction in GHG emissions and an 80 percent improvement in nitrogen oxides emissions from cars statewide. In addition, the CARB will develop regulations to mandate that all operations of medium- and heavy-duty vehicles shall be 100 percent zero emission by 2045 where feasible, with the mandate going into effect by 2035 for drayage trucks. To ensure needed infrastructure to support zero-emission vehicles, the Executive Order requires state agencies, in partnership with the private sector, to accelerate deployment of affordable fueling and charging options.

Advanced Clean Trucks

The Advanced Clean Truck Regulation, approved in March 2021, is part of CARB's approach to achieve a large-scale transition to zero-emission medium- and heavy-duty vehicles for Class 2b to Class 8 trucks. The basis of the Advanced Clean Truck Regulation is help ensure that zero-emission vehicles, specifically medium- and heavy-duty trucks, are brought to market. For manufacturers of, the regulation requires the sale of zero-emission truck/chassis as an increasing percentage of the total annual California sales of Class 2b through Class 8 sales from 2024 to 2035; by 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales. The regulation also includes reporting requirements of large employers including retailers, manufacturers, brokers and others about shipments and shuttle services, as well as reporting requirements about fleet operations by fleet owners with 50 or more trucks.

Advanced Clean Fleet

The Advanced Clean Fleet Regulation is still being developed and is subject to change. Building upon the Advanced Clean Truck Regulation, the basis of the proposed Advanced Clean Fleet Regulation is to deploy medium- and heavy-duty zero-emission vehicles (i.e., trucks, vans, and busses) everywhere feasible by requiring fleets, as appropriate, to transition to zero-emission vehicles. The proposed regulation targets fleets, businesses, and public entities that own or direct the operation of medium- and heavy-duty vehicles in California to increase the purchase and operation of zero-emission vehicles and achieve a transition to zero-emission vehicles fleets by 2040 everywhere feasible. The proposed regulation would affect fleets performing drayage operations, those owned by State, local and federal government agencies, and high priority fleets, and would apply to medium- and heavy-duty vehicles, off-road yard trucks, and light-duty mail and package delivery vehicles.

10.2.2.4 Cap and Trade Program

On October 20, 2011, in a related action, CARB adopted the final cap-and-trade program for California. The California cap-and-trade program will create a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance

requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 guidance published by CARB, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources commenced in 2013. This cap for GHG emissions declines over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of California Air Resources Board offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits." The guidance goes on to say that "starting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 MT CO_2e per year will have to comply with the cap-and-trade program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase."

In early 2017, Governor Brown signed AB 398, which extended the life of the existing Cap-and-Trade Program through December 2030.

10.2.2.5 Statutes Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

Senate Bill 375 (Sustainable Communities Strategy)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation planning on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for the years 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed that demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Local agencies that adopt land use, housing, and transportation policies that are consistent with and facilitate implementation of the related GHG reduction strategies in a sustainable communities strategy benefit through potential CEQA streamlining for qualifying projects proposed within their boundaries. Adoption of such policies can be a part of a general plan update or other similar policy adoption process. However, a local agency's general plan is not required to be consistent with a sustainable communities strategy.

In 2021, the San Francisco Bay Metropolitan Transportation Commission and the Association of Bay Area Governments jointly approved Plan Bay Area 2050, which is a long-range plan charting the course for the future of the nine-county San Francisco Bay Area. Plan Bay Area 2050 focuses on four key elements — housing, the economy, transportation and the environment — and identifies a path to make the Bay Area more equitable for all residents and more resilient. Plan Bay Area 2050 includes a target of meeting the state mandate of a 19 percent reduction in per capita emissions by 2035 as result of the transportation and land use strategies.

10.2.2.6 Climate Change Scoping Plans

AB 32 Scoping Plan

In December 2008, CARB adopted the Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 MMT CO_2e, or approximately 22 percent from the state's projected 2020 emission level of 545 MMT CO_2e under a business-as-usual scenario. This is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO_2e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan also includes CARB recommended GHG reductions for each emissions sector of the state GHG inventory. CARB estimates the largest reductions in GHG emissions would occur by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (26.1 MMT CO_2e);
- The Low Carbon Fuel Standard (15.0 MMT CO_2e);
- Energy efficiency measures in buildings and appliances (11.9 MMT CO_2e); and
- Renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e).

In 2011, CARB adopted a cap-and-trade regulation. The cap-and-trade program covers major sources of GHG emissions in California such as refineries, power plants, industrial facilities, and transportation fuels. The cap-and-trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the state's GHG emissions.

With regard to land use planning, the Scoping Plan expects that reductions of approximately 3.0 MMT CO_2e will be achieved through implementation of SB 375, which is discussed further below.

2014 Scoping Plan Update

In response to comments on the 2008 Scoping Plan, and AB 32's requirement to update the Scoping Plan every five years, CARB revised and reapproved the Scoping Plan, and prepared the first update to the 2008 Scoping Plan in 2014, the 2014 Scoping Plan. The 2014 Scoping Plan contains the main strategies California will implement to achieve a reduction of 80 MMT CO_2e emissions, or approximately 16 percent, from the state's projected 2020 emission level of 507 MMT CO_2e under the business-as-usual

scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount of GHG reductions CARB recommends for each emissions sector of the state's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the Advanced Clean Cars program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 Scoping Plan

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. CARB adopted the final 2017 Scoping Plan in November 2017. The 2017 Scoping Plan represents a second update to the scoping plan to reflect the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The 2017 Scoping Plan builds upon the framework established by the 2008 Scoping Plan and the 2014 Scoping Plan Update, while also identifying new, technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets.

2022 Scoping Plan

On November 16, 2022, CARB prepared the Final 2022 Scoping Plan Update, which lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279 (CARB 2022b). The major element of the 2022 Scoping Plan is the aggressive reduction of fossil fuels wherever they are currently used in California. The 2022 Scoping Plan Update acknowledges that despite these world-leading efforts, some amount of residual emissions will remain from hard-to-abate industries such as cement, internal combustion vehicles still on the road, and other sources of GHGs, including high global warming chemicals used as refrigerants. The plan addresses these remaining emissions by re-envisioning the natural and working lands—forests, shrublands/chaparral, croplands, wetlands, and other lands—to ensure they play as robust a role as possible in incorporating and storing more carbon in the trees, plants, soil, and wetlands. The 2022 Scoping Plan Update identifies the following objectives:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands to the State's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.

- Identifies key implementation actions to ensure success.

10.2.2.7 Building Code Requirements Intended to Reduce GHG Emissions

California Energy Code

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the California Building Standards Code, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The California Energy Code is updated every three years by the California Energy Commission as the Building Energy Efficiency Standards (BEES) to allow consideration and possible incorporation of new energy efficiency technologies and construction methods. Although the BEES were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity. With less energy demand, the GHG emissions produced as a byproduct of electricity production at fossil fuel powered power plants will decline. The BEES apply to new construction, and additions and alterations to residential and nonresidential buildings.

In August 2021, the California Energy Commission adopted the 2022 BEES. The 2019 BEES went into effect on January 1, 2023. Residential and non-residential buildings permitted after January 1, 2023, are required to comply with the 2022 BEES. The 2022 BEES encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, and strengthen ventilation standards, to support the state's public health, climate, and clean energy goals.

California Green Building Standards Code

The purpose of the California Green Building Standards (CALGreen) Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The CALGreen were most recently updated in July 2022 and go into effect on January 1, 2023. The 2022 CALGreen code focuses on battery storage system controls, demand management, heat pump space and water heating, and building electrification.

10.2.3 Regional/Local

10.2.3.1 Association of Bay Area Governments and Metropolitan Transportation Commission - Plan Bay Area 2050

Plan Bay Area 2050: A Vision for the Future (Association of Bay Area Governments and Metropolitan Transportation Commission 2021) is a 30-year plan that charts a course for a Bay Area that is affordable, connected, diverse, healthy and vibrant for all residents through 2050 and beyond. Thirty-five strategies comprise the heart of the plan to

improve housing, the economy, transportation and the environment across the Bay Area's nine counties.

Plan Bay Area 2050 fulfills obligations under SB 375, the California Sustainable Communities and Climate Protection Act of 2008, which requires a sustainable communities strategy as a part of the regional transportation plan. The sustainable communities strategy must promote compact, mixed-use commercial and residential development. Two performance targets are mandated by SB 375: reduce per-capita CO_2 emissions from cars and light-duty trucks by 15 percent by 2035; and provide adequate housing by requiring the region to house 100 percent of its projected population growth by income level.

10.2.3.2 Silicon Valley 2.0

Silicon Valley 2.0 (SV 2.0), funded through a grant from the Strategic Growth Council and designed and managed by the County of Santa Clara Office of Sustainability, is a regional effort to minimize the anticipated impacts of climate change within the boundary of Santa Clara County. In May 2015, the County released the Climate Adaptation Guidebook. The Guidebook was designed to provide a recommended set of strategies that can be implemented by individual agencies, cities or regional partnerships to identify potential pathways, technologies, strategies, and policy mechanisms needed to both reduce GHG emissions and increase resiliency in Santa Clara County.

10.2.3.3 Bay Area Air Quality Management District Guidance

The BAAQMD is charged with managing air quality and GHG emissions within its boundaries. Regional guidance on GHG emissions is provided in the *CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans.*

CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans

In April 2022, BAAQMD adopted revised CEQA Thresholds for Evaluating the Significance of Climate Impacts for land use development projects (BAAQMD 2022a). For land use development projects, the BAAQMD recommends using the approach endorsed by the California Supreme Court in *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) (62 Cal.4th 204), commonly referred to "*Newhall Ranch*", which evaluates a project based on its effect on California's efforts to meet the State's long-term climate goals.

Applying this approach, the BAAQMD analyzed what will be required of new land use development projects to achieve California's long-term climate goal of carbon neutrality by 2045 as articulated in Executive Order B-55-18. The BAAQMD found that a new land use development project being built today needs to either incorporate design elements to do its "fair share" of implementing the goal of carbon neutrality by 2045 or be consistent with a local GHG reduction strategy that meets the criteria under the State CEQA Guidelines Section 15183.5(b). These design elements include energy efficiency measures, such as requiring that buildings will not include natural gas appliances or natural gas plumbing, and ensuring that the project will not result in any wasteful, inefficient, or unnecessary energy usage, as well as transportation measures, which requires projects to achieve a reduction in project-generated vehicle miles traveled below the regional average or meet a locally adopted Senate Bill 743 vehicle miles

traveled target and achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

Under the recently adopted BAAQMD-recommended thresholds for evaluating land use development projects, there is no proposed construction-related climate impact threshold at this time. BAAQMD states that GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions. The recommended thresholds for land use projects are designed to address operational GHG emissions which represent the vast majority of project GHG emissions (BAAQMD 2022b).

Bay Area Air Quality Management District Clean Air Plan

On April 19, 2017, the BAAQMD board of directors approved the *2017 Clean Air Plan: Spare the Air, Cool the Climate* ("2017 Clean Air Plan"). The 2017 Clean Air Plan defines a vision that, in part, focuses on achieving GHG reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve the targets. The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

There are 85 control measures in the 2017 Clean Air Plan, many of which are applicable only for regional or government implementation. The control measures that address GHG emissions include TR1: Clean Air Teleworking Initiative; TR 2: Trip Reduction Programs; TR19: Medium and Heavy Duty Trucks; TR 22: Construction, Freight, and Farming Equipment; BL1: Green Buildings; BL2: Decarbonize Buildings; BL4: Urban Heat Island Mitigation; and SL1: Short-Lived Climate Pollutants.

10.2.3.4 County of Santa Clara

Sustainability Master Plan

In January 2021, the County of Santa Clara Board of Supervisors adopted a Sustainability Master Plan which integrates the County's many existing policies, programs, practices, and Countywide initiatives that promote the three core elements of sustainability: Environment, Economy, and Equity. The Sustainability Master Plan includes eight goals, 30 strategies and 90 targets to monitor the implementation of the County's sustainability vision. The eight goals focus on four priority areas: climate protection and defense, natural resources and environment, community health and well-being, and prosperous and just economy (County of Santa Clara 2021a). The County has committed to achieving carbon neutrality by 2045.

Climate Roadmap 2030

The County is in the process of creating the Climate Roadmap 2030 (Roadmap) which will outline actions the County and its partners will take to reduce GHG emissions. Through the Roadmap, the County hopes to achieve coordinated collaboration to get one step closer to reaching shared sustainability goals. The Roadmap will include 1) a countywide GHG emissions inventory and forecast, 2) an online interactive map tool that will provide a comprehensive overview of the cities, organizations, institutions, and companies working on climate action in Santa Clara County, 3) community and partner input, and 4) an implementation roadmap (County of Santa Clara 2021b).

10.3 Thresholds of Significance and Analysis Methodology

10.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact relating to GHG emissions would occur if implementation of the proposed project would:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Lead agencies have flexibility to develop their own significance thresholds or to determine significance thresholds on a case-by-case basis. They may also consider thresholds of significance adopted or recommended by other public agencies or experts, provided that the thresholds are supported by substantial evidence (CEQA Guidelines, Sections 15064, 15064.7). The County of Santa Clara has not adopted a Climate Action Plan or other qualified GHG reduction strategy or significance thresholds. As discussed above, BAAQMD has adopted recommended thresholds for land use development projects and plans. As described in the *CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (BAAQMD 2022a), the BAAQMD developed these thresholds of significance based on typical residential and commercial land use projects and typical long-term communitywide planning documents such as general plans and similar long-range development plans. Since the proposed project is not a typical residential or commercial land use and instead proposes modifications to the existing MSW composting operations to increase composting capacity by enabling more efficient composting, the BAAQMD recommended thresholds of significance would not be applicable for this project. Composting facilities are currently not mentioned under the BAAQMD recommended thresholds of significance. In fact, BAAQMD states that staff had been investigating options for recommended stationary source thresholds, which would be more applicable to this industrial-type land use, but have paused that work to focus on the thresholds for land use projects and plans (BAAQMD 2022b). The BAAQMD 2017 CEQA Air Quality Guidelines includes a threshold of 10,000 MT CO_2e per year for industrial sources. However, BAAQMD has not updated this mass emissions threshold to be consistent with the recently adopted and more stringent SB 32 target of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030. In the absence of a threshold consistent with the targets established by SB 32 applicable to the proposed project, the County has conservatively considered any net increase in GHG emissions to be potentially significant. Therefore, the use of a net zero GHG emissions threshold is utilized in the analysis below to establish a determination of significance for the proposed project. It is not the County's intent to adopt this threshold as a basis for other projects.

10.3.2 Analysis Methodology

GHG emissions from constructing and operating the proposed project were evaluated and quantified by SCS, the applicant's consultant, using the California Emission Estimator Model (CalEEMod). This evaluation was reviewed by the County's EIR consultant, EMC Planning Group, for technical sufficiency. Construction emissions were updated by AECOM in 2022 in order to account for the updated construction schedule. Emissions were quantified for additional employee vehicle trips, truck trips and other equipment used in construction, and additional trips by trucks delivering the proposed increase in MSW to the site and transporting finished compost products from the project site to wholesale buyers, and non-compostable solid waste from the project site to area landfills. GHG emissions projections were modeled using truck vehicle miles traveled data provided in the *Z-Best Traffic Operations and Site Access Analysis* (Hexagon Transportation Consultants 2020a) as an input to its modeling. On-site operational emissions from electricity demand were calculated by EMC Planning Group and updated by AECOM in 2022 in order to account for updated energy consumption estimates associated with the ECS process technology.

In October 2020, SCS also prepared an updated technical memorandum with updates to the proposed project's GHG emissions, along with calculations of GHG emissions reductions due to diversion of waste from landfill deposition. GHG emissions reductions associated with the proposed project were calculated using the CARB Quantification Methodology for Resources Recycling and Recovery Organics Programs Calculator Benefit Tool. The Calculator Benefit Tool estimates GHG emission reductions from avoided landfill methane emissions and GHG emissions associated with the implementation of organics projects, such as the proposed project. This memorandum is provided in Appendix B-5, along with a peer review of the memorandum conducted by AECOM in 2023.

10.4 Analysis, Impacts, and Mitigation Measures

10.4.1 Project GHG Emissions

IMPACT GHG-1	**The project would not result in a net increase in GHG emissions**	**Less than Significant**

Gross annual GHG emissions from the proposed project consist of the sum of amortized construction emissions, on-road emissions, and on-site emissions. Reductions from gross emissions are taken into account for baseline (existing) conditions as well as the reductions of the avoided landfill GHG emissions due to implementation of the proposed project.

10.4.1.1 Construction GHG Emissions

AECOM utilized the California Emissions Estimator Model to estimate construction emissions associated with off-road construction equipment types, on-road vehicle activity, and construction phase durations as detailed in Table 4-3, On-Site and Off-Site Improvements Construction Information. Total construction-related emissions are estimated to be 635 MT CO_2e. Additional methodology and details are included in Appendix B-8.

10.4.1.2 Operational GHG Emissions Volume

GHG Emissions from On-Road Sources

SCS utilized the Emissions Factor Model (EMFAC) for estimating emissions from on-road vehicles (employee vehicles and haul trucks). As noted previously, SCS utilized vehicle miles traveled information provided by Hexagon Transportation Consultant as an input to the EMFAC model, which provides emission factors in grams per vehicle miles traveled for each vehicle category.

As detailed in Appendix B-1, under existing conditions, facility truck trips and employee trips generate approximately 4,089 MT CO_2e per year. As detailed in Section 13.4.2, the proposed project would result in an increase in employee vehicle trips as well as truck operations. Once the proposed project is implemented, total annual GHG emissions are estimated to be approximately 8,152 MT CO_2e per year. The net increase in on-road GHG emissions attributable to the proposed project is the difference between existing conditions and proposed project operations conditions, as summarized in Table 10-1.

GHG Emissions from Change in Energy Demand

Energy consumption associated with the proposed project would also result in indirect GHG emissions. Indirect GHG emissions from implementation of the proposed project were evaluated based on the change in electricity demand that would result from the upgrade of the composting process from the existing CTI technology to the proposed ECS technology under proposed project conditions and the estimated GHG intensity for the electric utility provider, PG&E. ECS provided a comparison of the power use by the existing CTI technology and the proposed ECS technology (ECS 2022, included in Appendix D-1).

Based on PG&E's 2021 Power Content Label, PG&E's base plan generates approximately 98 pounds of CO_2e per MWh of delivered electricity (PG&E 2022). The existing CTI process power consumption is estimated to be approximately 852 megawatt-hours (MWh) per year. Applying the PG&E GHG emissions intensity factor (PG&E 2011) to the existing electricity demand yields a GHG emissions volume of approximately 38 MT CO_2e per year. Power consumption for the proposed ECS technology is estimated at 8,151 MWh per year, which would generate approximately 362 MT CO_2e per year. The net emissions attributable to the proposed project is the difference between the CTI and ECS indirect GHG emissions, as summarized in Table 10-3.

10.4.1.3 Potential GHG Emission Reductions

Waste Diversion

The proposed project would enable Z-Best to compost up to 875 tons per day more MSW than is possible under existing conditions. Without implementation of the

proposed project, that increment of additional waste would likely continue to be disposed of in a landfill. When those organic discards are placed in an anaerobic environment, the decomposers will convert and release the carbon as CH_4 (methane) which can contribute to global climate change. Organic discards that are high in nitrogen, such as food scraps, manures and grass clippings, under wet and oxygen-limited conditions, can also produce N_2O (nitrous oxide) during decomposition. Both CH_4 and N_2O are GHGs that are substantially more potent (25 and 298 times higher GWP, respectively) than CO_2 with regard to their contributions to global warming. Therefore, implementation of the proposed project, which would increase the MSW compositing capacity, would avoid GHG emissions from landfilling this waste. As described previously, the CARB Benefits Calculator Tool for the Organics Program was utilized to estimate the potential GHG emissions benefits associated with implementation of the proposed project. An increase of up to 875 tons per day of MSW would result in GHG reductions of up to 86,231 metric tons of CO_2e per year. The initial increase of MSW feedstock will be an average of 250 to 400 tons per day and the MSW intake would ramp up over time to reach the 875 tons per day increase over current levels. Even if the MSW increase was only 250 tons per day, and all other inputs remained the same, the proposed project would still result in a GHG reduction benefit of 24,638 MT CO_2e per year (see AECOM 2023 in Appendix B-5). The emissions reduction benefits associated with implementation of the proposed project are included in Table 10-3 below. Additional inputs and outputs are provided in Appendix B-5.

On-Road Emissions of Waste to Landfills

Implementation of the proposed project, which would enable Z-Best to compost up to 875 tons per day more MSW than is possible under existing conditions, would also result in a decrease in vehicle miles traveled from trucks transporting this waste to other landfills or composting facilities in the region. As detailed in Appendix B-5, potential emissions reductions could result from the avoided emissions resulting from trucks traveling to the Marina Landfill or to an alternate composting facility, such as the compost facility in Vernalis. However, the actual avoided vehicle miles traveled in the region due to implementation of the proposed project would vary on a daily basis based on the quantity of MSW and ultimate destination (landfill or alternate compost facility) in the region. In addition, the suitability of the Vernalis facility as an alternate composting facility is unclear; thus, it would be too speculative to account for the associated GHG reductions from reduced vehicle miles traveled to that facility in this analysis. As such, the estimated emissions shown in Table 10-3 are conservative.

10.4.1.4 Summary of Project GHG Emissions

Table 10-3, Project Greenhouse Gas Emissions Summary, presents the project-based GHG emissions.

Table 10-3 Project Greenhouse Emissions Summary

Emission Source	GHG Emissions (MT CO_2e)
Existing Annual On-Road Emissions	4,089
Existing Annual Electricity Emissions	38
Total Annual Existing Emissions Per Year	**4,127**
Proposed Project Construction Emissions	635
Amortized Construction Emissions Per Year [1]	**21**

Proposed Project Annual On-Road Operational Emissions	8,152
Proposed Project Annual Electricity Emissions	362
Total Annual Proposed Project Operational Emissions (including amortized construction emissions)	**8,535**
Avoided GHG Emissions Associated with Waste Diversion	<86,231>
Net Annual GHG Emissions (Proposed Project – Existing Emissions – Avoided GHG Emissions)	**<81,823>**
Threshold of Significance	***0***
Project Emissions Exceed Threshold?	***No***

SOURCE: EMC Planning Group 2020
NOTES: <Brackets> indicate GHG emission reductions associated with the implementation of the proposed project.
1 Since construction-related emissions would cease upon completion of construction, the annual emissions estimate associated with construction of the proposed project was amortized over the project lifetime. The assumed amortization period is 30 years, based on the typically assumed project lifetime based on other air districts (e.g., South Coast Air Quality Management District [2008]).
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
MT = metric tons

As shown in Table 10-3, implementation of the proposed project would result in a net reduction of 81,823 MT CO_2e per year. Furthermore, as described previously, implementation of the proposed project would also result in a reduction in vehicle miles traveled, and the associated GHG emissions, that has conservatively not been accounted for in Table 10-3. Overall, the proposed project would result in a GHG benefit primarily due to the avoided GHG emissions associated with waste diversion. Therefore, the GHG emissions associated with the project would not exceed the net zero GHG significance threshold utilized for this analysis and this impact would be **less than cumulatively considerable**. No mitigation would be required.

10.4.2 GHG Reduction Plans

IMPACT GHG-2	The project would not conflict with applicable plans to reduce GHG emissions	Less than Significant

As discussed in Section 10.2.3, the County of Santa Clara has adopted a Sustainability Master Plan, which includes a goal of carbon neutrality with a series of strategies, including zero waste. Specifically, Strategy 1.5, Zero Waste, aims to reduce overall waste generation by supporting the sustainable consumption of resources and diverting or reusing materials, with a target of diverting 100 percent of achievable waste from landfills. While the Z-Best facility is not a County-owned facility, implementation of the proposed project would support the County's goals of diverting achievable MSW from landfills by creating additional composting capacity. Similarly, the proposed project would also be consistent with the solid waste climate adaptation strategy (SW-5) included in Silicon Valley 2.0, which considers an increase in solid waste diversion rates throughout the county to reduce the demand and need for landfills. SW-5 states that potential climate adaptation strategies include diversion-enhancing programs, education, and facilities that increase the County's rates of diversion for recycling and composting which would reduce the amount of landfill capacity needed and therefore

the potential traffic/air quality impacts associated with these facilities. Silicon Valley 2.0 also describes that such strategy would create positive results for both climate adaptation and climate mitigation.

In addition, the proposed project would be consistent with BAAQMD 2017 Clean Air Plan Waste Management Control Measures (WA3, Green Waste Diversion), which calls for the development of model policies to facilitate local adoption of ordinances and programs to reduce amount of green waste going to landfills. Since the proposed project would increase MSW capacity at Z-Best, and this MSW may include green waste, the proposed project would also be consistent with the goals of the 2017 Clean Air Plan to reduce all pollutants, including GHG emissions.

As discussed in Section 10.2.2, CARB developed the State's Climate Change Scoping Plan (2008) and Scoping Plan updates (2014, 2017, and 2022) to outline the State's strategy to reduce California's GHG emissions per AB 32 and SB 32 as well as achieve carbon neutrality by 2045. The 2022 Scoping Plan Update identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030 and identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier per Executive Order B-55-18. One of the main actions described in the 2022 Scoping Plan is diverting 75 percent of organic waste from landfills by 2025 pursuant to SB 1383. The 2022 Scoping Plan Update states that landfills, the second largest source of methane emissions, produce methane from the decomposition of organic waste. Although approximately 95 percent of all the waste that has been disposed of in the state has been deposited in a landfill that is equipped with a gas collection and control system, as required by California's Landfill Methane Regulation, a portion of the methane still escapes into the atmosphere. Fugitive methane emissions can be intermittent and highly variable, both seasonally and spatially, particularly at landfills. Research has shown that landfills are complex systems and a wide range of conditions (e.g., atmospheric, operational, biological, chemical, and physical) may contribute to variability in rates of organic waste degradation, methane generation, and capture efficiency, so reducing the amount of organics deposited in landfills is critical to reducing overall landfill methane emissions (CARB 2022b). Due to the multidecadal time frame required to break down landfilled organic material, the emissions reductions from diverting organic material in one year are realized over the course of several decades. For example, one year of waste diversion in 2030 is expected to avoid 8 MMT CO_2e of landfill emissions, cumulatively, over the lifetime of that waste's decomposition (CARB 2022). Therefore, near-term diversion efforts are critical to avoid locking in future landfill methane emissions. As such, implementation of the proposed project, which would increase the capacity for MSW processing at the facility, would increase organic waste diversion and would support the goals of the CARB 2022 Scoping Plan and SB 1383. Therefore, the proposed project would be consistent with the goals and actions included in plans, policies and regulations adopted for the purpose of reducing GHG emissions, and this impact would be **less than significant**.

11 Hydrology and Water Quality

This section of the EIR describes how the proposed project would modify existing hydrology and water quality conditions and describes features of the proposed project designed to accommodate those changes. Because composting operations have the potential to degrade water quality, they are specifically regulated by the State Water Resources Control Board (SWRCB). The SWRCB regulations include standards for how such facilities, including Z-Best, are required to operate to minimize their potential to degrade water quality. This section also describes the existing groundwater supply setting, changes in groundwater demand resulting from the proposed project and assesses whether the change would adversely affect groundwater resource sustainability.

Information in this section is derived from a variety of sources including:

- State Water Resources Control Board. 2020. General Waste Discharge Requirements for Commercial Composting Operations. Order No. 2020-0012-DWQ;
- Floodplain Impact Certification, Grading and Flood Study Summary Report. Z-Best Compost Facility Expansion, Santa Clara County, California (Schaaf & Wheeler 2012);
- Peer Review of Select Hydrology and Water Quality Technical Analyses (Tetra Tech 2020) in Appendix E-1;
- Memorandum: Updated Floodplain Storage Analysis for Z-Best Compost Facility (Schaaf & Wheeler 2022) in Appendix E-2;
- Clarification of Previous Hydrology and Water Supply Analyses, Z-Best Compost Facility, July 5, 2022 (Golder Associates 2022b) in Appendix E-3.
- Further Clarification of Previous Hydrology and Water Supply Analyses, Z-Best Compost Facility, revised October 25, 2022 (Golder Associates 2022d) including revised Water Supply Evaluation (Golder Associates 2022c) in Appendix E-4; and
- Groundwater Drawdown Evaluation, Z-Best Composting Facility, Gilroy, California, revised October 5, 2022 (Golder Associates 2022e) in Appendix E-5;
- Detention Basin Analysis Memorandum (AECOM 2023a) in Appendix E-6;
- Flood Recurrence Calculations (AECOM 2023b) in Appendix E-7; and
- 2021 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (Valley Water November 2021a).

This section also addresses comments raised during the scoping period and on the original Draft EIR relating to hydrology and water quality, to the extent that they are still relevant to the currently proposed project. Such comments include:

- Concerns about project effects on adjacent land used for agricultural production from potential contribution of pathogens to groundwater.
- Request for clarification from Valley Water on various inconsistencies within the original Draft EIR and associated technical reports, and request for consideration of potential environmental impacts of Per- and Polyfluoroalkyl Substances

(PFAS) on groundwater, and consideration of the impacts on water supply from increased staffing.

11.1 Environmental Setting

11.1.1 Existing Water Supply Demand and Sources

Primary composting, secondary composting, and dust control are the dominant sources of water demand at the facility. Demand for domestic use is a small component of the overall facility demand profile, accounting for approximately 1,200 to 1,900 gallons per day or 0.4 to 0.7 million gallons per year of groundwater use during 2018 to 2021 (Golder Associates 2022d).

Under current conditions, water is obtained from three on-site water supply wells, as well as from stormwater that is conveyed to and stored in Detention Basins #1 and #2. There is no municipal water supply to the site. Direct precipitation and storm water runoff from Areas 1 and 2 are the primary sources of water storage in these basins. Water is distributed from the basins to provide for primary and secondary green waste composting process needs and for dust control. Water is also lost from the basins due to evaporation. Direct precipitation and storm water runoff are insufficient to meet the needs of the facility during an annual average precipitation year. Records from Z-Best show that approximately 42,000 to 106,000 gallons per day or 15.4 to 38.7 million gallons per year of groundwater was used to supplement storm water supply during 2015 to 2020 (Golder Associates 2022c). This is equivalent to approximately 50 to 120 acre-feet per year (AFY) of groundwater pumping.

Table 11-1 estimated water use, and the associated sources of water supply, for the existing site operations during typical low- and high- water use years.

Table 11-1 Existing Water Use and Water Supply Sources

Source of Water Supply	Annual Water Use, Low Estimate (Gallons/Year)	Annual Water Use, High Estimate (Gallons/Year)
Stormwater from Detention Basin #1	23,660,000	23,660,000
Stormwater from Detention Basin #2	9,050,000	9,050,000
Groundwater from on-site wells	31,600,000	38,700,000
TOTAL Gallons per Year	**64,310,000**	**71,410,000**

SOURCE: adapted from information in Golder Associates, Inc. 2022d
Note: Estimates for storm water from Detention Basin #1 and #2 are based on average rainfall conditions.

11.1.2 Groundwater Supply Conditions

Three active water supply wells are located at the facility, as well as two inactive wells. The well on the eastern perimeter of Area 2 is the primary water source for green waste composting and dust control (Golder Associates 2016). The other two active wells are

located in Area 1 – a domestic water well near the office, and a “shared well” that was previously used for process water for the processing building and as a back-up to the primary composting water well.

The project site is located within the Llagas Subbasin, which is part of the larger Gilroy-Hollister Valley Groundwater Basin that extends south into San Benito County. The Llagas Subbasin underlies a relatively flat valley and consists of unconsolidated alluvial sediments. The Llagas Subbasin covers a surface area of about 88 square miles and forms a northwest-trending, elongated valley bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east.

There are two hydrogeologic areas within the subbasin: the recharge area where groundwater is generally unconfined, and the confined area. The recharge area is located at the north, western, and eastern edges of the subbasin and is the area where active groundwater recharge takes place due to high lateral and vertical permeability. The project site is located within the confined area of the subbasin (Santa Clara Valley Water District [Valley Water] 2021a).

Retailer demand from the County’s 13 water supply retailers represents the majority of Valley Water groundwater demand and is projected to increase by about 4 percent between 2025 and 2045 based on historic data. Agricultural irrigation makes up approximately 7.5 percent of the total Valley Water demand (Valley Water 2021a).

Valley Water prepared detailed groundwater budgets for the Llagas Subbasin using historic water data for calendar years 2010 through 2019. Modeling was then performed to incorporate the projected change in demand through the year 2045, based on Countywide projections for land uses and employment. Based on modeling results, the annual Llagas Subbasin inflow (from recharge and surface water) is estimated to be 44,700 AFY, while the annual subbasin outflow (primarily groundwater pumping) is estimated to be 43,900 AFY. The projected future change in groundwater storage in year 2045 is an increase of approximately 800 AF, indicating inflows and outflows are generally balanced over time (Valley Water 2021a: Table 4-10).

The Llagas Subbasin is not in a condition of chronic overdraft and long-term average yields are sustainable. Valley Water makes investments, implements programs, and modifies water supply operations as needed to maintain sustainable conditions now, and in the future (Valley Water 2021a: Chapters 5 and 6).

11.1.3 Existing Composting Operations — Storm Water System Management

The dominant sources of groundwater and/or surface water quality degradation related to composting operations are from leachate generated during composting operations and conveyance of that leachate to surface water bodies via flooding of detention basins, or to groundwater via percolation. The proposed project includes installing new storm water collection, conveyance, and detention facilities and replacing the existing method of composting MSW. These proposed improvements are factored into the evaluation of potential water quality impacts.

Z-Best operations are currently regulated by several agencies under the following permits:

- County of Santa Clara — Facility Use Permit.
- SWRCB — General Waste Discharge Requirements for Composting Operations, Order No. WQ 2020-0012-DWQ ("Composting General Order") adopted April 7, 2020. The Composting General Order sets standards for the construction, operation, and maintenance of composting facilities to protect surface water and groundwater. It includes a number of requirements, including standards for the permeability of the ground underneath the composting piles, and drainage and leachate collection and containment.
- County of Santa Clara Department of Environmental Health (acting as the local enforcement agency) — Full Solid Waste Facility Permit (SWFP) No. 43-AA-0015 (California Public Resources Code Sections 44001 and 44002).

The project site has been divided into multiple areas. Area 1 consists of active composting facilities (e.g., feedstock sorting, processing, and composting) which drain to Detention Basin #1. Area 2 consists of storage and finishing areas which drain to Detention Basin #2. Floodwater storage areas, detention basins, and undeveloped Z-Best property are located east and south of Areas 1 and 2. The existing drainage conditions within Areas 1 and 2 are a direct result of site modifications and facility improvements constructed so that Z-Best's operations conformed to SWRCB requirements in effect at the time those improvements were made. Each area is described in turn, below.

11.1.3.1 Area 1 and Detention Basin #1

Existing CTI[5] composting operations within Area 1 are conducted on an earth pad that has been engineered to reduce its permeability (i.e., the pad is composed of clay and gravel; the clay has a low water permeability). The purpose is to minimize potential for storm water percolation to groundwater. Leachate is produced in the CTI composting process. Leachate is high in biochemical oxygen demand (BOD), an indicator of water quality degradation which is associated with high concentrations of organic matter and nutrients. Storm water that is collected from surfaces within the composting area is also treated as leachate and therefore must be managed to avoid discharge. Avoiding leachate percolation to groundwater or conveyance to surface water is important for avoiding water quality impacts and is required for compliance with the Composting General Order. The existing facility includes a leachate collection system, and leachate directly generated by CTI processing is directed to Detention Basin #1. Storm water runoff is collected in a series of unlined earthen ditches which are designed to prevent uncontrolled run off. The ditches convey runoff to Detention Basin #1. Refer to Figure 3-3 for the location of Area 1 and Detention Basin #1.

Detention Basin #1 is a "wedge" shaped basin approximately 1,200 feet long and approximately 375 feet wide at the widest end (approximately 6.3 acres). The existing capacity of detention basin #1 is approximately 9.14 million gallons and the existing berm elevation is 139 feet.

[5] The enclosed aerated bag processing system currently used at the project site is also referred to as the "CTI" system with reference to the technology provider - Compost Technologies, Inc.

Detention Basin #1 is purportedly designed to contain storm water runoff from Area 1 during a 100-year, 24-hour storm event, consistent with the SWRCB regulations that were in place at the time the facility was constructed. Typically, the basin is managed to maintain a minimum of two feet of freeboard and the outlet pipe is capped to prevent releases. Under the Composting General Order, Z-Best is not permitted to discharge storm water to any receiving water body during the 25-year, 24-hour peak storm event.[6] Therefore, the detention basin serves the purpose of holding storm water runoff from Area 1 until it evaporates and/or is reused in the composting process.

There had previously been no discharge of storm water from the Z-Best site in more than 10 years; however, the series of large storms that hit northern California in early 2023 (discussed further in Section 11.1.6, below) resulted in localized flooding in the southeast corner of the green waste compost area in Area 1, and Detention Basin #1 coming close to discharging offsite in January; and later discharging offsite in March (John Doyle, pers. comm. 2023).

Operations and maintenance activities for Detention Basin #1 include sediment management. The sediment is organic matter. Sediment removed from the basins is introduced into new windrows and composted.

11.1.3.2 Area 2 and Detention Basin #2

Area 2 is comprised of a raised pad that drains to Detention Basin #2. Area 2 is gently sloped from the center towards drainage ditches along the east and west sides, which direct storm water runoff to existing Detention Basin #2. Water from Detention Basin #2 is typically pumped into Detention Basin #1 and used for watering green waste windrows during the first six weeks of composting.

Detention Basin #2 is a rectangular-shaped basin approximately 700 feet long by 130 feet wide (approximately 2.1 acres) and is constructed with an impermeable geomembrane liner. The existing capacity of detention basin #2 is approximately 3.94 million gallons, and the maximum berm elevation is 149 feet.

During the series of storm events in early 2023, Detention Basin #2 reached capacity and discharged into the existing floodwater storage area in both January and March (John Doyle, pers. comm. 2023).

11.1.3.3 Remainder of Site

A floodwater storage area is located south and east of Area 2. The floodwater storage area is undeveloped and surrounded by a perimeter fence. No composting activities occur within this area. Runoff from the floodwater storage area is discharged via outfall to the Pajaro River.

During the series of storm events in early 2023, the Pajaro River overflowed its banks and partially filled the floodwater storage area on the Z-Best property, but did not enter Areas 1 or 2 or overtop the existing levees at Detention Basins #1 or #2 (John Doyle, pers. comm. 2023).

[6] Operations located within a 100-year floodplain are also subject to state and/or local land use restrictions.

11.1.4 Surface Water Quality

The project site is located within the Pajaro River basin. The basin covers approximately 1,300 square miles and encompasses portions of Santa Clara, Santa Cruz, San Benito, and Monterey counties. The Pajaro River mainstem begins just west of San Felipe Lake, located approximately 5 miles east-southeast of the city of Gilroy. From there, the Pajaro River flows west for 30 miles through Santa Clara Valley, through the Chittenden Gap, past the City of Watsonville, to its coastal confluence at the Pajaro River Estuary at Monterey Bay. Major tributaries of the Pajaro River include the San Benito River, Pacheco Creek, Llagas Creek, Uvas Creek, Watsonville Slough, and Corralitos Creek. Agriculture, including livestock grazing lands and cultivated cropland, is the dominant human land use in the river basin. Undeveloped lands including grassland, shrubland, and forest comprise substantial parts of the uplands within the river basin. Development within the basin, both urban and rural, is clustered around the major cities. Urban centers include the cities of Watsonville, Gilroy, Morgan Hill, Hollister, and San Juan Bautista.

Storm water runoff from developed areas can quickly become polluted by picking up chemicals, fertilizers, soil, and litter while traveling overland. Even low concentrations of pollutants that accumulate on roads, parking lots, and sidewalks can be transported into nearby ditches, streams, rivers, wetlands, and the ocean.

Existing water quality problems in streams of the Pajaro River basin occur, in part, due to nutrient pollution. Nutrient pollution refers to excessive amounts of nitrate and phosphorus in water resources. Nutrient pollution in surface waters of the Pajaro River basin has long been recognized as a problem. High levels of nutrients can degrade municipal and domestic water supply. Uncontrolled nutrient pollution can also result in adverse environmental impacts in streams such as excessive nuisance algae, disruption of the natural dissolved oxygen balance, and disruption of the aquatic food web.

Discharges of nitrogen and phosphorus compounds originating from fertilizer application on irrigated cropland, urban areas, storm water runoff, wastewater treatment facilities, livestock waste, fertilizers applied on golf courses, natural sources, and atmospheric deposition are contributing nutrient loads to streams of the Pajaro River basin. It is estimated that irrigated agriculture contributes most controllable nutrient loads to streams in the Pajaro River basin (Central Coast RWQCB 2016).

Section 303(d) of the Clean Water Act (CWA) requires states to identify waters where the permit standards, any other enforceable limits, or adopted water quality standards are still unattained. The law requires states to develop total maximum daily loads (TMDLs) to improve the water quality of these impaired water bodies. TMDLs are the quantities of pollutants that can be safely assimilated by a water body without violating water quality standards. TMDLs are developed for impaired water bodies to maintain beneficial uses, achieve water quality objectives, and reduce the potential for future water quality degradation. National Pollutant Discharge Elimination System (NPDES) permits for water discharges (for both construction and operation) must take into account the pollutants for which a water body is listed as impaired.

The southwestern corner of the Z-Best property boundary is immediately adjacent to the Pajaro River. The Pajaro River discharges to the Pajaro River Estuary, and then into the

Pacific Ocean. Table 11-2 lists impaired water bodies in the project region included in the SWRCB's 303(d) list that could receive runoff from the proposed project, the pollutants of concern, and whether they have approved TMDLs. Even if a specific stream is not included in the SWRCB's 303(d) list, any upstream tributary to a 303(d)-listed stream could contribute pollutants to the listed segment.

Table 11-2 Section 303(d) List of Impaired Water Bodies

Water Body	Pollutant	Pollutant Source	TMDL Status
Pajaro River	Boron	Unknown	Expected in 2027
Pajaro River	Sodium	Unknown	Expected in 2027
Pajaro River	Chromium	Unknown	Expected in 2027
Pajaro River	Fecal coliform	Collection System Failure, Domestic Animals/Livestock, and Urban Runoff/Storm Sewers	Approved in 2010
Pajaro River	*E. coli*	Unknown	Expected in 2027
Pajaro River	PCBs	Unknown	Expected in 2027
Pajaro River	Nitrate	Agriculture, Domestic Animals/Livestock, and Natural Sources	Approved in 2006
Pajaro River	DDT	Unknown	Expected in 2027
Pajaro River	Chlordane	Unknown	Expected in 2027
Pajaro River	Dieldrin	Unknown	Expected in 2027
Pajaro River	Chloride	Unknown	Expected in 2027
Pajaro River	Dissolved Oxygen	Unknown	Expected in 2027
Pajaro River	pH	Unknown	Expected in 2027
Pajaro River	DDD	Unknown	Expected in 2027
Pajaro River	DDE	Unknown	Expected in 2027
Pajaro River	Chlorpyrifos	Agriculture	Approved in 2013
Pajaro River	Diazinon	Agriculture	Approved in 2013
Pajaro River	Toxicity	Unknown	Expected in 2023
Pajaro River	Turbidity	Unknown	Expected in 2023
Pajaro River	Sedimentation / Siltation	Agriculture, Domestic Animals/Livestock, Grazing-Related Sources, Habitat Modification, Highway/ Road/Bridge Construction, Hydromodification, Land Development, Logging Road Construction/ Maintenance, and Urban Runoff/Storm Sewers	Adopted in 2007
Pajaro River Estuary	DDE	Unknown	Expected in 2027
Pajaro River Estuary	Dissolved Oxygen	Unknown	Expected in 2027
Pajaro River Estuary	pH	Unknown	Expected in 2027
Pajaro River Estuary	Water Temperature	Unknown	Expected in 2023
Pajaro River Estuary	Malathion	Unknown	Expected in 2023
Pajaro River Estuary	Diazinon	Agriculture	Adopted in 2013
Pajaro River Estuary	Toxicity	Unknown	Expected in 2023

Notes: DDD = Dichlorodiphenyldichloroethane; DDE = Dichlorodiphenyldichloroethylene; DDT = Dichlorodiphenyltrichloroethane; PCBs = Polychlorinated biphenyls; TMDL = total maximum daily load
Source: SWRCB 2021

11.1.5 Groundwater Quality

The project site is located within the Llagas subbasin, which is part of the larger Gilroy-Hollister Valley Groundwater Basin that extends south into San Benito County (California Department of Water Resources (DWR) subbasin number 3-003.01). The Llagas subbasin covers a surface area of about 88 square miles and forms a northwest-trending, elongated valley bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east. The subbasin is about 15 miles long and 3 to 6 miles wide. The subbasin is a structural depression filled with Quaternary alluvium deposits of unconsolidated gravel, sand, silt, and clay that eroded from the adjacent mountain ranges. In the southern and central portion of the subbasin, clays and silts are vertically and laterally extensive creating confined artesian conditions, particularly in areas near the Pajaro River. Within the confined portion of the subbasin, low permeability areas restrict the vertical flow of groundwater and divide the subbasin into shallow and principal aquifer zones. The thickness of the subbasin ranges from about 500 feet at its northern boundary to over 1,000 feet thick beneath the Pajaro River. The major aquitard[7] forming the regional confining layer is commonly encountered between 20 and 100 feet below ground surface, and ranges in thickness from 40 to 100 feet (Valley Water 2021).

The Llagas subbasin generally produces good quality groundwater, low in both organic and inorganic parameters. The one notable exception is nitrate. The presence of elevated nitrate is a groundwater protection challenge due to historical and ongoing agricultural practices and the use of septic systems in the subbasin. The presence of perchlorate was also of concern historically; however, perchlorate concentrations are now stable or decreasing due to clean up actions implemented within the subbasin (Valley Water 2021).

11.1.6 Flood Hazard Conditions

11.1.6.1 Federal Emergency Management Agency Special Flood Hazard Areas

Portions of the Pajaro River basin are flood-prone. Most areas with flood potential are located on the main valley floor and in the baylands. In addition, urban development creates new impervious surfaces that result in increased storm water runoff, thereby increasing the potential for flooding.

The project site is located within the northern Pajaro River basin between Carnadero Creek (lower Uvas Creek) and the Pajaro River. The northern Pajaro River basin receives water from the Uvas Creek, Llagas Creek, Pacheco Creek, and Tequisquita Slough/Santa Ana Creek subbasins. San Felipe Lake, also known as Upper Soap Lake, is a permanent body of water on the mainstem of the Pajaro River. Lower Soap Lake (or just Soap Lake) is an intermittent floodplain area located between San Felipe Lake and Highway 101. This area floods when water backs up on the Pajaro River upstream of

[7] An aquitard is a geologic formation or stratum composed of compacted layers of clay, silt or rock that retard water flow underground and act as a barrier for groundwater.

the San Benito River confluence. Lake effects experienced during flooding disappear as the floodwaters recede (Pajaro River Watershed Flood Prevention Authority, 2002).

Extensive flooding problems occur in south Santa Clara County. Valley Water is responsible for managing local and regional flood control facilities and has constructed many such facilities over time. Nevertheless, flood hazards remain, particularly in areas with drainage problems and areas along rivers and creeks.

Z-Best is located adjacent to the Pajaro River. Flooding has occurred on the river over time. A pinch point in the river just upstream of the Highway 101 crossing of Pajaro River causes the river to back up during high flows and form a floodplain. Flooding on the San Benito River, which discharges to the Pajaro River east of Chittenden, can also reduce outflow from this area.

This floodplain, referred to as Soap Lake, is approximately 9,000 acres in size during the 100-year event. This hazard is reflected on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the project area. The entire Z-Best facility is within the 100-year floodplain; this area is mapped as hazard Zone A. Zone A depicts areas where the base flood elevation has not been determined but is within an area that has a one-percent annual chance of flooding (commonly referred to as a 100-year floodplain). Areas within Zone A are subject to the regulations in the County's Floodplain Management Ordinance as described in the Regulatory Setting section below.

The floodplain storage area located south and east of Area 2, shown on Figure 3-3, Existing Site Operations, is dedicated to flood water storage for the Pajaro River during the 100-year flood. That storage is provided to off-set loss of flood storage that has occurred with prior development on the Z-Best site that required placing fill within the flood hazard area.

11.1.6.2 Flood Conditions in Winter 2023

There have been several flood events on the Pajaro River in the vicinity of the project area including recent floods in 2023. On January 9, 2023, and on March 10, 2023, storms caused flooding on US-101, Bloomfield Avenue, and Bolsa Road. Peak flows at the U.S. Geological Survey (USGS) gauge located on the Pajaro River near Chittenden (downstream of the project area) reached 11,100 cubic feet per second (cfs) on January 10, 2023, and 11,900 cfs on March 10, 2023. Although this level of flooding has not been seen in the project vicinity since 1998, flood events have also occurred in the 1950's, 1960's, 1980's, and 1990's with peak flows in the Pajaro River exceeding those experienced in January and March 2023. Peak flows on the Pajaro River near Chittenden were in excess of 21,000 cfs during floods in 1995 and 1998 (USGS 2023).

In addition, levee failure occurred on the Pajaro River downstream of the project area on March 11, 2023, causing massive flooding in Monterey County.

Table 11-3 shows peak flows measured at USGS gaging stations in the project vicinity during the January and March 2023 storms. Appendix E-7 shows the annual peak flow calculated for different return intervals at these gauges. In general, the January and March 2023 storms can be characterized as having peak flows with a return interval between the 10-year event and those in excess of the 20-year event.

Table 11-3 Flood Events in January and March 2023

Location	USGS Gage No.	Drainage Area (square miles)	January 2023 peak flow (cfs)	March 2023 peak flow (cfs)
Pajaro River at Chittenden, CA	11159000	1,186	11,100	11,900
San Benito River at State Highway 156, near Hollister, CA	11158600	607	2,520	7,910
Pacheco Creek near Dunneville, CA	11153000	146	15,700	8,910
Llagas Creek near Gilroy, CA	11153650	84.2	4,840	4,310

Source: USGS 2023
Acronyms: CA = California; cfs = cubic feet per second; USGS = United States Geological Survey;

Table 11-4 summarizes the daily maximum and the monthly average precipitation in Gilroy during water year 2023. Winter 2023 was particularly wet, with atmospheric river events providing multiple inches of rain over several week periods. The March 10, 2023, storm was the largest 24-hour precipitation event during this period, with 4.05 inches of rain. December and early January also experienced substantial rainfall. The maximum 45-day averaging period during December and early January was 18.65 inches inclusive of the January 9, 2023, storm. The maximum 1-day precipitation was between a 5-year and a 10-year event and the maximum 45-day precipitation was between a 10--year and a 25-year event (NOAA 2023).

Table 11-4 Monthly Precipitation in Gilroy, CA

Month	Maximum Daily Precipitation (inches)	Monthly Precipitation (inches)
November 2022	1.21	1.61
December 2022	2.12	11.65
January 2023	2.42	8.25
February 2023	1.25	4.19
March 2023*	4.05	5.49

Source: Climate Data Online, https://www.ncei.noaa.gov/cdo-web/, Gilroy, CA US, Station No. USC00043417
Note: * Data through March 15, 2023

11.1.6.3 Tsunami and Seiche Flood Hazards

The project site is in the southern Santa Clara Valley, approximately 17.5 miles from the Pacific Ocean. There are no large open bodies of water in the project vicinity (the Pajaro River channel is only 30 feet wide). Therefore, tsunamis and seiches do not represent a hazard.

11.2 Regulatory Setting

11.2.1 Federal

11.2.1.1 Clean Water Act

The Clean Water Act of 1972 (CWA) (33 U.S.C. Section 1251 et seq.) is the primary federal law that governs and authorizes water quality control activities by the U.S. Environmental Protection Agency (EPA), the primary federal agency responsible for water quality management. By employing a variety of regulatory and non-regulatory tools, including establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the EPA and implementing agencies seek to restore and maintain the chemical, physical, and biological integrity of surface waters to support the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water.

Water Quality Criteria and Standards

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question, and (2) criteria that protect the designated uses. Where multiple uses exist, water quality standards must protect the most sensitive use. Section 303(d) requires states to develop lists of the water bodies and associated pollutants that exceed water quality criteria.

National Pollutant Discharge Elimination System Permit Program, Section 402

The NPDES permit program was established as part of the CWA to regulate municipal and industrial discharges to surface waters of the U.S. NPDES permit regulations have been established for broad categories of discharges, including point source and nonpoint source discharges. NPDES permits generally identify limits on the concentrations and/or mass emissions of pollutants in effluent discharged into receiving waters; prohibit discharges not specifically allowed under the permit; and include provisions that describe required actions by the discharger, including pretreatment, pollution prevention, self-monitoring, and other activities.

In November 1990, EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase I of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons, to stormwater discharges from a large variety of industrial activities, and to discharges from construction activities if the project would disturb more than 5 acres. Phase II of the NPDES stormwater permit regulations became effective in March 2003 and required NPDES permits be issued for stormwater discharges from small municipal separate storm sewer systems (MS4s) and construction activity for projects that disturb between one and five acres.

The EPA has delegated authority to the State for implementation of the Federal NPDES program in California. Statewide and regional general permits are issued by the SWRCB and the Regional Water Quality Control Boards (RWQCBs) respectively, individual permits are issued by the RWQCBs, and the RWQCBs are responsible for

implementing the NPDES permit system (refer to additional details in the State and Regional subsections below).

Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a TMDL for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The goal of the TMDL program is that, after implementation of a TMDL for a given pollutant on the 303(d) list, the causes that led to the pollutant's placement on the list would be remediated. See Section 11.1.4 for information on TMDLs for water bodies in the project area.

11.2.1.2 Federal Emergency Management Agency National Flood Insurance Program

FEMA administers programs to address flood hazards. FEMA manages the National Flood Insurance Program for this purpose. The program provides federal flood insurance and federally financed loans for property owners in flood prone areas. For this purpose, FEMA produces Flood Insurance Rate Maps that define areas subject to inundation by flooding. Protective controls that must be implemented by project applicants to reduce flood hazards and damage to projects they propose are generally incorporated onto the flood hazard management program and general plan policies of local jurisdictions. These tools assist cities in mitigating flooding hazards through land use planning and building permit requirements that must be implemented by applicants for projects located in specific flood hazard areas. The County's flood hazard management program is described below. Local agency compliance with FEMA flood hazard controls is required for local agencies to participate in FEMA's National Flood Insurance Program. Such conformance in turn enables residents and businesses in a community to obtain federal flood hazard insurance.

11.2.1.3 Executive Order 11988, Floodplain Management

Federal Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. Implementation of Executive Order 11988 in transportation projects is addressed by 23 Code of Federal Regulations 650 Subpart A, entitled "Location and Hydraulic Design of Encroachment on Floodplains." When transportation improvements to the state highway system encroach on a base floodplain, the California Department of Transportation (Caltrans) is responsible for the preparation of a Location Hydraulic Study to assess the risk involved.[8] For local assistance projects that encroach on a base floodplain, the local agency is required to prepare a Location Hydraulic Study. Location hydraulic studies evaluate and discuss the following:

- The practicability of alternatives to any longitudinal encroachments.

[8] The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

If an increase in the base flood elevation is anticipated, a hydraulic computer model must be run to determine the amount of increase in order to determine the floodplain encroachment impacts. If the study concludes that there is no encroachment and/or the encroachment has a minimal impact, a Summary Floodplain Evaluation Report is completed. If the study concludes that there is a significant encroachment and/or the proposed project is inconsistent with existing watershed and floodplain management programs, thereby resulting in incompatible floodplain development, then a Floodplain Evaluation Report is prepared. When the Location Hydraulic Study indicates a significant encroachment within the base floodplain, as defined by 23 Code of Federal Regulations section 650.105, the Federal Highway Administration must approve the encroachment and concur in the finding that the preferred alternative is the "only practicable alternative."

11.2.2 State

11.2.2.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 established the SWRCB and the nine RWQCBs. Together, these agencies are responsible for assuring implementation and compliance with the provisions of the CWA and the Porter-Cologne Water Quality Control Act. The RWQCBs set water quality standards, issue waste discharge requirements, determine compliance with those requirements, and take enforcement action. The SWRCB and RWQCBs also administer the NPDES permit program for storm water. The NPDES program for storm water is designed to reduce the discharge of pollutants in storm water to the maximum extent practicable and to protect water quality and beneficial uses of surface waters. The project site is located within the jurisdiction of the Central Coast RWQCB (Region 3).

As noted in the Environmental Setting section above, water quality and beneficial uses of the Pajaro River are impaired by various pollutants. The County of Santa Clara is required to comply with the CWA and Porter-Cologne Water Quality Control Act requirements for water quality protection to reduce potential for development projects to contribute to water quality impairment. This includes managing storm water quality discharges from new development.

11.2.2.2 Sustainable Groundwater Management Act

On September 16, 2014, Governor Brown signed into law AB 1739, SB 1168, and SB 1319 (AB-1739, SB-1168, and SB-1319). This three-bill legislative package is known collectively as the Sustainable Groundwater Management Act (SGMA). SGMA was amended in the later part of 2015 by SB 13, SB 226, and AB 1390 to provide clarity to the original law and guidance on groundwater adjudications. SGMA defines sustainable groundwater management as the “management and use of groundwater in a manner

that can be maintained during the planning and implementation horizon without causing undesirable results." The legislation defines "undesirable results" to be any of the following effects caused by groundwater conditions occurring throughout the basin:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality;
- Significant and unreasonable land subsidence; and
- Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

SGMA provides financial and enforcement tools to carry out effective local sustainable groundwater management through formation of groundwater sustainability agencies consisting of local public agencies, water companies regulated by the California Public Utilities Commission, and mutual water companies. Groundwater sustainability agencies within high- and medium-priority basins under the California Statewide Groundwater Elevation Monitoring Program subject to critical conditions of overdraft were required to prepare and submit groundwater sustainability plans (GSP) by January 31, 2020, and groundwater sustainability agencies in all other groundwater basins designated as high- or medium-priority basins were required to prepare and submit a GSP by January 31, 2022. Following approval by the DWR, the basins are managed under the GSP.

The key intended outcomes and benefits of the SGMA are numerous, and include:

- Advancement in understanding and knowledge of the state's groundwater basins and their issues and challenges;
- Establishment of effective local governance to protect and manage groundwater basins;
- Management of regional water resources for regional self-sufficiency and drought resilience;
- Sustainable management of groundwater basins through the actions of Groundwater Sustainability Agencies, utilizing state assistance and intervention only when necessary;
- All groundwater basins in California are operated to maintain adequate protection to support the beneficial uses for the resource;
- Surface water and groundwater are managed as a single resource to sustain their interconnectivity, provide dry season base flow to interconnected streams, and support and promote long-term aquatic ecosystem health and vitality;
- A statewide framework for local groundwater management planning, including development of sustainable groundwater management best management practices and plans;
- Development of comprehensive and uniform water budgets, groundwater models, and engineering tools for effective management of groundwater basins;

- Improved coordination between land use and groundwater planning; and
- Enforcement actions as needed by the SWRCB to achieve region-by-region sustainable groundwater management in accordance with the 2014 legislation.

The benefits of these outcomes include:

- A reliable, safe and sustainable water supply to protect communities, farms, and the environment, and support a stable and growing economy; and
- Elimination of long-term groundwater overdraft, an increase in groundwater storage, avoidance or minimization of subsidence, enhancement of water flows in stream systems, and prevention of future groundwater quality degradation.

SGMA requires comprehensive groundwater management, with the mandatory goal of bringing all currently overdrafted basins into sustainable conditions by no later than 2040 or 2042, with five-year increments of progress starting in 2025 and 2027.

11.2.2.3 Statewide General Orders and NPDES Permits

Composting General Order

The existing Z-Best facility is required to comply with statewide general orders and CWA NPDES requirements as promulgated by the SWRCB. The existing facility had been operating under the SWRCB's *General Permit for Storm Water Discharges Associated with Industrial Activities*, Order 2014-0057-DWQ, NPDES No. CAS00001, as amended. However, in 2015, the SWRCB adopted the *General Waste Discharge Requirements for Composting Operations*, Order WQ 2015-0121-DWQ, which is specific to regulating water quality associated with activities of composting operations (SWRCB 2015). This permit was amended and superseded by the *General Waste Discharge Requirements for Commercial Composting Operations*, Order WQ 2020-0012-DWQ (Composting General Order) on April 7, 2020. The Composting General Order is not a NPDES Permit adopted in compliance with the Federal CWA, instead it is a general order and waste discharge requirements pursuant to Water Code section 13263. (Prior to the Composting General Order, composting facilities were often not regulated by the RWQCBs or were operated pursuant to site-specific waste discharge requirements issued by RWQCBs.)

The Composting General Order applies to facilities that accept materials, such as green waste, food scraps, and paper products, for composting and is applicable to existing and new composting operations. Among other operational requirements, the Composting General Order includes requirements for the siting, construction, operation, and maintenance of composting facilities to protect surface water and groundwater. These requirements include specifications for allowable depth to groundwater; distance to and setbacks from surface water and water supply wells; maximum ground permeability underneath composting piles; drainage requirements including design storm standards, working surface strength/hydraulic conductivity, storm water ditch design, and leachate collection and containment; detention basin design including capacity to accommodate flow from 25-year, 24-hour peak storm events; detention basin liner criteria; and detention basin water quality sampling and liner monitoring and inspections. A Water and Wastewater Management Plan must also be prepared that describes how wastewater would be managed to prevent discharge to surface or groundwater (including design, operations, and maintenance of storm water control systems, and water balance calculations).

Composting operations covered by the Composting General Order are categorized in one of two tiers based on the volume and type of feedstocks, and site hydrogeological conditions. Tier I facilities are limited to certain feedstocks in quantities that are considered a lower threat to water quality. Tier II facilities may accept larger volumes and materials that may pose a greater threat to water quality than those allowed in Tier I if not managed properly. The Tier II requirements are, therefore, more protective than Tier I requirements. The Z-Best Composting Facility is a Tier II composting operation. Therefore, its operations are subject to more stringent water quality control requirements.

Because the Composting General Order applies to both existing and new composting operations, the requirements would be applicable to Z-Best operations whether or not the proposed project is approved. The Composting General Order stipulates that a technical report must be submitted to identify how qualifying facilities are complying with the Composting General Order. The technical report must include the property owner and operator, description of the types and quantities of feedstock materials, climatology, geology, hydrogeology, working surface design, water and wastewater management plan, inspection and maintenance program, monitoring, closure plan, and a proposed schedule for achieving compliance. The Composting General Order allows up to six years for an existing facility to achieve compliance.

The technical report for the existing Z-Best facility was submitted to the Central Coast RWQCB in August 2016. The technical report was subsequently revised based on RWQCB review comments and resubmitted in October 2016. The 2016 technical report pre-dated Z-Best's decision to modify its operations as is now proposed. Upon completion of the proposed improvements that are being evaluated in this EIR, Z-Best would be required to prepare an updated technical report for Central Coast RWQCB review and approval which demonstrates how Z-Best is complying with the Composting General Order.

As stated in Finding 33 of the Composting General Order, the SWRCB has determined that compliance with design specifications and associated performance requirements included in the Composting General Order is protective of water quality.

Construction General Permit

The SWRCB's statewide *NPDES General Permit for Stormwater Discharges associated with Construction and Land Disturbance Activities* (Construction General Permit) (Order 2022-0057-DWQ, NPDES No. CAS000002; adopted on September 8, 2022, effective September 1, 2023) is applicable to all construction activities that would disturb 1 acre of land or more. Land disturbance activities subject to the construction general permit include clearing, grading, excavation, stockpiling, and demolition activities. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and waterbodies.

Through the NPDES process, the SWRCB seeks to ensure that the construction and post-construction conditions at a project site do not cause or contribute to significant direct or indirect impacts on water quality (i.e., pollution and/or hydromodification). To comply with the requirements of the construction general permit, project applicants must file a notice of intent with the SWRCB to obtain coverage under the permit; prepare a storm water pollution prevention plan (SWPPP); and implement inspection, monitoring, and reporting requirements appropriate to the project's risk level as specified in the

SWPPP. The SWPPP includes a site map, describes construction activities and potential pollutants, and identifies site-specific BMPs that would be employed to prevent soil erosion and discharge of other construction-related pollutants, such as petroleum products, solvents, paints, and cement, that could contaminate nearby water resources. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and waterbodies. The permit also requires dischargers to consider the use of permanent, post-construction BMPs that will remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

Caltrans NPDES Permit

Caltrans is responsible for the design, construction, management, and maintenance of the state highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties. The SWRCB regulates Caltrans' stormwater discharges under a statewide NPDES Phase I municipal stormwater permit. The recently updated permit, the *NPDES Statewide Stormwater Permit and Waste Discharge Requirements for Caltrans*, Order 2022-0033-DWQ, NPDES No. CAS000003 (Caltrans NPDES Permit), was adopted on June 22, 2022, effective January 1, 2023. The Caltrans NPDES Permit requires the following:

- Caltrans must comply with the requirements of the Construction General Permit;
- Caltrans must effectively control stormwater and non-storm water discharges from the state highway system; and
- Caltrans' stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs to reduce the discharge of pollutants to the maximum extent practicable.

To comply with the permit, Caltrans developed a statewide Storm Water Management Plan (SWMP) to address stormwater pollution controls related to highway planning, design, construction, maintenance, and operations of roadways and facilities. The SWMP describes the procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. Procedures for protecting water quality are outlined, including the selection and implementation of BMPs.

11.2.3 Regional/Local

11.2.3.1 Central Coast Regional Water Quality Control Board - Water Quality Control Plan for the Central Coastal Basin

The *Water Quality Control Plan for the Central Coastal Basin* (Basin Plan) is the Central Coast RWQCB's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the state, including surface water and groundwater. The Central Coast RWQCB implements the Basin Plan by issuing and enforcing NPDES permits and waste discharge requirements to individuals, communities, and businesses whose waste discharges can affect water quality. These requirements are often state waste discharge requirements for discharges to land, or

federally delegated NPDES permits for discharges to surface water. When such discharges are managed so that: 1) they meet these requirements; 2) water quality objectives are met; and 3) beneficial uses are protected, water quality is controlled (Central Coast RWQCB 2019).

11.2.3.2 Santa Clara County Municipal NPDES Permit Requirements

The *NPDES General Permit for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems* (MS4s), WQ Order 2013-0001-DWQ, NPDES No. CAS000004, as amended) requires small municipality areas of less than 100,000 persons to develop stormwater management programs. Municipal stormwater dischargers in the portion of South Santa Clara County that drains to the Pajaro River-Monterey Bay watershed, which includes the undeveloped portion of the Z-Best facility site, as well as the cities of Gilroy and Morgan Hill, are permitted under the state's Phase II Small MS4 General Permit (or "Phase II Permit"). This permit implements national NPDES requirements at the local level to minimize water quality impacts of development during construction and its post-construction operations ("post construction" phase). An overview of required water quality control actions under both construction and post-construction conditions is provided below.

Construction phase storm water quality is managed by implementing a construction site stormwater runoff control ordinance, per Provision E.10 of the Phase II Permit, and through requiring compliance with the Construction General Permit for projects that disturb more than 1 acre of soil. A SWPPP is typically prepared by individual project developers and reviewed by the County for conformity with required content and measures. The plan commonly includes erosion and sediment control and other control measures to be implemented during construction to reduce potential impacts on surface water by reducing the potential for sediment or other water quality contaminants to be discharged directly or indirectly into a surface water body.

The post-construction requirements, per Provision E.12 of the Phase II Permit, apply to on-site improvements associated with the proposed project. Projects subject to post-construction requirements, such as Z-Best, must implement permanent water quality control features that are designed to reduce pollutants in storm water and/or erosive flows during the life of the project. Types of post-construction controls include low impact development (LID), water quality treatment, runoff retention, and peak runoff management. The types of controls required are contingent on the amount of new or replacement impervious surface being created. An applicant must demonstrate how a project is to comply with the water quality treatment, runoff retention, and peak runoff management requirements of the permit.

11.2.3.3 Santa Clara County Grading Ordinance

The County of Santa Clara Ordinance Code, Title C, Construction, Development and Land Use, Subdivision C12, Subdivisions and Land Development, Chapter III, Grading and Drainage, includes regulations and performance standards that must be met during grading activities to reduce surface water quality impacts. Z-Best must submit an application for a grading permit. The application package must identify BMPs that would be implemented during the construction process to minimize potential erosion of exposed soils and slopes during rainfall events, because sediment carried in storm water from construction sites can degrade water quality in receiving waterbodies.

11.2.3.4 Santa Clara County Floodplain Management Ordinance

The local floodplain administrator is the County of Santa Clara. Title C, Construction, Development and Land Use, Subdivision C12, Subdivisions and Land Development, Chapter VII, Floodplain Management, in the County of Santa Clara Ordinance Code includes regulations for managing flood hazards in the unincorporated portions of Santa Clara County. The ordinance implements FEMA's National Flood Insurance Program requirements. Ordinance Code Section C12-803 identifies methods to be used by the County to reduce flood hazards and flood losses. These are summarized as follows:

- Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
- Control filling, grading, dredging, and other development which may increase flood damage; and
- Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Other sections of the Floodplain Management Ordinance identify specific performance standards that must be met by various types of new development (e.g., residential and non-residential) within specific flood hazard zones to reduce flood hazard risks to existing and proposed development.

The governing floodplain regulation applicable to the project is Section C12-821(1):

> *"Until a regulatory floodway is adopted, no new construction, substantial development, or other development (including fill) shall be permitted within Zones A1—30 and AE, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the water surface elevation of the base flood more than one foot at any point within Santa Clara County."*

As described in the Environmental Setting, the Z-Best facility is located within a 100-year floodplain. Therefore, its operations and proposed improvements are subject to compliance with flood management program design requirements. The Ordinance does not allow fill within the floodplain if the project, combined with other proposed development within the floodplain, would raise the base flood elevation by more than 1 foot. Doing so may increase flood hazards by encroaching on the floodway, thereby increasing the height of flood waters relative to the pre-fill condition. If a substantial rise in base flood elevation would occur under unmitigated conditions, then additional flood storage capacity must be provided as part of the project design in an amount that would avoid a substantial raise in the base flood elevation under fully developed conditions.

11.2.3.5 Valley Water 2021 Groundwater Management Plan (Alternative Groundwater Sustainability Plan)

Overview

Valley Water is responsible for managing groundwater resources in the Llagas Subbasin and serves as the source of water supply for water supply retailers and others within Santa Clara County. SGMA is now the principal water supply planning framework for achieving groundwater sustainability goals in the subbasin. Valley Water is the Groundwater Sustainability Agency for the Santa Clara and Llagas subbasins.

In the basins designated by DWR as medium- and high-priority, local public agencies and Groundwater Sustainability Agencies are required to develop and implement GSPs or Alternative GSPs.

The *2021 Groundwater Management Plan* (GWMP or Alternative GSP) prepared by Valley Water has been accepted by DWR as an Alternative GSP (DWR 2022).

The GWMP includes the following sustainability goals related to groundwater supply reliability and protection:

- Groundwater supplies are managed to optimize water supply reliability and minimize land subsidence; and
- Groundwater is protected from contamination, including salt water intrusion.

The basin management strategies summarized below are used to meet the SGMA sustainability goals. Many of these strategies have overlapping benefits, acting to improve water supply reliability, minimize subsidence, and protect or improve groundwater quality. The strategies are described in detail in Chapter 6 of the GWMP:

- Manage groundwater in conjunction with surface water;
- Implement programs to protect and promote groundwater quality;
- Maintain and develop adequate groundwater models and monitoring networks; and
- Work with regulatory and land use agencies to protect recharge areas, promote natural recharge, and prevent groundwater contamination.

Groundwater Supply Reliability

The GWMP contains a variety of programs to be implemented by Valley Water as tools to meet groundwater supply sustainability goals. By maintaining groundwater levels and sufficient storage, these programs prevent undesirable results including long-term groundwater overdraft, inelastic land subsidence[9], and salt water intrusion. The programs are summarized as follows; each includes multiple sub-activities designed to achieve individual program goals.

- Managed Recharge: To offset groundwater withdrawals and ensure the long-term sustainability of groundwater resources, Valley Water replenishes the groundwater subbasins with local and imported surface waters in Valley Water recharge facilities;

[9] Meaning that the land surface which has subsided will not rebound even if previous groundwater levels are restored.

- In-Lieu Recharge: Valley Water's in-lieu recharge programs play a critical role in maintaining groundwater basin storage and preventing undesirable results by meeting water demand that would otherwise be met by groundwater pumping;
- Protecting Natural Recharge: Valley Water's managed recharge program augments natural recharge since natural replenishment is insufficient to meet groundwater demands. However, protecting natural recharge capacity is also important. Natural recharge is defined here as any type of recharge not controlled by Valley Water, including rainfall, subsurface seepage from surrounding hills, net irrigation return flows, net leakage from water distribution systems, storm drains, sewer lines, and septic systems, and net seepage into the groundwater basin;
- Groundwater Production Management: The subbasins in Santa Clara County are not adjudicated and Valley Water has not historically controlled the operation of groundwater wells or the amount of groundwater that wells can produce. The groundwater recharge program, treated water sales, recycled water partnerships and aggressive water conservation programs all offset demand on groundwater resources;
- Water Accounting; and
- Asset Management.

Valley Water is responsible for reviewing and updating the GWMP every five years at a minimum. The most recent update was prepared in 2021.

11.2.3.6 Valley Water 2020 Urban Water Management Plan and Water Supply Master Plan 2040

Valley Water has increased its efforts to coordinate the water supply projections of its retailers, trying to reconcile the individual projections into a combined water supply future that meets Valley Water's countywide water reliability goals. Water retailers deliver over 85 percent of the total water used in the county. The *2020 Urban Water Management Plan* (Valley Water 2021b) evaluates whether the projected groundwater use can be sustained over a 25-year planning horizon without risking depletion of groundwater reserves or failing to meet water supply reliability targets. The *Urban Water Management Plan* (and the *Water Supply Master Plan 2040* described below) use over 80 years of measured or correlated local hydrologic data and are supported by information in the GWMP. The *2020 Urban Water Management Plan* highlights the importance of groundwater reserves, which are critical to meet demands in dry years. Multiple dry years pose the greatest challenge to Valley Water's water supply as storage reserves become depleted.

The purpose of the *Water Supply Master Plan 2040* (Valley Water 2019) is to identify and plan the new water supply projects and programs that will be needed to ensure future water supply reliability and groundwater sustainability over a 25-year planning horizon. The *Water Supply Master Plan 2040* includes objectives based on Valley Water Board policy, a baseline system analysis to determine water supply and infrastructure needs, a recommended portfolio of projects and programs to meet those needs, environmental analysis, input from water retailers and interested stakeholders, and a schedule and budget for implementing the recommended portfolio.

The *Water Supply Master Plan 2040* identifies water supply investments needed to meet future needs to 2040, including projected increases in demand for groundwater. Those needs are based on Association of Bay Area Governments projections that Santa Clara County's population will increase from about 1.9 million in 2015 to about 2.4 million by 2040. Jobs are projected to increase from approximately 1 million in 2015 to approximately 1.2 million in 2040. Even though per capita water use continues to decline, Valley Water estimates that increases in population and jobs will result in an increase in water demands from the current long-term average of approximately 350,000 AFY to a non-drought year demand of approximately 399,000 AF in 2040. This projected increase in demand, along with projected reductions in supplies and ongoing risks, means that additional water supply investments will be needed to provide a reliable water supply in the future (Valley Water 2019).

11.2.3.7 Pajaro River Watershed Integrated Regional Water Management Plan

The Pajaro River is a regional resource. The Pajaro River Watershed Integrated Regional Water Management Plan is a collaborative effort to identify and implement regional and multi-beneficial projects for the Pajaro River Watershed. Valley Water, San Benito County Water District, and the Pajaro Valley Water Management Agency represent the Regional Water Management Group that coordinates updates of the plan and coordinates implementation of related projects. The Pajaro River Watershed Integrated Regional Water Management Plan focuses on objectives that address water quality, water supply, flood management, and environmental enhancement. To meet the objectives, the plan includes a range of resource management strategies, including pollution prevention, urban runoff management, sediment management, land use planning and flood risk management.

11.3 Thresholds of Significance and Analysis Methodology

11.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact related to hydrology and water quality would occur if implementation of the proposed project would:

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

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

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would:

    i. Result in substantial erosion or siltation on- or off-site;

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or offsite;

iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or

iv. Impede or redirect flood flows.

d) In a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation; or

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

11.3.2 Analysis Methodology

11.3.2.1 Composting Operations Water Quality Analysis

The primary sources of information evaluated for this impact analysis were the Composting General Order, the applicant's plan set for the proposed project, and information about the water quality characteristics of leachate produced by the proposed ECS system technology. In addition, the applicant provided a variety of studies focused on hydrology and water supply. The applicant's early studies were peer reviewed by Tetra Tech, under contract to EMC Planning Group. Although the majority of the original studies are now outdated and have been superseded by subsequent reports, the portions of the Tetra Tech peer review relating to leachate quality and quantity are still valid. The Tetra Tech peer review is found in Appendix E-1. The SWRCB's Composting General Order (described in the Regulatory Setting above) is the applicable water quality control regulatory framework to which composting projects must comply. Project consistency with the regulations is evaluated.

11.3.2.2 Groundwater Supply Analysis

Domestic needs of employees, composting process needs, and dust control needs are the primary sources of Z-Best's existing water demand. The proposed project would double the number of employees at the site, and the ECS process would demand more water during MSW composting than the existing CTI process. Water demand for the green waste composting and dust control is not anticipated to change as a result of the project, as these processes would not substantially change from existing operations. Therefore, the water supply analysis addresses the change in water demand associated with the change in proposed MSW composting processes and also addresses the change in water supplies available from storm water runoff at the site.

A water balance analysis was conducted by the applicant to assess water demand/ water balance conditions with use of the existing CTI technology and the proposed ECS technology. An analysis of the post-project water balance was included in the *Z-Best Compost Facility Water Balance* (Golder Associates 2019a) and summarized in the *Technical Memorandum Re: Water Balance, Z-Best Compost Facility* (Golder Associates 2019b) which were appendices for the original Draft EIR and are available on the County's website. These analyses were updated, refined, and represented in *Clarification of Previous Hydrology and Water Supply Analyses, Z-Best Compost Facility*

(Golder Associates 2022b; Appendix E-3), *Further Clarification of Previous Hydrology and Water Supply Analyses, Z-Best Compost Facility* (Golder Associates 2022d) including attached revised *Water Supply Evaluation* (Golder Associates 2022c), both in Appendix E-4; and *Groundwater Drawdown Evaluation, Z-Best Composting Facility, Gilroy, California* (Golder Associates 2022e) in Appendix E-5.

Golder Associates estimated existing water use at the site based on groundwater production records from the main agricultural well/primary extraction well recorded during 2015 to 2020 and based on estimates of the net available surface water captured within Detention Basin #1 and Detention Basin #2 with their existing configurations during average precipitation conditions. The net available surface water within the detention basins was estimated based on direct precipitation to the basins, stormwater runoff from the contributing drainage area, and evaporation from the basins. Golder Associates then estimated post-project water use at the site by accounting for the net available surface water expected to be captured within Detention Basin #1 and Detention Basin #2 based on the post-project configuration (which includes runoff from an additional 2.6 acres in Area 1), groundwater pumped for existing uses (less new surface water captured within the basins), and the additional groundwater needed for primary and secondary composting for the ECS compost system. Both a high and low estimate were provided for both existing and proposed use based on the variation found in the existing groundwater pumping records. Estimates of post-project groundwater use were based on estimated total water use minus the contribution from surface water. Change in groundwater use was based on the difference between groundwater use for existing and post-project conditions.

Golder Associates also evaluated potential impacts to local groundwater levels from the increased groundwater pumping anticipated at the primary extraction well. Drawdown was estimated based on the Theis method and Driscoll's approximation for confined aquifer conditions. Basin-specific groundwater parameter data were used to calculate drawdown, including regional aquifer conditions and transmissivity values obtained from well completion reports. Offsite wells were identified. It was assumed that the offsite wells were screened at the same intervals and within the same units as the primary extraction well.

11.3.2.3 SR-25 and New Site Access Improvements Water Quality Analysis

The Composting General Order is the state regulatory tool for minimizing water quality impacts solely from composting operations. It does not address water quality associated with the proposed SR-25 and new site entrance circulation improvements. The analysis of construction phase and post-construction water quality impacts for these improvements relies on the nature of the proposed improvements and on review of applicable water quality regulations, including the Caltrans NPDES permit.

11.3.2.4 Analysis of On-Site Changes in Flood Hazards

Fill is proposed to raise the portion of Area 1 on which the existing CTI composting activity occurs and on which the new ECS technology would be placed. Fill would also be placed to raise the perimeter berms around the reconfigured Detention Basin #1. The fill would be generated by on-site grading related to the project. The Z-Best site is within a FEMA flood hazard zone. The effect of changing flood elevation through

displacing existing flood storage capacity by filling a portion of the floodplain is discussed based on the results of floodplain studies prepared by Schaaf & Wheeler (Schaaf & Wheeler 2022; with background information from Schaaf & Wheeler 2012).

The capacity of the modified and existing detention basins to adequately detain rainfall from large storm events, such as those which occurred during early 2023, is also analyzed, based on a memorandum prepared by AECOM (AECOM 2023a) contained in Appendix E-6.

11.3.2.5 Analysis of Off-Site Flood Hazards Associated with SR-25 and New Site Access Improvements

The proposed off-site circulation improvements would result in an increase in impervious surfaces with the result that storm water runoff would increase. Furthermore, the SR-25 roadway improvements would be constructed in a FEMA flood hazard zone. The effects of these change are evaluated based on the nature of the proposed improvements and on the post-construction water quality control requirements contained in the Caltrans NPDES permit. The applicant would be required to provide calculations showing the pre- and post-project stormwater runoff as related to Caltrans facilities when submitting the encroachment permit application to Caltrans for the project work along SR-25.

11.3.2.6 Water Quality Control Plan Consistency Analysis

The *Water Quality Control Plan for the Central Coastal Basin* (Central Coast RWQCB 2019) is the applicable water quality control plan. Requirements for the project that would assure conformance to the Basin Plan are discussed.

11.4 Analysis, Impacts, and Mitigation Measures

11.4.1 Water Quality Standards and Degradation of Water Quality

IMPACT HYD-1	**The project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality**	**Less than Significant with Mitigation**

Construction Activities

Project construction activities would require limited vegetation removal, and substantial excavation and grading within the project footprint, that would temporarily disturb surface soils. During construction activities, excavated soil would be exposed, which could increase the potential for soil erosion and transport of sediment downstream during a storm event. The soil ultimately could be transported to the Pajaro River and downstream waterbodies, increasing turbidity and degrading water quality.

In addition, construction-related pollutants, such as chemicals, liquid and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste, could be spilled, leaked, or transported via stormwater runoff into adjacent drainages and into downstream receiving waters during storm events. If erosion and construction-related wastes were to enter runoff and flow into waterways, this could potentially alter the dissolved oxygen content, temperature, pH, suspended sediment concentrations, turbidity levels, and/or nutrient content of receiving waters, or cause toxic effects on the aquatic environment. Construction activities on the project site could violate water quality standards or otherwise substantially degrade water quality without proper stormwater management measures.

For construction activities within the project site, the applicant is required by law to comply with the provisions of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2022-0057-DWQ, NPDES No. CAS000002; adopted on September 8, 2022) (Construction General Permit) (SWRCB 2022). The NPDES Construction General Permit regulates stormwater discharges for construction activities under the federal CWA, and it applies to all land-disturbing construction activities that would disturb 1 acre or more of land. To comply with the provisions of the NPDES Construction General Permit, the project applicant would be required to submit a Notice of Intent to discharge to the Central Coast RWQCB and would prepare and implement an SWPPP, which would include BMPs to minimize those discharges. The Central Coast RWQCB also has the authority to issue waivers to reports of waste discharge requirements and/or waste discharge requirements for broad categories of “low threat” discharge activities such as construction dewatering that would have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

The SWPPP is required to address site-specific conditions related to potential sources of sedimentation and erosion. The BMPs listed below would ensure that neighboring properties would not be impacted during construction of the project, as these measures would reduce or eliminate the potential for erosion or alteration of drainage patterns offsite.

- Silt fencing, fiber rolls, or gravel bags
- Street sweeping and vacuuming
- Storm drain inlet protection
- Stabilized construction entrance/exit
- Vehicle and equipment maintenance, cleaning, and fueling
- Hydroseeding
- Material delivery and storage
- Stockpile management
- Spill prevention and control
- Solid waste management
- Concrete waste management

All NPDES Stormwater Construction General Permits (and Municipal and Industrial Stormwater Operating Permits) include monitoring and reporting requirements to ensure compliance. Because the project applicant is required by law to comply with the provisions of the NPDES Construction General Permit, which includes preparation and implementation of a SWPPP with associated BMPs designed to minimize and avoid adverse effects to water quality, the impact of project construction on surface water and groundwater quality would be minimized and water quality standards would not be violated.

For construction activities within the SR-25 right-of-way, Caltrans would analyze the project for conformance with the NPDES requirements as reflected in the Caltrans NPDES Permit described in the Regulatory section, and impose conditions relating to such, as part of the encroachment permit process. This would require the applicant or its contractors to prepare a SWPPP and implement Caltrans' standard BMPs during construction to reduce erosion and pollutant transport. Caltrans has a comprehensive program for preventing water pollution during construction activities on the state highway system and numerous BMPs for preventing water pollution have developed and approved by the SWRCB. BMPs implemented at the site would be required to be consistent with Caltrans' Construction Site Best Management Practices Manual and SWPPP and Water Pollution Control Program Preparation Manual which incorporate the requirements of Caltrans NPDES Permit and the Construction General Permit.

Due to all the reasons described above, water quality impacts from construction-phase activities would not violate applicable water quality standards and the impact would be **less than significant**.

11.4.1.1 Operations

The proposed change in composting operations and associated improvements/site modifications, and operations associated with proposed modifications to Detention Basin #1, have potential to create groundwater and/or surface water quality impacts. However, these operations must conform to water quality performance standards contained in the Composting General Order that are designed to protect surface water and groundwater quality. The discussion here first focuses on the potential for proposed operations to produce contaminated composting process water and contaminated storm water runoff, then addresses the design aspects of the project in relation to the applicable performance standards in the Composting General Order.

Leachate Characteristics and Quality

Composting operations have potential to generate residual wastewater termed "leachate." Leachate is a product of the natural decomposition of organic materials that results in release of excess liquids that accumulate at the bottom of a compost pile. These liquids are produced in the greatest quantities and with the highest potency during the first one-to-two weeks of composting when cellular water can be released and before excess water has been evaporated and/or absorbed by the organic waste biomass. Each ton of raw organic compost material input can produce one to three percent of its weight in leachate.

General statements can be made about the chemical character of leachate based on published and private leachate studies. Compost leachate from active (primary) composting of commingled waste is characterized by high BOD, low pH (a measure of

acidity), the presence of nutrients including nitrogen and phosphorous, and salts. Leachate is a contaminant whose release to surface water or groundwater has potential to impair the quality of these waters, thereby impacting the value of the waters for human use and for habitat.

In the existing CTI bag aeration system used by Z-Best to compost MSW, substantial sections of each bag are weakly aerated with oxygen. In the absence of sufficient oxygen (lack of aeration), substantial sections of a CTI bag generate acidic leachate due to anaerobic (lack of oxygen) decomposition conditions. Leachate from such an acidic anaerobic process has high odor strength with higher than usual BOD from highly volatile acids that are the products of intermediate anaerobic decay.

When a composting process is well aerated (producing high oxygen levels and moderated temperatures), the conditions exist to rapidly convert organic matter into carbon dioxide (CO_2) rather than into acids. This raises the pH of the process (and resulting leachate) toward neutral levels (pH 6-8). These conditions facilitate efficient bio-oxidation of organic compounds and conversion of nitrogen and phosphorus to more stable forms. The result is a leachate with more neutral pH, lower BOD, and potentially lower nutrient content. Leachate with these characteristics has lower potential to degrade the quality of receiving waters into which it may be released. Consequently, the proposed ECS composting process is considered to have a beneficial effect relative to existing conditions in terms of exhibiting improved leachate quality.

Leachate Quantity

Leachate from the ECS compost process would originate from free water in the MSW feedstock, water formed during bio-oxidation, water added to the compost, and rainfall. However, unlike the existing CTI process, water from the first three sources associated with the ECS process would be substantially lost through evaporation. The current CTI technology process does not require that water be added to the CTI bags. Even though the ECS process requires adding water, the substantially more efficient evaporation of water in the ECS system would produce less leachate from the three noted sources. This conclusion has been verified based on peer review of a range of applicant project description information and technical studies (Tetra Tech 2020; Appendix E-1). Although portions of the Tetra Tech peer review are now outdated, as some aspects of the analyses reviewed have since been revised, the portions relating to leachate quantity and quality are still valid as the design of the composting system has not substantially changed since the review.

Regarding the contribution of rainfall to leachate generation, in the existing CTI process, leachate produced from rain events runs off the impermeable plastic bags and into the existing storm water collection system, combining with leachate from leaks in the bags and feedstocks from bag filling, bag emptying and associated materials handling steps. All of this contact water is treated as leachate. In the proposed ECS system, several factors (drying/heating time, fan aeration, rainfall absorption, and shorter compost retention times) would combine to result in the need for less impervious surface per ton of compost processed. The net effect of the factors described above is that the ECS process is anticipated to produce a lower volume of water collected as leachate during a rain event per ton of processed compost, relative to the existing CTI process. The decreased leachate volume per ton of compost is expected to be offset by the proposed increase in total composting capacity, such that total leachate volume generated by the project is expected to be similar to existing conditions (Tetra Tech 2020; Appendix E-1).

ECS System Leachate Collection Features

The ECS system design is substantially more sophisticated in terms of leachate control and collection than the existing CTI system. The ECS technology includes a low-friction aeration floor set within concrete, negative aeration, and a three-sided concrete bunker configuration. These features would combine to contain and capture leachate liquids, prevent run-off, and facilitate use of composting BMP options.

Excess liquids would make their way to the concrete aeration floor by gravity. Fans would be used to create negative aeration. That is, air would be drawn down through the compost material and with it, leachate would be captured in a series of trenches that are similar to a curtain drain. A curtain drain is similar to a French drain but is typically excavated to a shallower depth. In this way, liquid is collected from the entire pile and leachate is generally prevented from accumulating and spilling out of the pile. If excess leachate were to accumulate at the bottom of the pile, the bunker walls and sloped bunker floor would prevent water from escaping. This combination of features is designed to effectively capture leachate from each bunker.

Once in the aeration trenches, the leachate would be drained via below-grade pipes to collection sump pumps that in turn are connected to the storm water/leachate collection system within the pad. Like storm water that falls directly on the pad, the leachate would also be conveyed via the collection system to Detention Basin #1 as described below

Secondary composting would take place on a positively aerated aeration floor. That is, air would be circulated up through the compost pile. Very limited quantities of leachate would be produced during this process; most would be reabsorbed into the compost. When there is significant precipitation and/or over-watering of a pile, the leachate would have relatively low BOD compared to what is collected from the primary composting bunker system due to dilution. The aeration floors include collection pipes that also drain to sump pumps. The excess water from the collection system would mix with the surface water collection of the paved areas and be delivered to Detention Basin #1 as described below.

In summary, the inherent design of the ECS system would provide improved leachate management relative to the existing CTI system and would facilitate the proposed project’s conformance with storm water quality control standards in the Composting General Order thereby minimizing and avoiding the potential for violating water quality standards, waste discharge requirements or otherwise degrading groundwater quality.

Proposed ECS System Pad Design

The Composting General Order requires that pads and working surfaces must be capable of preventing degradation of waters of the state. Such improvements must be designed, constructed, operated, and maintained to 1) facilitate drainage and minimize ponding by sloping or crowning pads to reduce infiltration; 2) reliably transmit any free liquid to a containment structure; and 3) prevent conditions that could lead to contamination, pollution, or nuisance.

Z-Best would remove the existing CTI processing equipment and raise the existing pad on which that activity takes place by at least one foot to raise it above the base flood elevation. Then the new ECS system improvements would be placed on the raised pad. This is to limit the potential that the pad could be flooded during the 100-year storm event, with residual leachate within the pad area contributing to contamination of flood

waters. A perimeter berm would be placed at the edge of the raised pad. The berm would be designed to prevent storm water inflows onto the pad and to contain storm water that falls onto the pad within the pad area. The pad would be sloped away from the pad perimeter to direct storm water to a series of sumps/inlets that would convey the runoff into new storm water conveyance pipes for delivery to Detention Basin #1. The pad would be designed to meet the standards for restricted infiltration to prevent storm water/leachate from percolating to groundwater. Refer to Figure 4-4, Grading and Drainage Plan, which illustrates the planned pad slopes and the planned storm water collection and conveyance system. The pad and related surfaces are designed to avoid surface water quality degradation from storm water that may contain leachate.

Proposed Storm Water/Leachate Conveyance System Improvements

Per the Composting General Order, drainage conveyance systems must be designed, constructed, and maintained for conveyance of wastewater from the working surface in addition to direct precipitation from the 25-year, 24-hour peak storm event at a minimum. The proposed project includes an improved storm water collection system designed to meet this performance standard. Refer to Figure 4-4, Grading and Drainage Plan, which illustrates planned storm water collection and conveyance system improvements. Storm water from the ECS composting pad would be collected in drainage pipes and French drains. Two pump stations are planned that would pump the water into Detention Basin #1.

Tetra Tech (2020) performed an independent, preliminary review of the proposed storm water conveyance system improvements that are planned to convey runoff from the improved ECS pad to Detention Basin #1, and found these facilities to be adequate for runoff conveyance (see Appendix E-1). Although portions of the Tetra Tech peer review are now outdated as some aspects of the analyses reviewed have since been revised, the portions relating to the stormwater conveyance from the ECS pad are still valid as the design of the ECS pad and its drainage features have not substantially changed. As described below, the berm around Detention Basin #1 would be raised as part of the project improvements. Though no changes to the existing green waste composting operations or infrastructure are proposed, storm water from the green waste composting area is also conveyed to Detention Basin #1. Under post-project conditions where the basin berm would be raised, storm water from the green waste area would no longer flow by gravity into the pond. As part of the proposed project, a pump would be installed to convey that storm water up and into the modified Detention Basin #1. The project application did not contain any details regarding pump capacity, as that level of design detail would be submitted as part of the construction drawings for permitting. If the capacity of the pump is not sufficient, stormwater from the composting areas could cause localized flooding in the southeast corner of the green waste compost area, pooling outside of the detention basin, and could potentially discharge to nearby drainage ditches that flow to the Pajaro River, as had occurred during the March 2023 storm event. Stormwater with sustained contact with the green waste windrows is expected to have higher levels of nutrients and BOD, and may have other contaminants. Release of this water to the Pajaro River would be a **potentially significant** impact to water quality. The following mitigation measure is proposed to address this impact.

MM-HYD-1A: Demonstrate Sufficient Pump Capacity

During the grading permit application process, the Applicant shall submit details and calculations to the County Planning Department demonstrating that the proposed pump capacity will be sufficient to transfer stormwater runoff from Area 1 into Detention Basin #1 during a 25-year, 24-hour storm event without causing localized flooding which inundates the southeast corner of the green waste compost area. Note that approximately 8.7 million gallons of stormwater runoff is expected from Area 1 during the 25-year, 24-hour storm event (from 5.8 inches of precipitation).

With implementation of MM-HYD-1A, the stormwater conveyance system would be able to adequately transfer stormwater and leachate from the active composting areas into Detention Basin #1 at a rate that avoids inundation of the composting area. The impact would be **less than significant with mitigation**.

Proposed Storm Water Detention Basin Capacity

The proposed project includes modifications to existing storm water Detention Basin #1. There is also a second storm water detention basin on the site (Detention Basin #2), but modifications to that basin are not proposed as part of the current project.

The Composting General Order requires detention basins to be designed to contain all runoff from working surfaces in addition to direct precipitation from the 25-year, 24-hour storm event. Specifically, it indicates that:

Detention ponds, if used, must be designed, constructed, and maintained to prevent conditions contributing to, causing, or threatening to cause contamination, pollution, or nuisance, and must be capable of containing, without overflow or overtopping (taking into consideration the crest of winddriven waves and water reused in the composting operation), all runoff from the working surfaces in addition to precipitation that falls into the detention pond from a 25-year, 24-hour peak storm event at a minimum, or equivalent alternative approved by the Regional Water Board.

The 25-year, 24-hour storm event is anticipated to generate 5.8 inches of rain (NOAA 2023c), which would be expected to fill the detention basins to approximately 65 percent of their combined capacity if the basins were empty at the time of the event. However, as detailed in Appendix E-6, operations of the detention basins will not drawdown water levels to empty during extended periods of time in wet years. In addition, extreme events such as the 25-year, 24-hour storm event are expected to occur during wet years. As such, there remains a substantial risk of overtopping if an extreme event occurs during a wet year when the detention basins are being used to hold prior runoff from the composting facility, even assuming the currently proposed capacity increase in Detention Basin #1.

Overtopping could cause discharge of detention basin waters into the on-site flood storage basin or offsite areas, which could eventually discharge to the Pajaro River. This is a **potentially significant** impact to water quality. The following mitigation measure is proposed to address this impact.

MM-HYD-1B: Increase Detention Basin Capacity

During the grading permit application process, the Applicant shall submit a revised site plan, design details, and supporting calculations to the County Planning Department for review and approval showing modifications to increase the capacity of Detention Basin #1 and/or Detention Basin #2, such that the combined detention capacity is sufficient to hold at least 22.8 million gallons of water without discharging and maintain a freeboard of at least 2 feet. In addition, the Applicant shall demonstrate compliance with the Compost General Order to detain the 25-year, 24-hour peak storm, assuming normal operating volumes during wet years, or obtain approval from the RWQCB for an equivalent alternative.

If the modified basin design would require additional fill below the base-flood elevation, consideration must also be given to a corresponding increase in the size of the additional flood storage basin in Area 2, such that no net loss of floodplain shall occur compared to existing conditions.

If the modified basin design and/or corresponding changes to the flood storage basin would decrease the area of the facility draining to the detention basins, the required detention volume specified in the first paragraph of this measure may be reduced accordingly, provided adequate supporting documentation is provided to the County Planning Department for review and approval. The documentation shall demonstrate that the revised design is sufficient to hold direct precipitation and facility runoff from a 25-year, 24-hour storm event in addition to normal operating volumes during wet years, whilst maintaining the required freeboard.

With implementation of MM-HYD-1B, the stormwater detention capacity would be increased to meet the requirements of the Composting General Order and to minimize the risk of discharge from the detention basins during a large storm event, even in a wet year. The impact would be **less than significant with mitigation**.

In addition, flood water should be prevented from inundating the detention basin and causing a release of retained storm water. Potential impacts relating to inundation by floodwaters are discussed further under Impact HYD-5 below.

Groundwater Quality

Tetra Tech (2020) analyzed the potential for changes in the quality of Detention Basin #1 as a result of the proposed changes to MSW composting methods and increased processing volume. Due to the complexity of the process, Tetra Tech concluded that the final effect on leachate concentration in Detention Basin #1 was not very clear, but that concentration of contaminants in the basin would be expected to increase over time.

The Composting General Order includes a performance standard regarding limiting infiltration of detained storm water to groundwater to protect groundwater quality. To meet the more stringent water quality requirements, Z-Best proposes to modify Detention Basin #1 to include an impermeable liner that meets the conductivity specifications of the Composting General Order. The liner system would be similar to the 60-millimeter, high density polyethylene geomembrane underlain by a geosynthetic clay liner that is present at existing Detention Basin #2. Lining Detention Basin #1 would reduce storm water infiltration potentially containing leachate and would have a beneficial effect on groundwater quality relative to existing conditions, even if the leachate quality within Detention Basin #1 were to deteriorate under project conditions.

Leachate collected in Detention Basin #1 would be aerated to control odor and to maintain the dissolved oxygen concentration at a minimum of 1.0 milligram per liter consistent with the Composting General Order. Solids that accumulate in the lined basin would be periodically removed and composted, as they are now; hand tools would be used to avoid puncturing the liner. Consistent with Composting General Order standards, a pan lysimeter monitoring device must be installed under the lowest point of the pond to monitor water quality conditions below the pond. A lysimeter is a device for collecting water from the pore spaces of soils and for determining the soluble constituents removed in the drainage.

With adherence to the requirements of the Composting General Order, the proposed project would reduce the potential for infiltration of stormwater/leachate from Detention Basin #1 to groundwater.

The balance of the existing Detention Basin #1 area to the west of the proposed berm-modifications would no longer be an active component of Z-Best's operations. However, as noted by Tetra Tech (2020), existing soils at the bottom of Detention Basin #1 are potentially contaminated; because of the long-term exposure to leachate runoff, the soil sediment along the bottom of the existing basin likely has soil concentrations for non-volatile chemicals that are in equilibrium with the maximum leachate concentrations. If these potentially contaminated sediments remain on site, they could leach out their chemical concentrations into the bottom of the old basin and ultimately into the local groundwater if the contaminated sediment is exposed to re-circulating groundwater. Because of close proximity of the local water table to the bottom of Detention Basin #1 and the 19-year period in which Detention Basin #1 was used, the potential for two-way flow of liquids into and out of remnant soils from the basin, the large acreage of the source, and the small seepage velocity of the groundwater, shallow groundwater could become contaminated with the leachate residuals if the accumulated sediments are not removed. This is a **potentially significant** impact. The following mitigation measure is recommended to address this impact.

> ***MM-HYD-1C: Investigate and Remediate Contaminated Soils within Detention Basin #1***
>
> *Prior to issuance of grading permits, the applicant shall retain a qualified environmental consultant to prepare and implement a soil investigation plan, that shall be submitted for review and approval by the County Planning Department. The plan shall detail procedures for collection and analysis of soil samples from existing sediments in the floor of Detention Basin #1. Samples shall be analyzed, and concentrations compared to background levels and industry-standard screening levels for groundwater protection (e.g., regional screening levels and/or environmental screening levels). If existing sediments at the bottom of Detention Basin #1 are found to exceed the relevant screening levels, these soils shall be removed prior to new construction activities at Detention Basin #1. Excavated soils shall be re-composted at the facility or hauled off from the site for disposal at an appropriately licensed facility, in accordance with federal, state, and local regulations.*

11.4.1.2 SR-25 Improvements

As described in the Off-Site Improvements subsection of Section 4.3, Project Description, SR-25 would be widened to install new left and right turn lanes along the

project site frontage, and a new access road would be constructed into the site that would replace the existing entrance. Figure 4-8, Project Entrance/Driveway and SR-25 Improvements, shows the extent of the areas on both sides of the highway in which widening would occur. Storm water ditches on both sides of the highway would be filled to enable placement of new paving and a low retaining wall at the edge of pavement to capture storm water runoff from the roadway. The storm water would be directed into a 24-inch storm water drainage pipe that would replace the storm water conveyance function of the existing ditches.

This aspect of the proposed project, independent of the composting operations discussed above, also has potential to degrade surface water quality. Analogous to composting operations, surface water quality effects from this project component are minimized by required conformance with establish performance standards as discussed below.

The proposed SR-25 improvements would create new impervious surfaces. The changes in surface conditions would result in an increase in storm water runoff volume relative to current conditions where a significant portion of storm water percolates through exposed soil to the underlying groundwater. The new impervious areas would also reduce the natural capacity of existing soils and vegetation to remove pollutants contained in storm water. Further, unless properly managed and pre-treated, storm water runoff from paved areas would be greater in volume and velocity than under existing conditions. Changes in the rate or volume of storm water delivered into receiving waters can result in hydromodification of downstream drainage courses, resulting in further erosion and related water quality degradation, as well as downstream flooding.

Vehicles traveling on the new surfaces would introduce/deposit pollutants such as oil and grease and natural and non-natural debris onto the surfaces. These pollutants can be carried in storm water runoff and delivered directly or indirectly to receiving waters. Contaminated storm water could be delivered to the existing drainage channels along SR-25, that in turn flow to the Pajaro River.

The proposed SR-25 improvements require that existing storm water drainage ditches on both sides of SR-25 be filled, with conveyance capacity replaced by installing 24-inch storm water drainage pipes.

The Caltrans NPDES Permit regulates stormwater discharges from Caltrans rights-of way during and after construction, as well as from existing facilities and activities. As such, operational stormwater quality from Caltrans facilities is regulated by the SWRCB through the Caltrans NPDES Permit. Post-construction water quality protection and hydromodification protection measures, and the process for incorporating them into the project design of the SR-25 and new access road improvements, must be consistent with the Caltrans' *Project Planning and Design Guide* and *Highway Design Manual*. Types of post-construction controls include low impact development (LID), water quality treatment, runoff retention and peak runoff management. Implementation of Caltrans' standard procedures for roadway design related to operational water quality control have been designed to comply with SWRCB NPDES permit requirements, and therefore would ensure that water quality impacts from the SR-25 access improvements would be **less than significant**.

11.4.2 Substantially Decrease Groundwater Supply

IMPACT HYD-2	The project would not decrease groundwater supplies in a manner that would impede sustainable groundwater management of the basin	Less than Significant

The dominant source of change in groundwater demand results from replacing the current CTI primary and secondary composting process with the proposed ECS primary and secondary composting process. The ECS process is more water intensive, and combined with an increase in throughput, water demand under post-project conditions would increase relative to existing conditions.

11.4.2.1 Regional Groundwater Supplies

Table 11-5, Existing and Proposed Project Water Use, includes a summary of water use based on source of the water supply for the three dominant sources of demand associated with the proposed project – primary composting, secondary composting, and dust control. As can be seen, storm water retained in Detention Basins #1 and #2 during an average annual precipitation year would be insufficient to meet total demand. Approximately 49,370,000 to 56,470,000 gallons (152 to 173 AFY) of groundwater would be required to supplement the precipitation and storm water supply in order to meet the total project operational water requirements during an average precipitation year.

Table 11-5 Existing and Proposed Project Water Use

Source of Water Supply	Annual Water Use, Low Estimate (Gallons/Year)	Annual Water Use, High Estimate (Gallons/Year)
Existing Water Use		
Detention Basin #1 [1]	23,660,000	23,660,000
Detention Basin #2 [2]	9,050,000	9,050,000
Groundwater Use [3]	31,600,000	38,700,000
TOTAL Gallons per Year	**64,310,000**	**71,410,000**
Post-Project Water Use		
Detention Basin #1, post-project [1,4]	27,790,000	27,790,000
Detention Basin #2 [2]	9,050,000	9,050,000
Groundwater Use [3,5]	49,370,000	56,470,000
TOTAL Gallons per Year	**86,210,000**	**93,310,000**

SOURCE: adapted from information in Golder Associates, Inc. 2022d
NOTE:
1. Surface water captured at Detention Basin #1 (DB-1) is based on stormwater runoff, precipitation, and evaporation. DB-1 water is preferred for primary green waste composting and dust control. DB-1 water can also be used for the ECS primary and secondary composting post-project.
2. Surface water captured at Detention Basin #2 (DB-2) is based on stormwater runoff, precipitation, and evaporation. DB-2 water is preferred for secondary green waste composting and dust control, but DB-2 water can also be used for primary green waste composting and for the ECS primary and secondary composting, if available, post-project.
3. Groundwater from the on-site wells is based on historical groundwater use.
4. Additional water is expected to be available at DB-1 post-project because the drainage area contributing runoff to DB-1 would increase by approximately 2.6 acres and because evaporation would decrease due to a reduction in surface area at the basin.
5. Change in groundwater use post-project accounts for additional demands for the ECS composting that is not expected to be met by water captured in DB-1 and DB-2.

ECS = Engineered Composting System

Relative to existing conditions where existing operations result in groundwater demand of approximately 31,600,000 to 38,700,000 gallons per year that are necessary to supplement supply derived from on-site storm water and precipitation, the proposed project would increase the need for supplemental groundwater by 17,770,000 gallons per year or 55 AFY (17,770,000 gallons per year/325,851 [gallons in one-acre foot] = 55 AFY) as summarized in Table 11-6, Change in Groundwater Demand.

Table 11-6 Change in Groundwater Demand

Condition	Groundwater Demand Low Estimate (Gallons/Year)	Groundwater Demand High Estimate (Gallons/Year)
Existing Conditions	31,600,000	38,700,000
Post-Project Condition	49,370,000	56,470,000
Net Increase in Demand	**17,770,000**	**17,770,000**

SOURCE: Adapted from information in Golder Associates 2022d

The proposed project would increase demand for groundwater from the Llagas Subbasin by approximately 55 AFY or about 0.1 percent relative to the total yearly groundwater pumped in the Llagas Subbasin (which is approximately 42,000 AFY) under existing (2010–2019) conditions (i.e., the Llagas Subbasin Aquifer Budget). This increase is not substantial, especially considering that groundwater in storage has been stable for many years (i.e., the subbasin is not in overdraft).

Valley Water has already anticipated and planned for increased groundwater pumping from the subbasin over time resulting from projected future development. The increased demand from the project represents 0.1 percent of Valley Water's projected groundwater pumping to the year 2045 (i.e., 43,900 AFY). The increase in project-related demand is considered as part of future growth changes incorporated in Valley Water's GWMP, which serves as an Alternative GSP under SGMA. Valley Water has developed programs, projects and funding strategies to maintain supply sustainability within the subbasin. Since the projected demand increase is not substantial when considered in light of the amount of available groundwater in the Llagas Subbasin and additional demand for future development is already anticipated in the GWMP and in programs designed to maintain groundwater sustainability, the groundwater demand would not impede sustainable groundwater management of the Llagas Subbasin.

For all of the above reasons, the impact to regional groundwater supplies would be **less than significant**.

11.4.2.2 Local Groundwater Levels

An increase in groundwater pumping at the facility would draw down groundwater levels within the immediate vicinity of the active pumps. As discussed in Section 11.1.2, there are three active water supply wells located at the facility. The domestic well and the "shared well" are located in Area 1 and the primary extraction well (the "main agriculture well") is located on the eastern perimeter of Area 2. The primary extraction well is operated at an average flow rate of 381 gallons per minute, while the shared well is operated at an average flow rate of 277 gallons per minute and the domestic well is

operated at an average flow rate of 5 gallons per minute. These wells operate for about 33 hours per week (Golder Associates 2022e).

The primary extraction well, used for composting and dust control, has the largest baseline production rate under existing conditions (approximately 38.7 million gallons per year). Additional groundwater pumped for the proposed ECS Compost System, for both primary and secondary composting, would be extracted from this well. Production rates from this well are expected to increase by 17.8 million gallons per year during years with average rainfall. However, during critically dry years, groundwater production could increase by up to 21.9 million gallons per year under post-project conditions. Under these conditions, flow rates are expected to average 590 gallons per minute, when operated for 33 hours per week (Golder Associates 2022e).

Golder Associates (2022e) evaluated potential impacts to local groundwater levels from increased groundwater pumping at the primary extraction well. Eleven offsite wells were found within the vicinity of the project site, ranging from approximately 1,700 to 5,100 feet from the primary extraction well.[10] Drawdown was estimated based on regional aquifer conditions and transmissivity values obtained from well completion reports. It was assumed that the offsite wells were screened at the same intervals and within the same units as the primary extraction well.

The closest offsite well was estimated to have an additional 0.23 feet of drawdown after 1 month and 0.43 feet of drawdown after 10 years of increased groundwater pumping at the primary extraction well, with the drawdown rate decreasing over time as a steady state is approached (Golder 2022e). The estimated change in drawdown at more distant offsite wells (2,000 feet or more from the primary extraction well) had lesser levels of drawdown.

Groundwater wells are typically screened at elevations below measured groundwater levels to allow for a reliable source of water supply. Seasonal variability in groundwater levels within the project vicinity range from about 10 to 50 feet (DWR 2022). A drawdown level of less than 0.5 foot would be substantially less than this seasonal variability. As such, the calculated drawdown values indicate minimal excess drawdown risk to existing offsite wells based on the increased pumping rate of 21.9 million gallons per year from the main extraction well. Impacts to groundwater levels near offsite wells would be **less than significant**.

11.4.3 Substantially Decrease Groundwater Recharge Potential

IMPACT HYD-3	**The project would not decrease groundwater recharge potential in a manner that would impede sustainable groundwater management of the basin**	**Less than Significant**

The proposed project would not affect groundwater recharge potential at the project site. Relative to existing conditions, the proposed project would not create new impervious surface area that could otherwise substantially impede groundwater

[10] It was not confirmed if any of these identified wells are actively in use.

recharge potential. About one-third of the existing Detention Basin #1 would be retained and lined as part of the project, thereby potentially reducing percolation of stored storm water to groundwater through the bottom of the detention basin. However, the bottom of the existing basin currently has low groundwater conductivity such that the volume of percolation is not anticipated to change significantly compared to existing conditions. Therefore, the proposed project would not substantially adversely affect groundwater recharge potential or impede sustainable groundwater management of the basin, and this impact would be **less than significant**.

11.4.4 Alteration of Drainage Patterns

IMPACT HYD-4	**The project would not alter existing on-site drainage patterns in a manner that would impede or redirect flood flows**	**Less than Significant**

11.4.4.1 On-Site Improvements

As described in the Environmental Setting section above, the Z-Best facility is located within a FEMA 100-year flood hazard area (Zone “A”).

Prior to installing the proposed ECS improvements, the existing pad on which the CTI composting process is conducted would be raised by approximately one foot to an elevation above the 100-year base flood elevation. In addition, Detention Basin #1 would be resized and the perimeter berms would be raised. Placing fill within a designated flood hazard area has potential to exacerbate existing flood hazard conditions by impeding flood flows and/or raising the base flood elevation.

To evaluate existing flood hazard conditions and to determine how impacts from placing fill within a flood hazard zone would be reduced, multiple flood hazard analyses were conducted by the applicant: *Floodplain Impact Analysis for Z-Best Compost Facility Expansion near Gilroy* (Schaaf & Wheeler 2017); *No Net Fill/No Rise Certification* (Schaaf & Wheeler 2018); and *Updated Floodplain Storage Analysis for Z-Best Compost Facility* (Schaaf & Wheeler 2022). The updated floodplain storage report is included in Appendix E-2.

The proposed project includes an expansion of the existing flood storage area (in Area 2) to compensate for the loss of flood storage that would result from raising the ECS pad and the perimeter berm around the reconfigured Detention Basin #1. The project applicant is proposing a new approximately 7.2-acre flood storage area south of SR-25 at the north end of Area 2 (see Figure 4-1, Proposed Site Plan).

The proposed project’s effect on floodplain storage would be as follows:

- 71-acre-feet reduction in existing floodplain storage, including:
    - Fill below the base flood elevation for the compost pad: 23.5 acre-feet
    - Area to be removed from 100-year floodplain storage due to Detention Basin #1 berms: 46.0 acre-feet
    - SR-25 fill to be placed below the base flood elevation: 1.5 acre-feet

- 69.7 acre-feet increase in flood storage compared to existing conditions, including:
    - Excavation of an additional 7.2-acre flood storage area at north end of Area 2: 69.7 acre-feet

The proposed project would therefore result in a net loss of 1.3 acre-feet of flood storage compared to existing conditions.

To be consistent with the County's Floodplain Management Ordinance, the project proponents must demonstrate that proposed fill within the 100-year floodplain would not have a cumulative effect, when combined with other development within the floodplain, of increasing the water surface elevation of the 100-year base flood by more than 1 foot. Existing ground surface elevations in Area 1 and 2 reflect the cut and fill made for previous improvements at the site (referred to as "Phase 1 improvements" in the Schaaf and Wheeler memorandum). As part of the Phase 1 improvements approved pursuant to the 2012 Use Permit modification, ground surface elevations were raised in Area 1 to support composting operations and ground elevations were reduced in Area 2 to provide a net increase of 7.9 acre-feet of flood storage capacity, as indicated below.

- Phase 1 fill placed below the base flood elevation: 163.3 acre-feet reduction in flood storage
- Phase 1 onsite excavation below the base flood elevation: 171.2 acre-feet increase in flood storage

The overall cumulative change in floodplain storage from both Phase 1 (2012) and Phase 2 (current project) grading activities would be a net increase of floodplain storage of 6.6 acre-feet compared to pre-2012 conditions. Hydraulic modeling results (Schaaf & Wheeler 2022) demonstrate that with the additional flood storage provided by the project, the maximum increase in water surface elevation between the pre-2012 condition and the proposed project condition would be approximately 0.01 foot. This demonstrates that the proposed project would be consistent with the County's ordinance and would have a minor to negligible effect on 100-year water surface elevations, particularly in context of prior improvements at the site. Adverse impacts on flood storage volumes or 100-year water surface elevations would be less than significant.

Hydraulic modeling results demonstrate that the alteration of existing drainage patterns during the 100-year flood event would result in a minor to negligible increase in water surface elevation in an area immediately south of SR-25 and the potential for increased flooding as a result of on-site improvements would not be significant, either on-site, upstream, or downstream. Therefore, this impact would be **less than significant**.

11.4.4.2 SR-25 Improvements

The proposed SR-25 and new Z-Best entrance improvements would create additional areas of impervious surfaces, that in turn would generate new sources of storm water runoff. Localized flooding could occur if the additional storm water runoff is not managed properly.

Existing storm water drainage ditches run along both sides of SR-25. To accommodate the additional right and left turn lanes, both ditches would be filled and replaced with 24-inch stormwater drainage pipes. A low one- to two-foot-high retaining wall would be

installed at the edge of paving, along with a concrete gutter to capture and direct storm water from the highway into the pipes. The pipes would replace the conveyance function of the existing ditches.

The applicant would be required to provide calculations showing the pre- and post-project runoff as related to improvements within the SR-25 right of way when submitting the encroachment permit application to Caltrans for the project-related work on SR-25. The proposed SR-25 improvements (i.e., relocating the existing facility entrance to become a new fourth leg of the existing SR-25/Bolsa Road intersection, and widening SR-25 along the project site frontage to enable installation of acceleration lanes and deceleration lanes into and out of the proposed relocated entrance) would result in the development of additional impervious surfaces in the FEMA 100-year floodplain. To construct the necessary SR-25 improvements, placement of additional fill in the floodplain would be required, which could impede flood flows or raise the existing base flood elevation.

Because the improvements would take place within a Caltrans right-of-way, Caltrans would review the roadway improvement plans and specifications as part of its encroachment permit process and would request modifications to the design and/or impose permit conditions to ensure that the improvements comply with the post-construction performance standards (see Section 11.2.2.3).

In addition, because the SR-25 improvements would occur within the floodplain, a Location Hydraulic Study would be prepared to evaluate floodplain encroachments as part of the encroachment permit process. Because the current hydraulic modeling for the proposed project (Schaaf & Wheeler 2022), which includes SR-25 fill placed below the base flood elevation, shows a minor to negligible change in 100-year water surface elevations south of SR-25 (an increase of 0.01 foot at one model cross-section), it is anticipated that the Location Hydraulic Study would also find a minimal impact from the encroachment. The impact to floodplains due to the alteration of existing drainage patterns would be **less than significant** and no mitigation would be required.

11.4.5 Risk of Release of Pollutants Due to Flood Inundation

IMPACT HYD-5	**The project could result in release of pollutants due to flood inundation**	**Less than Significant with Mitigation**

The project site is in the southern Santa Clara Valley, approximately 17.5 miles from the Pacific Ocean. Furthermore, there are no large open bodies of water in the project vicinity (the Pajaro River channel is only 30 feet wide). Therefore, tsunamis and seiches would not represent a flood inundation hazard for the proposed project.

As described previously, the entire Z-Best facility, and the off-site improvements associated with SR-25, are within a FEMA 100-year flood hazard zone (Zone A). The SR-25 improvements consist of roadway improvements, and roadway operations do not include areas where hazardous materials would be stored. Therefore, the project would not increase the potential for release of pollutants if the SR-25 right-of-way were inundated by floodwaters.

Potential inundation of the proposed ECS composting pad in Area 1B of the site is unlikely, as the proposed project would raise the composting pad to at least a foot above the 100-year base flood elevation of 148.41 feet prior to construction of the bunkers. Therefore, the risk of floodwaters inundating the MSW compost within the bunkers would have less than a 1 percent annual chance of occurrence.

Potential inundation of on-site Detention Basin #1 or #2 during a flood event is the critical source of an on-site release of pollutants to flood waters during a flood event. Inundation and overtopping of the detention basins could occur in one of two ways during a flood event:

- Direct precipitation into the detention basins, in combination with stormwater runoff from other parts of the facility, could exceed the capacity of the detention basins causing overtopping; or
- Floodwaters from the nearby Pajaro River could rise to a level that would overtop the berms of the detention basins, fill the detentions basins, and allow leachate from the basins to mingle with the floodwaters.

With respect to the first issue, as discussed for Impact HYD-1 above, the proposed capacity of the detention basins is not sufficient to adequately detain runoff from a 25-year, 24-hour storm event without overtopping or discharge assuming normal operating conditions in wet years (e.g., if there is already substantial water within the basins from antecedent storm events). Therefore, there is risk of overtopping and discharge of pollutants to floodwaters from the proposed project, as occurred at the site during the January and March 2023 storm events.

With respect to the second issue, the proposed project would raise the height of Detention Basin #1 to 150.5 feet elevation, which is approximately 2 feet above the 100-year base flood elevation of 148.41 feet (see Figure 4-6, Detention Basin #1 Modifications). Therefore, the likelihood of floodwaters from the Pajaro River inundating Detention Basin #1 would have less than a 1 percent annual chance of occurrence. The existing berm height of Detention Basin #2 is 149 feet is only 0.59 feet above the base flood elevation, which does not leave sufficient freeboard to account for wind-driven waves. As such, there remains a substantial risk that floodwaters could overtop the berms and the basin could be inundated during a 100-year flood event. The project does not propose any changes to the berms at Detention Basin #2; however, given that the operation of Detention Basins #1 and #2 are interconnected, and because the project is proposing changes to the quality and quantity of leachate draining to the basins (and the quantity of water being used from the basins), the project could increase the risk of contamination of floodwaters compared to existing conditions.

Due to the potential for overtopping from stormwater runoff exceeding the available capacity of the detention basins and due to the potential for floodwaters to overtop the berms and inundate Detention Basin #2 during the 100-year flood event, the impact from release of pollutants due to project inundation is **potentially significant**.

Mitigation measure **MM-HYD-1B, Increase Stormwater Detention Capacity,** which is described under Impact HYD-1 in Section 11.4.1 above, is proposed for this impact, and would reduce the potential for stormwater runoff to exceed the available capacity of the detention basins.

In addition, mitigation measure MM-HYD-5 is recommended for this impact:

MM-HYD-5: Increase Berm Height of Detention Basin #2

The Applicant shall increase the berm height of Detention Basin #2 to at least 150.41 feet, so that at least 2 feet freeboard above the 100-year base flood elevation is maintained. Plans for the redesigned detention basin shall be submitted to the County Planning Department for review and approval prior to issuance of grading permits for the project.

With implementation of both MM-HYD-1B and MM-HYD-5, the potential for the capacity of both detention basins to be exceeded would be reduced, and the risk of floodwaters inundating Detention Basin #2 would also be reduced. The impact would be **less than significant with mitigation.**

11.4.6 Consistency with Water Quality Control Plan

IMPACT HYD-6	The project could conflict with or obstruct implementation of the Water Quality Control Plan	Less than Significant with Mitigation

The proposed project has the potential to degrade water quality in the Pajaro River. The Pajaro River is an impaired water body as defined by the Central Coast RWQCB pursuant to the CWA (see Table 10-1) and measures must be taken to protect/reduce its degradation.

The project site and the off-site SR-25 improvements are located within the jurisdiction of the Central Coast RWQCB, which implements the Basin Plan. The Basin Plan describes how the quality of surface water and groundwater in the Central Coast Region should be managed to provide the highest water quality reasonably possible. The Central Coast RWQCB implements the Basin Plan by issuing and enforcing NPDES permits and waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements are typically State Waste Discharge Requirements for discharges to land, or federally delegated NPDES permits for discharges to surface water. The Central Coast RWQCB also implements statewide NPDES permits within their region; these statewide permits are designed to be protective of the many surface water and groundwater basins throughout the State.

The off-site construction and post-construction operations associated with the proposed SR-25 and the new Z-Best site entrance improvements must implement water quality protection measures consistent with the Caltrans NPDES permit requirements, which would be evaluated by Caltrans during the encroachment permit process, and conditions or design modifications would be imposed if the proposed design is not consistent with the permit requirements. Consequently, these components of the proposed project would not conflict with the Basin Plan, and this impact would be **less than significant**.

As previously described, the MSW composting component of the proposed project must be designed and operated consistent with requirements contained in the SWRCB's Composting General Order. The Composting General Order is a Waste Discharge Requirement. As described in Impact HYD-1 above, the proposed stormwater detention capacity is not sufficient to contain runoff generated by a 25-year, 24-hour storm event during a wet year assuming normal operating conditions, or if the basins already contain

a substantial volume of water when such a storm event occurs. Therefore, the composting component of the project would conflict with the Basin Plan, and this impact would be potentially significant. Mitigation measures MM-HYD-1A, MM-HYD-1B, MM-HYD-1C, and MM-HYD-5, which are described under Impact HYD-1 in Section 11.4.1 and Impact HYD-5 in Section 11.4.5 above, are proposed for this impact.

Implementation of MM-HYD-1A, MM-HYD-1B, MM-HYD-1C, and MM-HYD-5 would allow the proposed project to comply with the requirements of the Composting General Order, and therefore the mitigated project would not conflict with the Basin Plan. The impact would be **less than significant with mitigation incorporated**.

11.4.7 Consistency with Sustainable Groundwater Management Plan

IMPACT HYD-7	**The proposed project would not conflict with or obstruct implementation of a Sustainable Groundwater Management Plan**	**Less than Significant**

As described in the Regulatory Setting section, Valley Water utilizes three water supply management plans to plan for and meet short- to long-term water demand within its boundary, including the Llagas Subbasin. These consist of the 2021 GWMP (Alternative GSP), the *2020 Urban Water Management Plan* and the *Water Supply Master Plan 2040*. The three plans function to coordinate Valley Water's actions to ensure long-term groundwater supply sustainability.

As discussed in detail in the Environmental Setting and Impact HYD-2, the Llagas Subbasin is not in a condition of overdraft. Over the approximately 25-year planning horizon modeled in the Alternative GSP, groundwater storage is projected to remain relatively constant, indicating that basin inflows and outflows are generally in balance. Growth in groundwater demand in the Llagas Subbasin as a result of future projected County-wide development is accounted for in the Valley Water's sustainability planning in the Alternative GSP (Valley Water 2021a). Therefore, the proposed project would not impede the Valley Water's ability to meet groundwater sustainability goals identified in the Alternative GSP, nor would the proposed project impair Valley Water's ability to implement programs and projects planned to support the sustainability goals for the Llagas Subbasin. Therefore, this impact would be **less than significant**.

12 Noise

This section of the EIR examines changes in the noise environment that could result from new sources of noise created by the proposed project and evaluates the effects of noise on noise sensitive land uses located near the project site and along SR-25, the roadway onto which project-generated traffic would be distributed. Information in this section is taken primarily from the Noise Memorandum prepared by AECOM in 2023 (Appendix F-1), which included information from a variety of sources including:

- Santa Clara County General Plan, 1994, Book B, Safety and Noise, Rural Unincorporated Area Issues and Policies (County of Santa Clara 1994a);
- Santa Clara County, California, 2022, Code of Ordinances, Title B – Regulations, Division B11 – Environmental Health, Chapter VIII – Control of Noise and Vibration;
- Noise Assessment Study for the Proposed Z-Best Products Food Waste Static Aeration Composting Facility Modification. Project No. 48-073-R2 (Edward L. Pack Associates. Inc. 2019);
- California Department of Transportation's (Caltrans') Transportation and Construction Vibration Guidance Manual (Caltrans 2020);
- Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054 (FHWA 2006); and
- Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123 (FTA 2018).

This section also addresses comments raised during the scoping period and on the original Draft EIR relating to noise, to the extent that they are still relevant to the currently proposed project. No noise related comments were received in response to the NOP. Such comments include:

- A resident who lives approximately one mile from the facility expressed concern over the potential for increased noise due to machinery and truck traffic, particularly at night.

12.1 Existing Land Uses and Noise Environment

12.1.1 Nearby Sensitive Receptors

Land uses surrounding the project property are agricultural. Figure 12-1, Proposed Project Area and Worst-Case Noise-Sensitive Receptors shows the proposed project layout superimposed on aerial imagery of the study area and nearest residential receptors (worst-case noise-sensitive land uses). The noise-sensitive receptor most vulnerable to both on-site construction and operational noise is a single-family residence (R1) approximately 650 feet north of the northern project property line. This property is considered most vulnerable to project noise and vibration due to its proximity

to project construction work areas, site driveways, and proposed stationary noise sources. Receptor R2 represents another single-family residence that is most vulnerable to traffic noise effects due to its proximity to project-related truck trips on SR-25. Therefore, R1 was identified as the worst-case noise-sensitive receiver for the on-site facility construction and operation noise impact assessment, and R2 was identified as the worst-case noise-sensitive receptor for the traffic noise impact assessment.

Due to greater relative distance and reduced sensitivity to noise and vibration, other properties surrounding the project would receive less contribution from, and be less affected by, project-generated noise and vibration. Therefore, other properties surrounding the project do not need to be considered for impact assessment if the single-family land uses identified as R1 and R2 are determined to be not impacted. If either of the studied receptors are determined to be impacted by either noise or vibration, the scope of studied receptors would expand to include other receptors in the vicinity to identify the extent of impacts and requirements for mitigation.

12.1.2 Baseline Noise Measurements

A baseline sound level measurement was conducted by Edward L. Pack Associates, Inc. for 24 hours on December 19, 2016[11]. The baseline measurement was performed with a Larson Davis 812 sound level meter and was conducted approximately 150 feet from the residential receptor location along the edge of Bolsa Road (R1). The measured sound data at this location is summarized in Table 12-1. The primary observed noise source at the residential measurement location was traffic on SR-25, with the maximum sound levels due to traffic on Bolsa Road. As shown in Table 12-1, the lowest 1-hr L_{eq} values during the daytime (7:00 AM to 10:00 PM) and the nighttime (10:00 PM to 7:00 AM) were 59 and 54 A-weighted decibel (dBA), respectively.

[11] Noise Assessment Study for the Proposed Z-Best Products Food Waste Static Aeration Composting Facility Modification, Jeffrey K. Pack, July 24, 2019, Project No. 48-073-R2

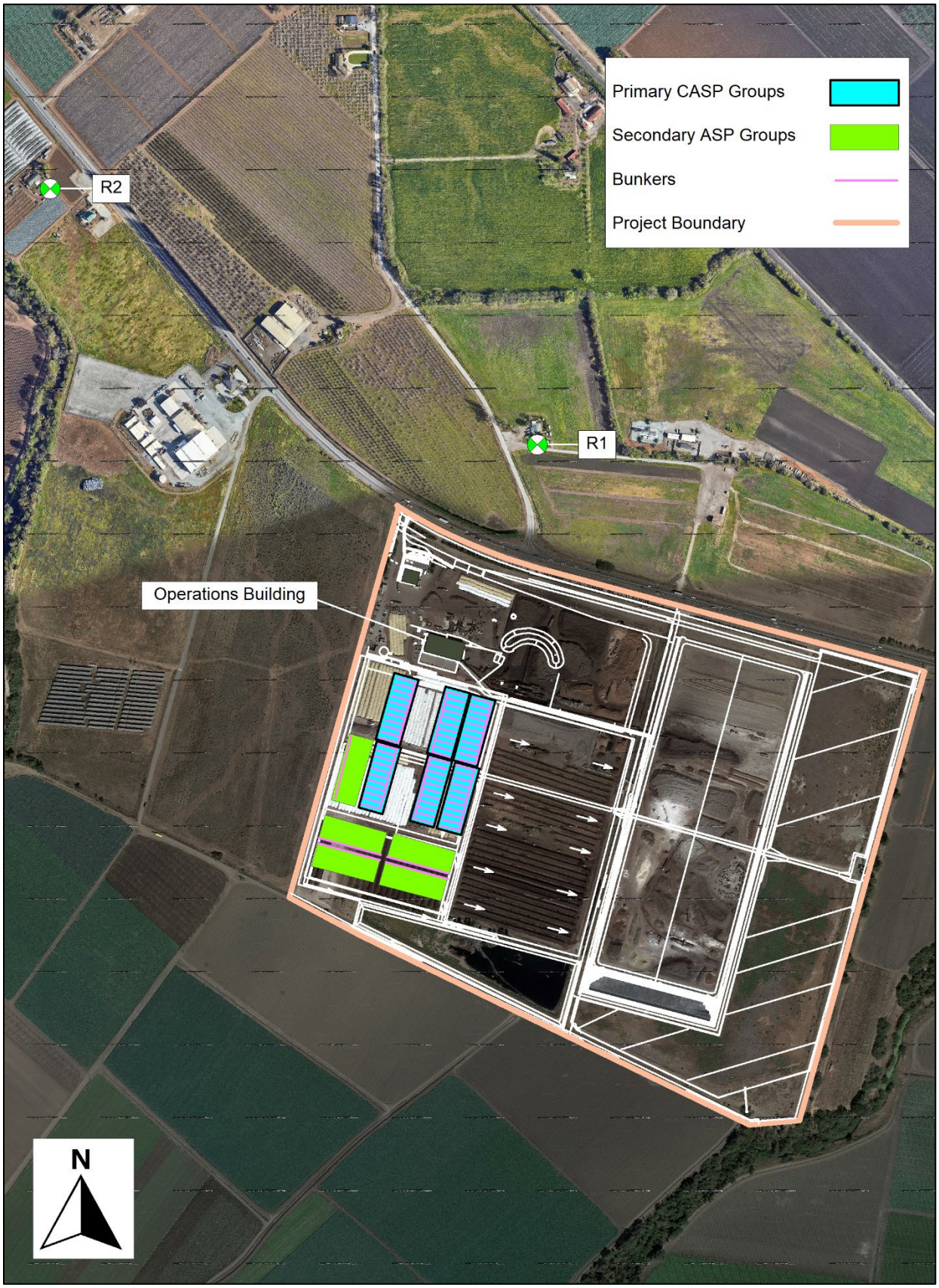


Figure 12-1 Proposed Project Area and Worst-Case Noise-Sensitive Receptors

Map data: Google 2022©, Engineered Compost Systems 2022

Table 12-1 Summary of Measured Sound Levels near Receptor R1

	Existing Ambient Sound levels, dBA					
Time	**L_{eq}**	**L_{max}**	**L2**	**L8**	**L25**	**L50**
7:00 AM	64	84	73	65	63	62
8:00 AM	64	86	71	65	62	61
9:00 AM	61	82	68	63	60	58
10:00 AM	61	87	68	62	59	57
11:00 AM	62	86	70	63	59	56
12:00 PM	59	81	65	61	57	55
1:00 PM	61	83	68	63	60	58
2:00 PM	62	84	70	62	60	58
3:00 PM	64	89	73	64	60	59
4:00 PM	65	84	74	68	62	60
5:00 PM	65	84	74	70	63	60
6:00 PM	63	81	72	65	62	60
7:00 PM	62	81	66	64	62	61
8:00 PM	60	79	65	62	61	59
9:00 PM	60	85	64	62	60	58
10:00 PM	61	93	64	61	59	57
11:00 PM	56	79	61	59	56	53
12:00 AM	54	71	60	59	56	52
1:00 AM	54	73	61	58	55	51
2:00 AM	56	79	63	60	57	53
3:00 AM	58	74	63	64	59	57
4:00 AM	61	77	65	64	62	60
5:00 AM	63	84	67	65	63	61
6:00 AM	63	83	70	65	63	61
Quietest Daytime Hour (12:00 PM)	**59**	**81**	**65**	**61**	**57**	**55**
Quietest Nighttime Hour (1:00 AM)	**54**	**73**	**61**	**58**	**55**	**51**

Source: Noise Assessment Study for the Proposed Z-Best Products Food Waste Static Aeration Composting Facility Modification, Jeffrey K. Pack, July 24, 2019, Project No. 48-073-R2
Note:
dBA = A-weighted decibel
L_{eq} = Equivalent Sound Level
L_{max} = Maximum Noise Level
R1 = Noise Receptor 1

12.2 Regulatory Setting

12.2.1 Federal and State

There are no federal or state regulations pertaining to noise and vibration that are applicable to the proposed project.

12.2.2 Local

12.2.2.1 Santa Clara County Noise Ordinance

County of Santa Clara Ordinance Code Title B – Regulations, Division B11 – Environmental Health, Chapter VIII, Control of Noise and Vibration (Santa Clara County 2022) regulates noise and vibration within unincorporated areas of the County and on County-owned or operated land.

Construction Noise

Section B11-154(b)(6) of the County Noise Ordinance prohibits the following in relation to construction/demolition noise:

a. *Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekdays and Saturday hours of 7:00 pm and 7:00 am, or at any time on Sundays or holidays, that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance. This section will not apply to the use of domestic power tools as specified in Subsection 11.*

b. *Where technically and economically feasible, construction activities will be conducted in a manner that the maximum noise levels at affected properties will not exceed those listed in the following schedule:*

    i. *Mobile equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than ten days) of mobile equipment:*

    - *Single- and Two-Family Dwelling Residential Areas:*
        - *75 dBA: 7 am to 7 pm daily except Sundays and legal holidays.*
        - *50 dBA: 7 pm to 7 am daily and all day Sundays and legal holidays.*
    - *Multifamily Dwelling Residential Areas:*
        - *80 dBA: 7 am to 7 pm daily except Sundays and legal holidays.*
        - *55 dBA: 7 pm to 7 am daily and all day Sundays and legal holidays.*
    - *Commercial Areas:*
        - *85 dBA: 7 am to 7 pm daily except Sundays and legal holidays.*
        - *60 dBA: 7 pm to 7 am daily and all day Sundays and legal holidays.*

ii. Stationary equipment. Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of ten days or more) of stationary equipment are as follows:

- *Single- and Two-Family Dwelling Residential Areas:*
  - *60 dBA: 7 am to 7 pm daily except Sundays and legal holidays.*
  - *50 dBA: 7 pm to 7 am daily and all day Sundays and legal holidays.*
- *Multifamily Dwelling Residential Areas:*
  - *65 dBA: 7 am to 7 pm daily except Sundays and legal holidays.*
  - *55 dBA: 7 pm to 7 am daily and all day Sundays and legal holidays.*
- *Commercial Areas:*
  - *70 dBA: 7 am to 7 pm daily except Sundays and legal holidays.*
  - *60 dBA: 7 pm to 7 am daily and all day Sundays and legal holidays.*

Operational Noise

Section B11-152 – Exterior Noise Limits of the County Noise Ordinance regulates noise sources by establishing sound level thresholds at property lines in unincorporated Santa Clara County. These limits, which vary by land use type and time of day, are shown in Table 12-2.

Table 12-2 Santa Clara County Noise Ordinance, Exterior Noise Limits

Receiving Land Use Category	Time Period	Noise Level (dBA)
One- and Two-family residential districts	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	45 55
Multiple-family Dwelling	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	50 55
Commercial	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	60 65
Light Industrial	Any time	70
Heavy Industrial	Any time	75

Source: Santa Clara County Noise Ordinance
dBA = A-weighted decibel

This section of the Ordinance Code includes the following text to accompany this table:

No person may operate or cause to be operated any source of sound at any location within the unincorporate territory of the County or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by the person, which causes the noise level when measured on any other property either incorporated or unincorporated, to exceed:

1. *The noise standard for that land use specified in table B11-152 of this section* (Table 12-2 above) *for a cumulative period of more than thirty (30) minutes in any hour; or*

2. *The noise standard plus five (5) dB for a cumulative period of more than fifteen (15) minutes in any hour; or*

3. *The noise standard plus ten (10) dB for a cumulative period of more than five (5) minutes in any hour; or*

4. *The noise standard plus fifteen (15) dB for a cumulative period of more than one minute in any hour; or*

5. *The noise standard plus twenty (20) dB or the maximum measured ambient level, for any period of time.*

If the measured ambient level exceeds the allowable noise exposure standard within any of the first four (4) noise limit categories above, the allowable noise exposure standard shall be adjusted in five (5) dB increments in each category as appropriate to encompass or reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

Vibration

Section B11-154(b)(7) of the County Noise Ordinance also prohibits operating or permitting the operation of any device that creates a vibrating or quivering effect that:

a) Endangers or injures the safety or health of human beings or animals;

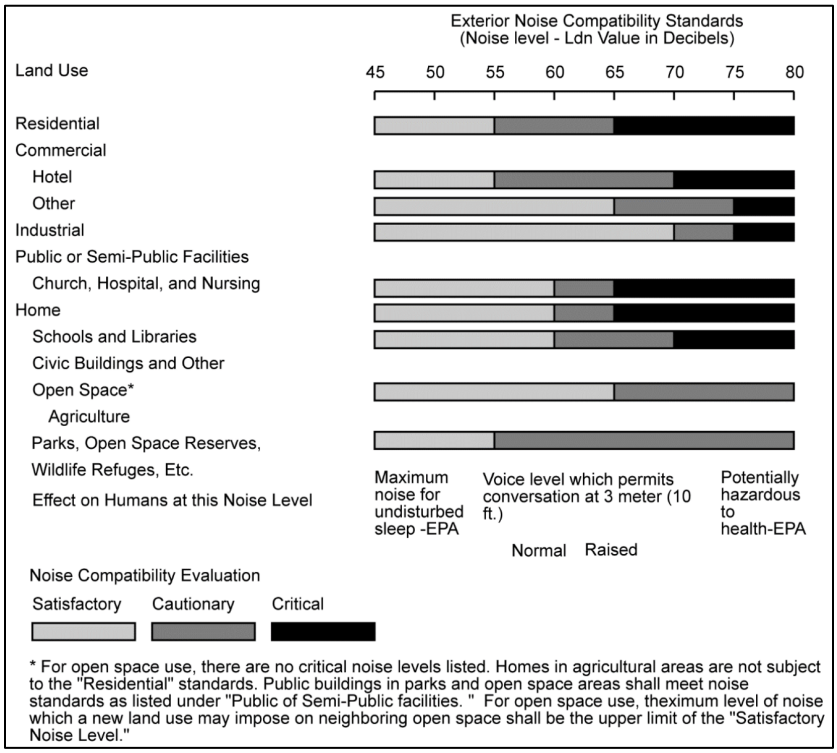
b) Annoys or disturbs a person of normal sensitivities; or

c) Endangers or injures personal or real properties.

The ordinance defines the vibration perception threshold as “the minimum ground or structure borne vibrational motion necessary to cause a normal person to be aware of the vibration by direct means as, but not limited to, sensation by touch or visual observation of moving objects. The perception threshold will be presumed to be a motion velocity of 1/100 inches per second over the range of one to 100 hertz .”

12.2.2.2 Santa Clara County General Plan

The Safety and Noise section of the County General Plan summarizes goals and policies related to the safe siting of land uses within areas of elevated or harmful noise levels. Figure 12-2 shows the noise compatibility standards for each land use type by defining the criteria for satisfactory, cautionary, or critical exposure to existing noise levels.



Source: County of Santa Clara 1994 General Plan

Figure 12-2 Noise Compatibility Standards for Land Use in Santa Clara County

Although the project will not be introducing any new land use to the study area that would be held to general plan policies, these noise levels are important in characterizing the existing noise environment at studied noise-sensitive receptors.

12.3 Thresholds of Significance and Analysis Methodology

12.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact relating to noise would occur if implementation of the proposed project would result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance.

b) Generation of excessive groundborne vibration or groundborne noise levels.

c) For a project located within the vicinity of a private air strip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The applicable standards established in the local general plan or noise ordinance are:

- **For construction noise:** a significant impact would occur if project construction would generate noise levels in excess of the construction noise limits established in Section B11-154(6) of the County Noise Ordinance (see Section 12.2.2.1 of this EIR). For repetitively scheduled and relatively long-term operation (periods of ten days or more) of equipment, the applicable thresholds are 60 dBA for daytime (7 AM to 7 PM) and 50 dBA for nighttime (7 PM to 7 AM) at single- or two-family residential property boundaries.
- **For operational noise:** As discussed in Section 12.2.2.1 of this EIR, the allowable daytime and nighttime noise exposure standards from the County Noise Ordinance are 55 dBA and 45 dBA, respectively (see Table 12-2). However, because the lowest measured 1-hr L_{eq} ambient daytime (59 dBA) and nighttime (54 dBA) sound levels at the nearest sensitive receptor (R1) exceed the allowable noise exposure standards from the ordinance, the exterior noise limits were adjusted per ordinance guidance in five (5) decibel (dB) increments to encompass the ambient noise levels. Table 12-3 summarizes the adjusted single-family residential exterior noise limits applicable to noise-sensitive receptors for this project, which are considered the applicable threshold for operational noise impacts in this EIR.

Table 12-3 County Noise Ordinance, Adjusted Exterior Noise Limits (L_{50})

Receiving Land Use Category	Time Period	Noise Level (dBA)
One- and Two-family residential districts	10 p.m. to 7 a.m.	55
	7 a.m. to 10 p.m.	60

Notes:
dBA = A-weighted decibel
L50 = The L50(t) is a statistical descriptor of the sound level exceeded for 50% of the time of the measurement period

- **For vibration**: the Noise Ordinance defines the vibration perception threshold as "the minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by direct means as, but not limited to, sensation by touch or visual observation of moving objects. The perception threshold will be presumed to be a motion velocity of 1/100 inches per second over the range of one to 100 hertz" (i.e., 0.01 inches per second peak particle velocity [in/sec PPV]). However, the Noise Ordinance does not contain any definition or threshold for the level at which such annoyance, endangerment, or injury might occur.

  In-lieu of quantified standards from the County, the Caltrans Transportation and Construction Vibration Guidance Manual (Caltrans Manual) (Caltrans 2020) provides guidance for the analysis of vibratory impacts generated by transportation and construction projects by providing thresholds for building damage and human perception/annoyance. The Caltrans Manual states that some people may be annoyed at barely perceptible levels of vibration (i.e., as low as 0.01 in/sec PPV for continuous or frequent intermittent vibration sources), depending on the activities in which they are participating. Building damage may occur at vibration levels of 0.25 PPV in/sec for historic and some older buildings, whereas the threshold for new residential structures and modern industrial/commercial structures have a threshold of 0.5 PPV in/sec.

  Table 12-4 below shows a curated list of damage thresholds from the Caltrans Manual, as applicable to various receptors and vibratory source types.

Table 12-4 Threshold Vibration Levels for Potential Damage and Annoyance

Threshold	Potential Damage Thresholds from Continuous/Frequent Intermittent Sources (PPV in/sec)
Damage to historic and some older buildings	0.25
Damage to older residential structures	0.3
Damage to new residential structures or modern industrial/commercial buildings	0.5
Human Annoyance (Barely Perceptible)	0.01

Source: Transportation and Construction Vibration Guidance Manual (Caltrans 2020), Tables 19 and 20.
Notes:
in/sec = inches per second
ppv = peak particle velocity

12.3.2 Issues or Potential Impacts not Discussed Further

12.3.2.1 Proximity to Airports or Air Strips

The nearest airport or airstrip is Frazier Lake Airpark, located approximately 2.34 miles east of the project site. Frazier Lake Airpark is a small, privately-owned airpark hosting classic antique, home-built, and certified aircraft. The Hollister Municipal Airport is located nearly six miles southeast of the project site. The project site is not located within two miles of an airport or airstrip and therefore, the project would not result in exposure of workers to excessive noise levels and there would be no impact. No further evaluation of this issue is required.

12.3.3 Analysis Methodology

AECOM acoustic specialists conducted an acoustical analysis of the proposed project which included the following methodologies:

- **Construction noise:** The construction noise assessment was conducted using construction prediction methodologies based on the FTA's Transit Noise and Vibration Impact Assessment Manual (FTA 2018). Utilization factors for construction equipment (or the percentage of time in a given hour that a piece of equipment is operating at maximum power) as recommended for FTA detailed assessments, were also included in the calculations to help accurately predict construction noise levels during the various construction phases. The compliance assessment for this analysis focused on predicted 1-hour Equivalent Sound Level (L_{eq}) levels. Project construction noise was estimated for construction phases by considering the quantities of contributing sound sources and calculating their aggregate sound propagation to the studied nearest receptor location.
- **On-site operations:** The CadnaA® Noise Prediction Model (Version 2022) was used to estimate the propagation of sound from project operations, and thereby to predict sound pressure level at various distances from the project area, including representative noise-sensitive receptors selected for the ambient sound

survey. CadnaA is a Windows-based software program that predicts and assesses sound levels near industrial sound sources and is based on International Organization for Standardization (ISO) 9613-2 algorithms for the calculation of sound propagation (ISO 1996). The software can accept sound power levels in octave-band center frequency resolution to describe the multiple sound propagation sources of the site processes or activity to be modeled. The calculations account for classical sound wave divergence plus attenuation factors resulting from air absorption, basic ground effects, and barrier/shielding. The advantage of using CadnaA is that it can handle the three-dimensional sound propagation complexity of considering realistic intervening natural and human-made topographical barrier effects, including those resulting from terrain features and structures, such as multi-story buildings.

- **Operational traffic:** Existing and future (with project) traffic noise levels at the nearest receptor to the proposed haul route (SR-25) were calculated using the Federal Highway Administration Traffic Noise Prediction Model Version 2.5. Data used in this calculation included existing (2019) annual average daily traffic volumes and truck mixes for this segment of SR-25 from the Caltrans database and hourly existing and peak-season traffic volumes from the Hexagon Transportation Analysis. Traffic volumes used in the noise analysis are provided in Attachment B to Appendix F-1.
- **Vibration:** the potential for vibration impacts was analyzed using reference vibration levels for proposed construction and operational equipment, obtained from the FTA Manual, and adjusted for distance using Equation 7-2 from the FTA Manual.

A more detailed discussion of the methodology and analysis is included in the Noise Technical Memorandum in Appendix F-1.

12.4 Analysis, Impacts and Mitigation Measures

12.4.1 Construction Noise

IMPACT NOI-1	**Project construction would not substantially increase ambient noise levels at the nearest sensitive receptor**	**Less than Significant**

Project construction would include the following phases:

- Site Grading (duration of approximately 78 days)
- Site Trenching (duration of approximately 53 days)
- Above ground mechanical, concrete, and utility work (duration of approximately 69 days)

Construction would occur Monday through Saturday from 7 a.m. to 4 p.m. On-site construction activities would be concentrated within Area 1B (MSW composting pad), at the north of Area 2 (flood storage expansion), at Detention Basin #1, and within the SR-25 right-of-way. General construction efforts would occur, on average, approximately

1,200 feet from the façade of the existing residential structure at R1 (measured from the approximate center of the construction area).

The key assumptions for this analysis included in this method are as follows:

- Free-field conditions, where no sound reflections can occur, and no attenuation factors from atmospheric/meteorological effects.
- For a given construction phase, the two loudest pieces of construction equipment are assumed to operate—on average—from the same source point location at the general geographic center of the project site or defined area of use.
- Each piece of equipment or vehicle is assigned a reference L_{max} value at a reference distance (e.g., 50 feet), and an "acoustical usage factor" that the FHWA Roadway Construction Noise Model (RCNM) User's Guide (FHWA 2006) describes as an estimated portion of a construction operation time period when the L_{max} value can be expected.

Table 12-5 provides a list of equipment types anticipated to operate during the various project construction phases along with their reference maximum sound level, usage factor, and calculated 1-hour L_{eq}. Since reference sound levels for the listed construction equipment are presented as maximum sound levels (i.e., the maximum sound level the equipment would produce at any moment in time, or L_{max}), the usage factor is applied to account for the fact that equipment is not continuously operated in a full-throttle condition throughout its use. Thus, typical usage factors for each type of construction equipment were applied to reference maximum sound levels to arrive at average hourly sound levels. L_{max} values and usage factors provided herein are generally based on a combination of the RCNM User's Guide and the FTA Manual.

Table 12-5 Project Construction Equipment Reference Sound Pressure Levels

Anticipated Project Construction Equipment	L_{max}, dBA at 50 Feet[1]	Usage Factor	Resulting 1-Hour L_{eq}, dBA at 50 Feet[2]
Compactor	83	0.2	76
Concrete Finisher[3]	73	0.5	70
Concrete Pump Truck	81	0.2	74
Dozer	82	0.4	78
Front-End Loaders	79	0.4	75
Grader	85	0.4	81
Paver	77	0.5	74
Scraper	84	0.4	80
Tractors (Excavator)	81	0.4	77
Water Truck	74	0.4	70

Source: FHWA RCNM 2006, FTA 2018
[1.] L_{max} values are based on representative equipment in RCNM ("Actual Measured" levels) and the FTA Manual.
[2.] 1-Hour L_{eq} values are calculated by applying the usage factor (reductive adjustment) to the momentary L_{max} reference noise level.
Reference L_{max} value based on RCNM <25kVA generator set.
Notes:
dBA = A-weighted decibel
FHWA = Federal Highway Administration

Anticipated Project Construction Equipment	L_{max}, dBA at 50 Feet[1]	Usage Factor	Resulting 1-Hour L_{eq}, dBA at 50 Feet[2]

FTA = Federal Highway Administration
kVA = kilovolt-ampere
L_{eq} = Equivalent Sound Level
L_{max} = Maximum Noise Level
RCNM = Roadway Construction Noise Model

Individual hourly noise levels generated by proposed project construction equipment would range from 70 to 81 dBA, L_{eq} at 50 feet from the equipment. Following a combination of procedures suggested in the FTA Manual for the general and detailed assessment of construction noise, Table 12-6 calculates the combined construction noise level generated by the two loudest pieces of equipment operating during each construction phase.

Table 12-6 Combined Construction Noise Levels per Construction Phase

Construction Phase/Activity	Two Loudest Pieces of Equipment in Phase	Combined 1-hour L_{eq}, dBA at 50'	Combined 1-hour L_{eq}, dBA at Nearest Receptor R1 (1,200')	Applicable Daytime County Threshold[2] (dBA)
Grading	Grader Scraper	84	56[1]	60
Trenching	Front End Loader Tractor (Excavator)	79	52[1]	60
Paving	Concrete Pump Truck Paver	77	49[1]	60

Notes:
1. Calculated using distance measured from the geometric center of the overall project area to receptor (approximately 1,200') and an acoustical attenuation rate of 6 decibels per doubling of distance from the source.
2. Single-family residential daytime threshold for stationary equipment is conservatively applied to all phases due to mobile equipment being operated for more than 10 days, per the definition of "stationary equipment" in County Ordinance. Construction activities would only occur during daytime periods; therefore, nighttime thresholds are not applicable.

dBA = A-weighted decibel
L_{eq} = Equivalent Sound Level
R1= Nosie Receptor 1

Table 12-6 shows that project construction activities would not exceed the County's daytime construction noise criteria of 60 dBA, L_{eq} at the nearest noise-sensitive receptor, nor would they result in an increase above the existing average daytime ambient noise level at the receptor (59 dBA L_{eq}). Because construction activities are not expected during nighttime hours as restricted by the County's Noise Ordinance, and because construction noise would not exceed the applicable daytime thresholds or existing daytime ambient noise levels, construction activities are not predicted to generate adverse effects at any adjacent noise-sensitive properties. The impact from construction-related noise would be **less than significant**.

12.4.2 Operational Noise – On-Site Operations

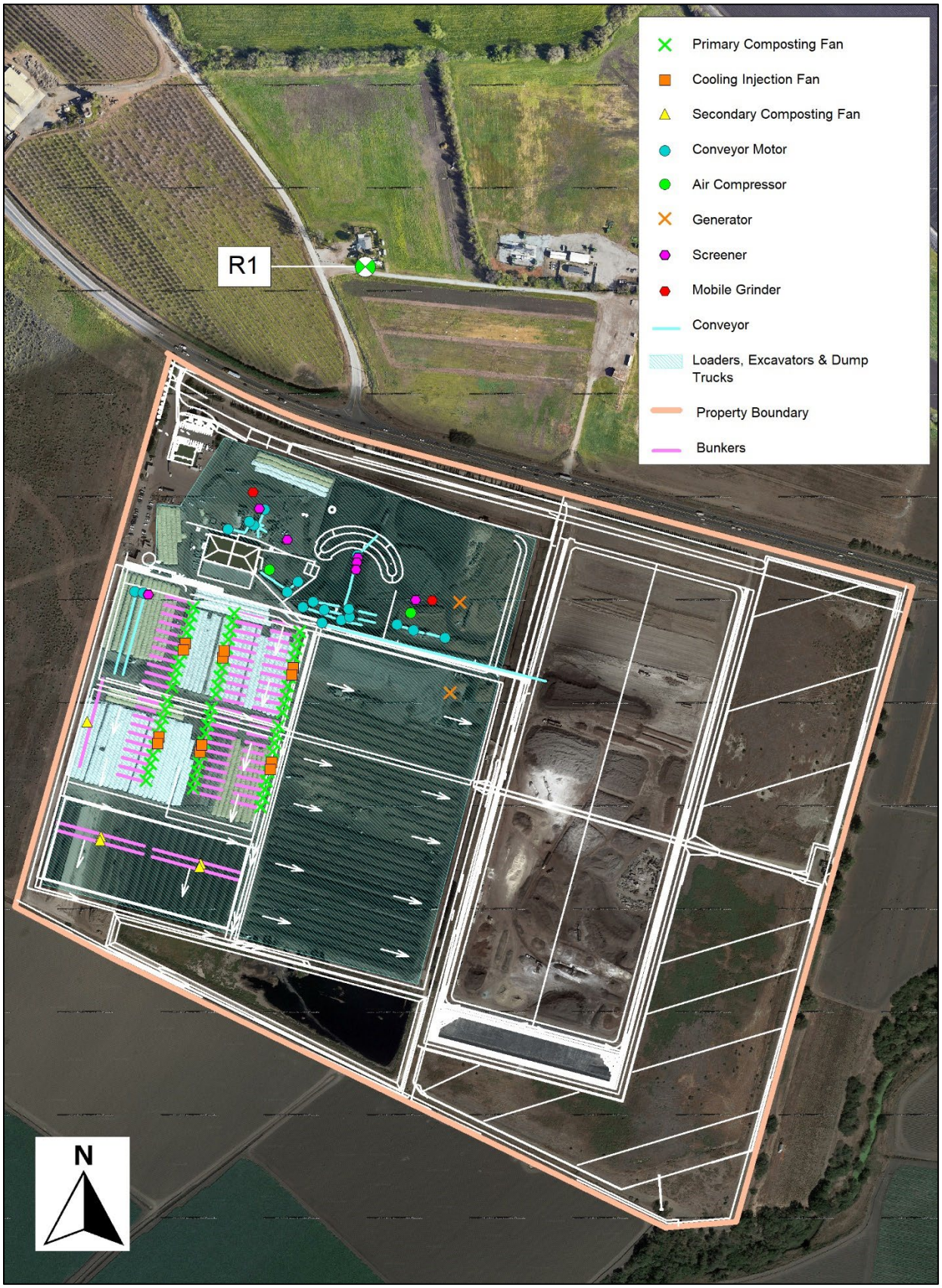
IMPACT NOI-2	On-site operations would not substantially increase ambient noise levels at the nearest sensitive receptor	Less than Significant

As detailed in Appendix F-1, the main operations at the facility under proposed project conditions would include the following:

- Trucking (9:00 AM to 3:00 PM and 8:00 PM to 7:00 AM).
- Transporting of composted materials to the screening area (6:00 AM to 6:00 PM).
- Screening (12:00 AM to 11:00 PM).
- Grinding of non-compostable wood waste and compost overs (7:00 AM to 4:00 PM Monday through Friday, 7:00 AM to 11:00 AM Saturday).
- Finished Product Loading (6:00 AM to 5:00 PM).
- Non-compostable Transport (6:00 AM to 5:00 PM)
- Bunker loading and unloading (24-hours operation)
- Primary and Secondary Aeration Fans (24-hour operation).

These operational noise sources were modeled using the CadnaA® Noise Prediction Model (Version 2022). Additional details regarding the modeling methodology and inputs is provided in Appendix F-1.

Figure 12-3 shows the primary facility noise sources included in the acoustic model. Table 12-7 shows predicted project operational sound levels for both daytime and nighttime facility operations at receptor R1.



Map data: Google 2022©, Engineered Compost Systems 2022

Figure 12-3 Distribution of Modeled Noise Sources Assumed for Project Operations

Table 12-7 Predicted Proposed Facility Operational Sound Levels (dBA)

Noise-Sensitive Receptor ID	Predicted Daytime (7:00 AM – 10:00 PM) Sound Level	Applicable Daytime Noise Limit	Predicted Nighttime (10:00 PM – 7:00 AM) Sound Level	Applicable Nighttime Noise Limit	Compliant With Noise Limits?
R1	58	60	54	55	Yes

Notes:
dBA = A-weighted decibel
ID = identification
R1= Noise Receptor 1

As shown in Table 12-7, the predicted daytime and nighttime operational noise levels at the nearest sensitive receptor would not exceed the applicable noise limits from the County's Noise Ordinance, and would also not exceed the existing ambient daytime and noise levels at the receptor (59 dBA L_{eq} quietest daytime hour; 54 dBA L_{eq} quietest nightime hour). Therefore, the impact from on-site operational noise would be **less than significant**.

12.4.3 Operational Noise – Traffic

IMPACT NOI-3	Project-related traffic would not substantially increase ambient noise levels	Less than Significant

Existing daily traffic volumes from facility operation amount to approximately 182 cars and 208 trucks traveling on SR-25, primarily in the early morning or daytime hours (i.e., generally between the hours of 3 AM and 6 PM). During peak season operations[12], the proposed project would increase these quantities to 246 cars and 314 trucks per day, with the bulk of additional truck trips occurring at night, between 8 PM and 4 AM Under the proposed project operations, truck trips would be re-distributed to avoid any truck trips during peak traffic hours (7 AM to 9 AM and 3 PM to 8 PM).

The closest noise-sensitive receptor (R2) to SR-25 is a single-family residential building on the south side of SR-25 and west of the project site, approximately 220 feet from the highway centerline. The existing and future with-project 24-hour day-night noise level (L_{dn}) was calculated at this receptor using the Federal Highway Administration Traffic Noise Prediction Model Version 2.5 (see Appendix F-1 for more detail). Table 12-8 compares the predicted existing and future with-project traffic noise levels at receptor R2.

Table 12-8 Comparison of Predicted Traffic Noise Levels (L_{dn}, dBA)

Receptor ID	Existing Traffic Noise Level	With-Project Traffic Noise Level	Change due to Project
R2	66	67	+1

Notes:
dBA = A-weighted decibel
ID = identification
L_{dn} = Day-Night Average Sound Level
R2= Noise Receptor 2

[12] Peak season operations are anticipated to occur up to 20 days per year but are used for modeling purposes to be conservative.

Both existing and future with-project traffic noise levels at the receptor are within the "Critical" noise range for residential land use compatibility, meaning the existing noise environment at the receptor is already above preferred County guidelines. Due to the critical nature of the existing noise environment, many municipalities will place a higher value on potential increases in noise level (i.e., worsening an unwanted condition).

Although the project would result in an approximately 5-times increase in heavy truck traffic accessing the site during the nighttime hours, the resulting overall noise level increase at the worst-case receptor would be only 1 dB, on account of contributions from the substantial existing non-project traffic on SR-25. Noise increases of less than 3 dB are generally considered to be imperceptible to humans (Caltrans 2018). Therefore, the increase in traffic noise resulting from the proposed project would have a **less than significant impact** on nearby receptors.

12.4.4 Vibration

IMPACT NOI-4	**The project would not result in substantial ground-borne noise or vibration**	**No Impact**

Construction activities can generate ground-borne noise and vibration of varying degrees based on the construction activity and equipment, soil conditions, and distance to vibration-sensitive structures or land uses. Vibration associated with project construction activities would occur most notably during major ground-disturbing activities, such as site grading. The piece of construction equipment generating the strongest vibration would be the dozer which, per the FTA Manual, can generate a vibration level of up to 0.089 PPV in/sec at 25 feet. Based on Equation 7-2 from the FTA Manual for calculating attenuation of vibration over distance, vibrations from dozer operations would be anticipated to dissipate to less than the 0.01 PPV in/sec vibration perception threshold within approximately 108 feet. Because there are no residential structures or other sensitive receptors within this distance of proposed construction areas where dozers would operate, project construction would not cause perceptible vibration impacts for nearby receptors.

Similarly, vibration generated on-site during project operation would be imperceptible to nearby sensitive receptors. Vibration associated with facility operations would occur most notably during the use of excavators when transporting materials around the facility. An excavator can generate a vibration level of up to 0.076 PPV in/sec (comparable to the reference vibration level of a loaded truck in the FTA Manual), which would dissipate to less than 0.01 PPV in/sec within approximately 97 feet. Because there are no residential structures or other sensitive receptors within this distance of the project site, project construction would not cause perceptible vibration impacts for nearby receptors.

Because the project would not cause any perceptible vibrations at nearby sensitive receptors, there would be **no impact**.

13 Transportation

The proposed project would generate new truck trips and new employee vehicle trips, resulting in additional vehicle miles traveled (VMT), as composting operations would expand in response to additional processing capacity made possible by the proposed new ECS composting technology. Project effects on transportation safety are also considered given the applicant's planned new entrance to the project site at the existing SR-25/Bolsa Road intersection. A review of plans for alternative forms of transportation is also provided.

Information in this section is derived from several sources including:

- Geometric Layout, Roadway Improvements and Cross-Sections, Z-Best Facility (Ruggeri-Jensen-Azar 2020);
- *Z-Best Traffic Operations and Site Access Analysis (*Hexagon Transportation Consultants, Inc. January 30, 2020a) and associated peer review (Keith Higgins 2020) and response to peer review (Hexagon 2020b) in Appendix G-1;
- *Z-Best Supplemental VMT Clarification and Analysis* (Hexagon Transportation Consultants, Inc. August 11, 2020c) in Appendix G-2*;* and
- Memorandum: Traffic Safety Analysis (AECOM 2023) in Appendix G-3.

This section also addresses comments raised during the scoping period and on the original Draft EIR relating to transportation, to the extent that they are still relevant to the currently proposed project. Such comments include:

- Caltrans' scoping period comments focused on proposed access improvements on SR-25, daily truck trips, hydraulic and flooding concerns, and encroachment permit requirements.
- The Bay Area Air Quality Management District requested an estimate of VMT by vehicle class.
- The City of Hollister questioned how the applicant would monitor and enforce the proposed restriction requiring all new truck trips to occur between the hours from 8 PM to 4 AM, and how debris on SR-25 would be managed to avoid safety hazards.
- The Council of San Benito County Governments identified concerns regarding ingress/egress, proposed SR-25 improvements, peak traffic hours, impacts to SR-25, turning movements on SR-25, and future SR-25 planning.
- In response to the original Draft EIR, Caltrans requested that additional truck trips be restricted to off-peak times, that provision be included for a merging lane for trucks turning right out of the facility driveway, a storage lane for vehicles turning left into Bolsa Road, and a receiving lane in the southbound median for traffic turning left from Bolsa Road onto SR-25. They also requested that appropriate right-of-way considerations are made as to not preclude future intersection improvements or SR-25 widening, and suggested two options to address safety concerns arising from the proposed retaining walls on both sides of SR-25 within the clear recovery zone. Several requirements relating to the

encroachment permit that would be required for the proposed improvements to the SR-25 corridor were also detailed.

- The Santa Clara Valley Transportation Authority (VTA) requested that the SR-25/Bolsa Road intersection should be signalized to reduce potential traffic backups along SR-25 to the US-101/SR-25 interchange.

13.1 Environmental Setting

13.1.1 Existing Local Transportation Network

The Z-Best facility is located on the south side of State Route (SR) 25, with access provided from SR-25 via one entrance driveway at the western edge of the project site. SR-25 is an undivided, two-lane rural highway that serves as a primary commuter route between the Cities of Hollister (approximately nine miles to the south) and Gilroy (approximately three miles to the north). SR-25 has a posted speed limit of 55 miles per hour (mph). The nearest intersection, Bolsa Road, is located 680 feet east of the existing project site access. Bolsa Road is a two-lane, two-way roadway and is currently a stop-controlled minor approach leg for the 3-leg intersection with SR-25. The posted speed limit on Bolsa Road is 40 mph. Refer to Figure 3-2, Aerial Photograph, for the location of the existing project driveway and Bolsa Road intersections with SR-25. There are no existing acceleration, deceleration, or turning lanes on SR-25 at either the Bolsa Road intersection or the existing Z-Best driveway.

In the vicinity of the project site, SR-25 runs in an east-west direction. However, because SR-25 is generally a north-south oriented highway, this report uses Caltrans' standard terminology of "southbound" (towards Hollister) and "northbound" (towards US 101 and Gilroy) when referring to traffic on the highway and the direction of travel lanes.

There are no pedestrian facilities, bike lanes or routes at or near the project site. As described in the Regulatory Setting below, there are no plans to install bicycle lanes or transit improvements on SR-25 in the project vicinity. San Benito County Express operates an intercounty transit route that uses SR-25.

13.1.2 Existing Z-Best Composting Facility Vehicle Miles Traveled

The Z-Best Composting operation currently generates VMT from employees commuting to and from the project site and other non-employee trips (e.g., visitors and vendors), and from trucks trips, including those hauling green waste, MSW, and other materials to the project site and conveying finished products and waste materials from the project site.

Hexagon Transportation Engineers estimated VMT from existing employees (58 as of October of 2018) and other non-truck trips based on the estimated trip volumes for each as well as trip origin/destination distance information provided by the applicant. VMT for employees and other non-truck trips is calculated as the number of vehicle trips multiplied by trip length.

Existing employee trip VMT for Z-Best operations is estimated at 2,059 vehicle miles per day (Hexagon Transportation Engineers, 2020c, Table 2). Employee VMT is based on the number of existing average daily employees and average trip lengths for employee trips originating in a number of locations. Primary employee trip origins include Hollister (51 percent), Gilroy (26 percent), Los Banos (12 percent) and San Jose (six percent). Daily VMT per employee is 35.5, which is calculated by dividing the daily VMT of 2,059 by the 58 existing employees.

Other non-truck VMT is estimated at an additional 1,031 vehicle miles traveled per day (Hexagon Transportation Engineers, 2020c, Table 2). If this additional non-truck traffic is included in the calculations, the existing daily VMT per employee is 53.3 VMT (3,090 daily miles divided by 58).

Existing truck trip VMT is estimated at 7,348 vehicle miles per day (Hexagon Transportation Engineers 2020c, Table 3). This represents the sum of truck trips for transporting green waste and solid waste to the facility, truck trips for distributing finished compost products, and truck trips for disposing of non-compostable solid waste at landfills. San Jose is the most common origin/destination for truck trips at slightly less than half of all trips.

Section 13.4 contains more information on existing VMT, including a comparison of existing and post–project VMT.

13.1.3 Existing Traffic Safety Conditions

AECOM traffic engineers reviewed Caltrans collision data for a 5-year period (January 2016 through December 2020) to analyze crash history within the segment of SR-25 from 250 feet west of the existing Z-Best driveway to 250 feet east of the SR-25/Bolsa Road intersection. Within that 5-year period, a total of 21 crashes were identified, including 9 at the Bolsa Road intersection and 5 near the existing Z-Best driveway. Two of the crashes (nearly 10 percent) were reported as fatalities: one of which occurred near the existing Z-Best driveway during fog conditions and involved a heavy truck, and the other occurred after dark. Both fatalities involved broadside crashes caused by failure to yield the right-of-way. Approximately 57 percent of all crashes in the reporting period (i.e., 12 of 21) were broadside crashes. Approximately 43 percent of the crashes (i.e., 9 of 21) in the study area occurred in dark or near dawn conditions, even though only an estimated 25 percent of all driving occurs at night[13]. Additional details on the crash history of the area are contained in the AECOM memorandum in Appendix G-3.

Due to the existing traffic safety concerns at the SR-25/Bolsa Road intersection, Caltrans intends to construct the SR-25/Bolsa Road Intersection Restriping project in the intersection during the summer of 2023. Because these improvements have not yet been implemented, they are not included in the “existing conditions”, but instead are addressed in Section 15, Cumulative Impacts.

[13] https://www.nsc.org/road-safety/safety-topics/night-driving

13.2 Regulatory Setting

13.2.1 State

13.2.1.1 California Department of Transportation

Caltrans is responsible for state highways and associated highway ramps and for intersections where freeway ramps intersect the local street system. Caltrans has jurisdiction over the operations of both SR-25 and Highway 101 as well as access points to both highways. The proposed project would generate traffic whose effects on SR-25 and the Bolsa Road and Z-Best drive intersections with SR-25 must be evaluated relative to Caltrans' operational standards.

13.2.1.2 Senate Bill 743

Senate Bill 743 (SB 743), which became effective September 2013, initiated reforms to the CEQA Guidelines to establish new criteria for determining the significance of transportation impacts that "promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses." Specifically, SB 743 directed the Governor's Office of Planning and Research (OPR) to update the CEQA Guidelines to replace automobile delay—as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion—with VMT as the recommended metric for determining the significance of transportation impacts. In December 2018, the Secretary of Natural Resources adopted CEQA Guidelines implementing SB 743 (effective July 1, 2020).

CEQA Guidelines Section 15064.3(a) describes VMT as "the amount and distance of automobile travel attributable to a project." CEQA Guidelines section 15064.3, subdivision (b), establishes criteria for evaluating a project's transportation impacts under CEQA. The lead agency has discretion to choose the most appropriate methodology to evaluate VMT. There are many ways to evaluate VMT, and a lead agency has discretion to choose the most appropriate methodology(ies) for evaluating a project's VMT impacts (CEQA Guidelines Section 15064.3). VMT is usually calculated using the Origin-Destination VMT method, which measures the full distance of motorized vehicle-trips with one end within the project site.

When assessing an office or industrial project, a common methodology is to divide the project's VMT by the number of employees expected to occupy the project to determine the VMT per employee of the project. When assessing a retail, hotel, or school project, the project's total VMT, as opposed to a per capita or per employee VMT metric, is usually employed. The total VMT for the region with and without the project is calculated. The difference between the two scenarios is the net change in total VMT that is attributable to the project. If existing models or methods are not available to estimate VMT, then the lead agency may do a qualitative VMT analysis that evaluates factors such as availability of transit and proximity to other destinations, among others. The standard for adequacy of a VMT analysis is the same as the general standard for an EIR, including the principle that the sufficiency of the environmental impact analysis is to be reviewed in light of what is reasonably feasible (CEQA Guidelines section 15064.3(b)).

13.2.1.3 Technical Advisory on Evaluating Transportation Impacts in CEQA

In response to revising the CEQA Guidelines pursuant to SB 743, the OPR issued the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018), which provides guidance on how agencies could evaluate VMT in CEQA documents. While the advisory provides guidance on evaluating a project's operational VMT impacts and recommends thresholds, it is silent on thresholds for construction impacts, as SB 743 does not address construction VMT impacts. OPR staff recommends evaluating construction VMT qualitatively (California Office of Planning and Research Webinar Implementing SB 743 What You Need to Know, April 9, 2020).

In rural areas not near established or incorporated cities or towns, the advisory acknowledges that fewer options may be available for reducing VMT and that significance thresholds may be best determined on a case-by-case basis.

13.2.2 Regional/Local

13.2.2.1 Santa Clara Valley Transportation Authority Congestion Management Program

In accordance with California Government Code section 65088, VTA has established a congestion management program. The intent of the congestion management program legislation is to require development of comprehensive transportation improvement programs among member agencies whose implementation will reduce traffic congestion and improve land use decision-making and air quality. The VTA serves as the Congestion Management Agency for the County and maintains the County's congestion management program (CMP).

The current CMP was published in 2017. Congestion management agencies are required to conduct analyses of all CMP roadways every two years to ensure member agencies - cities, towns, and the County are developing in a manner consistent with the CMP roadway performance standards. The VTA prepares an annual Monitoring and Conformance Report which documents the CMP conformance findings.

13.2.2.2 Santa Clara Valley Transportation Authority Transit Plan

The VTA 2019 *New Transit Service Plan* identifies existing transit services within its service area as well as describes how existing services will be modified going forward. The *New Transit Service Plan* does not identify existing transit (bus) routes on SR-25 in the project vicinity, nor does it show planned new routes in the vicinity (Valley Transportation Authority 2019a).

13.2.2.3 County of Santa Clara Roads and Airports Department

The County Department of Roads and Airports operates and maintains the County's expressways and unincorporated public roadway network, including Bolsa Road. The Roads and Airports Department is responsible for reviewing safe access and operations for all projects, issues permits for work within the County's road right-of-way, and performs other transportation planning and review functions.

13.2.2.4 Santa Clara Countywide Bike Plan

The *Santa Clara Countywide Bike Plan* describes a network of cross county bikeway corridors that will provide continuous, complete bike connections across the county. The plan also identifies locations where new and improved bicycle connections are needed across freeways, rail lines, and creeks. The plan does not include planned bicycle facilities along SR-25 in the project site vicinity (County of Santa Clara 2018).

13.3 Thresholds of Significance and Analysis Methodology

13.3.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, a significant impact relating to transportation would occur if implementation of the proposed project would:

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

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), which provides the following criteria for analyzing the transportation impacts of land use projects.

   i. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact.

   ii. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

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

d) Result in inadequate emergency access.

13.3.1.1 VMT Threshold of Significance Approach

The projects located in rural portions of Santa Clara County, such as Z-Best, tend to have unique transportation circumstances not comparable to residential and office projects in urban areas that have been the focus of state and regional efforts to establish VMT methodologies and significance thresholds. CEQA Guidelines section 15064.3(b)(4) states that a lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT such as models and professional judgment, and may express the change in VMT in absolute terms, per capita, per employee, per household, or any other measure.

The VTA's Countywide VMT Evaluation Tool shows that the per capita VMT for employee trips in rural unincorporated Santa Clara County is 21.16 (Valley Transportation Authority 2019b). This per employee VMT metric is used as the baseline for evaluating the project's employee trips. For this project, the County has selected as the threshold a 15 percent reduction below this baseline, which would be 18.36 VMT per employee.

The proposed project would also increase VMT through the addition of truck trips to deliver MSW, pick up finished composting product for commercial use, and transport non-compostable materials to landfills for disposal. There currently are no available models for analyzing truck trip VMT. Therefore, this EIR evaluates any increase in VMT resulting from additional truck trips as a potentially significant impact.

13.3.2 Issues or Potential Impacts not Discussed Further

13.3.2.1 Conflicts with Programs, Plans, Ordinances and Policies

As noted in the Environmental Setting, the project site is located in a rural area of Santa Clara County. There are no pedestrian facilities, bike lanes or routes, or transit services at or near the project site whose performance could be affected by the proposed project. As described in the Regulatory Setting, there are no plans to install bicycle lanes or transit improvements on SR-25 in the project vicinity. Therefore, no further discussion of programs, plans, ordinances, or policies addressing transit, bicycle or pedestrian facilities is required. Because VMT is now the methodology (per CEQA Guidelines Section 15064.3 and SB 743) for assessing transportation impacts under CEQA, those programs, plans, ordinances, and policies addressing the circulation system that relate to LOS and traffic congestion are not considered as part of the impact analysis under CEQA, even though such standards are still present in planning documents such as the County's General Plan and the VTA's CMP, and are still used to evaluation transportation impacts outside of CEQA.

13.3.3 Analysis Methodology

The applicant's traffic consultant, Hexagon Transportation Consultants, prepared several traffic-related analyses for the proposed project. The 2017 *Z-Best Traffic Operations and Site Access Analysis* (Hexagon Transportation Consultants 2017) included information on projected VMT and operational traffic effects of the project. The 2017 traffic operations and site access analysis was updated in March 2020 (Hexagon Transportation Consultants 2020a). The applicant's initial 2017 traffic analysis and the updated 2020 traffic analysis were peer reviewed by Keith Higgins, Transportation Engineer, under contract to the County's consultant EMC Planning Group (Keith Higgins 2019 and 2020). Hereinafter, the 2020 traffic operations and site access analysis is referred to as the "Hexagon traffic analysis." Because the operational traffic for the proposed project has not changed since the Hexagon traffic analysis, no updates to the Hexagon memorandums were required. The 2020 traffic analysis, peer review, and response to the peer review are included as Appendix G-1. The previous 2017 analysis and peer review are available on the County's website.

A further memo clarifying and updating aspects of the analysis relating to VMT was prepared by Hexagon in August 2020, which is included as Appendix G-2.

AECOM traffic engineers undertook a separate traffic safety evaluation to analyze the potential impacts on predicted crash frequency if the existing Z-Best driveway were relocated to become the fourth leg of the SR-25/Bolsa Road intersection, as proposed by the project. This memorandum is included as Appendix G-3.

This section includes information and data regarding transportation issues that are relevant to the proposed project based on the thresholds of significance described above. The information and data are used as a basis for crafting mitigation measures for significant impacts if such are identified.

13.4 Analysis, Impacts, and Mitigation Measures

13.4.1 Vehicle Miles Traveled

IMPACT TRA-1	**The project would conflict with CEQA Guidelines Section 15064.3 by exceeding the applicable VMT threshold**	**Significant and Unavoidable**

As explained above and shown in Table 13-1 below, existing employee trip VMT for Z-Best operations is estimated at 2,059 miles per day for the current 58 employees, or 35.5 VMT per employee per day. The 30 new employees that would be added by the proposed project are assumed to commute from the same general locations as existing employees, including Hollister (51 percent), Gilroy (26 percent), Los Banos (12 percent) and San Jose (six percent). See Hexagon Transportation Engineers, August 11, 2020, Table 2 (Appendix G-1). The increase in daily VMT from employee trips generated by the 30 new employees would be 1,136 miles, which would increase total employee VMT to 3,195 miles per day. Daily VMT per employee would not increase as a result of the project, and would remain at 35.5 VMT per employee per day. However, 35.5 VMT per employee is above the threshold of 18.36 VMT per employee that represents 15 percent below the regional average.

Table 13-1 Net Projected Increase in Employee Vehicle Miles Traveled

Metric	Existing	Existing + Proposed	Increase over Existing
# of Employees	58	90	***32***
Employee VMT per day	2059	3195	***1,136***
VMT per Employee	35.5	35.5	***0%***

Source: Hexagon Transportation Engineers 2020c (Table 2)
Notes:
VMT = vehicle miles travelled

Common VMT estimation tools such as travel demand forecasting models are not applicable for estimating VMT from uses involving haul trucks that are used for dropping off and picking up materials at industrial land uses, which would include composting

operations. Therefore, Hexagon Transportation Engineers estimated truck-based VMT based on the number of new truck trips/average trip length per truck trip as provided by the applicant (Hexagon Transportation Engineers 2020c, Table 3). As shown in Table 13-2 below, the net increase in truck VMT generated by the proposed project would be 7,712 miles per day for regular days and 12,109 miles per day for the 20 peak days that involve higher levels of green waste associated with seasonal landscape maintenance during the fall months.

However, as discussed in Section 10, Greenhouse Gases, implementation of the proposed project, which would enable Z-Best to compost up to 875 tons per day more MSW than is possible under existing conditions, would also result in a decrease in vehicle miles traveled from trucks that would otherwise transport this waste to other landfills or composting facilities in the region such as the Marina Landfill or to an alternate composting facility, such as the compost facility in Vernalis. However, the actual avoided vehicle miles traveled in the region due to implementation of the proposed project would vary on a daily basis based on the quantity of MSW and ultimate destination (landfill or alternate compost facility) in the region. In addition, the suitability of the Vernalis facility as an alternate composting facility is unclear; thus, it would be too speculative to quantify the associated VMT reductions.

As noted above, Section 15064.3 of the CEQA Guidelines does not address truck trips, and there is no other established threshold for evaluating VMT impacts from truck trips; therefore, for the purposes of this EIR, the County has determined that any increase in truck-based VMT would be considered a significant impact.

Table 13-2 Net Projected Increase in Truck Operations Vehicle Miles Traveled

Trip Purpose	Existing VMT/Day[1]	Daily Operations VMT/Day	20 Peak Days (VMT/Day)
Green Waste	3,929	8,262	10,770
Products	2,075	2,874	3,375
Landfill	1,344	3,924	5,403
Total Daily VMT	**7,348**	**15,060**	**19,548**
Increase Over Existing	***n/a***	***7,712***	***12,109***

Source: Hexagon Transportation Engineers 2020c (Table 3)
Notes:
1. Existing VMT based on average daily loads and does not distinguish between normal and peak day operations.
VMT = vehicle miles travelled
VMT/day = vehicle miles travelled per day

Because the project would result in employee-based VMT that exceeds the established threshold of 15 percent below the regional average employee-based VMT, and because the project would result in a substantial increase in truck-based VMT, the overall impact would be **potentially significant**.

13.4.1.1 Mitigation Options

Historically, land use decisions in most jurisdictions have commonly been driven to a significant degree by the need to reduce conflicts between existing and planned land use activities. That the existing Z-Best operations are located in a rural area is a logical land use decision based on the externalities created by composting operations (e.g.

noise, odor, traffic, etc.) that are generally incompatible with higher intensity residential and commercial uses located in urban areas. VMT from uses in rural unincorporated areas can exceed VMT for urban uses because trip destinations and origins for such uses are commonly farther apart than trip destinations and origins for new land uses in urban areas.

Due to the project's rural location, transit facilities and bicycle facilities are absent in the project area. Thus, opportunities to reduce employee trips are very limited, and the low number of employees per shift would be insufficient to feasibly support an employee vanpool program. In short, common travel demand management strategies that are more available and feasible in urban settings to reduce VMT would not be available for the proposed project. Therefore, no feasible mitigation has been identified to reduce the impact of employee VMT to a less-than-significant level.

VMT would also be generated by new on-road truck trips (trips comprised of all trucks that deliver materials, including hauling MSW to the project site, and conveying finished products and waste materials from the project site). No other transportation options are available to replace these haul trucks. Therefore, no feasible mitigation is available to reduce the significant impact of truck-based VMT.

Because no feasible mitigation measures have been identified that would reduce VMT of either new employee trips or project-generated truck trips, this impact would be **significant and unavoidable**.

13.4.2 Operational Traffic Safety

IMPACT TRA-2	**Project operation could substantially increase traffic hazards**	**Less than Significant with Mitigation or Alternative**

13.4.2.1 Summary of Proposed Changes

Proposed Changes to Roadway Layout and Site Access

The applicant is proposing to relocate the existing driveway to the project site and make associated improvements within the SR-25 right-of-way, including the following:

- Relocation of the existing project site driveway to become a new stop-controlled fourth leg of the existing SR-25/Bolsa Road intersection.
- Construction of a central deceleration (turning) lane for northbound traffic making left turns into the site from SR-25. This would provide a refuge for northbound vehicles on SR-25 waiting for a gap in southbound traffic to turn left into the project site. The northbound through traffic would no longer need to slow or stop behind vehicles waiting to turn left into the site.
- Construction of a central acceleration (receiving) lane for traffic turning left out of the site onto northbound SR-25. With this improvement, traffic turning left out of the project site would only have to cross the southbound lane of through traffic, and would be able to accelerate in a separated lane before merging with northbound through traffic (i.e., a two-step left turn movement).

- Construction of a median deceleration (turning) lane for southbound traffic making right turns into the project site from SR-25. This would separate the traffic slowing down to make a right turn into the project site from southbound through traffic on the highway, thereby eliminating the need for through traffic to slow as occurs under existing conditions.

The on-site component of the proposed improvements is an approximately 600-foot long paved driveway that is parallel to SR-25, which would connect the relocated project site driveway with the existing internal access road in the northwest corner of the site. Refer to Figure 4-7, Project Entrance/Driveway and SR-25 Improvements, for an illustration of where road widening, and driveway relocation would occur.

To accommodate the proposed SR-25 improvements, the roadway must be widened on both sides. The proposed changes are identified in the traffic analysis, with detailed plan information provided in the proposed transportation improvement plan set (Ruggeri-Jensen-Azar 2020). Along the south side of SR-25, the project would include approximately 1,800 feet of new pavement and a low retaining wall. Along the north side of the highway, the project would include approximately 1,600 feet of new pavement and a low retaining wall.

All proposed SR-25 improvements would be accommodated within Caltrans' existing SR-25 right-of-way. No improvements to the Bolsa Road leg of the existing SR-25/Bolsa Road intersection are proposed. Bolsa Road is a County roadway. The improvements planned within the Caltrans right-of-way are subject to Caltrans' approval through its encroachment permit process. Once the highway improvements are completed and the new entrance/exit to the facility is operational, the existing entrance/exit would be closed.

Summary of Proposed Changes in Traffic Generation

The proposed project would increase traffic to/from the project site, from the existing approximately 390 total daily trips (truck and non-truck) to approximately 654 total daily trips (Hexagon 2020a, Table 3).

The project would generate approximately 64 additional non-truck trips (i.e., an increase from approximately 182 trips per day to 246 trips per day) due to the increased number of employees (Hexagon 2020c, Table 1). In addition, the project would generate approximately 200 additional daily truck trips during normal operating (non-peak season) conditions (i.e., an increase from approximately 208 existing daily truck trips to approximately 408 daily truck trips on average) (Hexagon 2020a).

The majority of employee trips would occur outside of typical peak traffic hours (7 AM to 9 AM and 4 PM to 6 PM). Under proposed normal (non-peak season) operating conditions, all morning shift changes would occur between 4:30 AM and 7:00 AM (similar to existing conditions); and in the afternoon/evenings, only approximately one third of employees (30) would begin or end their shifts between 4:00 PM and 6:00 PM (compared to existing conditions when all 58 employees would be traveling during afternoon peak hours).

Under peak season conditions (20 days per year) approximately one third of employees (30) would begin or end their shifts in the morning peak hour; and all 90 employees would begin or end their shifts in the afternoon peak hour.

The project proposes to restrict all additional truck traffic to between 9:00 AM and 3:00 PM or between 8 PM and 4 AM; and would also restrict existing truck traffic from arriving or leaving the site during the morning or afternoon peak hours (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM) (Hexagon 2020a, Table 3).

All of these additional truck and non-truck trips, as well as the existing truck and non-truck trips, would utilize the relocated project site driveway/Bolsa Road/SR-25 intersection to obtain access to the site. Similar to existing conditions, approximately 49 percent of project-site non-truck traffic is anticipated to access the site via SR-25 to/from the north, and 51 percent via SR-25 to/from the south. For truck traffic, approximately 83 percent would access the site via SR-25 to/from the north and 17 percent to/from the south (Hexagon 2020a). None of the project site traffic is anticipated to access the site to or from Bolsa Road.

13.4.2.2 Analysis of Operational Traffic Safety Impacts

The proposed project would not introduce any sharp curves or limited sight distance that would increase traffic safety hazards. Ruggeri-Jensen-Azar (RJA) analyzed the proposed intersection layout and determined that the turning radii were appropriate for large trucks (RJA 2020). Hexagon Traffic Consultants analyzed the proposed intersection layout for appropriate sight distances, lane width, approach taper, deceleration lane length, and storage length, based on Caltrans Highway Design Manual standards (Hexagon 2020).

Furthermore, the proposed roadway improvements would require an encroachment permit from Caltrans. As part of the encroachment permit process, Caltrans would evaluate the proposed roadway design and, if necessary, require modifications to the design to either meet Caltrans standards and specifications or require alternative design measures that Caltrans determines are acceptable. For example, Caltrans' comment on the original Draft EIR identified that the proposed retaining walls on both sides of SR-25 are within the clear recovery zone, and requested that either additional right-of-way be obtained in order to extend the side slope to match the existing ground, or that Midwest Guardrail System be installed at the hinge point to prevent errant vehicles going over the retaining walls.

Because the attainment of an encroachment permit, and adherence to any conditions of such a permit, is mandatory for any project involving work within a State Highway right-of-way, the project would not introduce any geometric design features that would increase traffic safety hazards.

The project would not introduce any incompatible uses such as farm equipment utilizing the highway, but would result in a substantial increase in truck traffic accessing the highway from the project site. Due to the proposed restriction on new and existing truck traffic during peak hours, the project would result in a reduction of AM and PM peak-hour, early morning, and early evening truck trips, a minor increase in day-time truck trips, and a substantial increase in night-time truck trips, as summarized in Table 13-3. During typical operations, 28 truck movements per hour would be generated (i.e., 14 trucks arriving and 14 trucks leaving) during most hours of the night-time, and 24 to 26 truck movements per hour during most non-peak daytime hours (see Figure 4-6 in Section 4). During peak season operations, approximately 36 truck movements per hour would occur during most night-time hours and 32 to 36 truck movements per hour during non-peak daytime hours (see Table 4 in Hexagon 2020a; Appendix G-1).

Table 13-3 Summary of Existing and Proposed Truck Trips By Time of Day

Period	Existing (Total truck trips)	Proposed (Total truck trips)	Change (Total truck trips)
Early morning (4 AM to 7 AM)	32	30	-2
AM Peak Hour (7 AM to 9 AM)	22	0	-22
Daytime (9 AM to 4 PM)	131	150	+19
PM Peak Hour (4 PM to 6 PM)	13	0	-13
Evening (6 PM to 8 PM)	1	0	-1
Nighttime (8 PM to 4 AM)	9	228	+219
Total Daily Truck Trips	**208**	**408**	**200**

Source: Adapted from Hexagon 2020a (Table 3) for typical operations. Total daily truck trips during peak season operations would be up to 522, with similar daily schedule (i.e., no truck trips during AM or PM peak hours).

As discussed above in Section 13.1, Environmental Setting, approximately 43 percent of crashes in the past 5 years (including 1 of the 2 fatalities) in the project vicinity occurred during dark conditions, even though only approximately 25 percent of driving occurs at night. The substantial increase in nighttime truck traffic (approximately 25 times the number of existing nighttime trips) due to the proposed project could potentially exacerbate the existing situation and increase the frequency of crashes in dark conditions.

An evaluation of potential traffic safety impacts in the project vicinity (extending approximately 250 feet west of the existing project site driveway to approximately 250 feet east of the existing SR-25/Bolsa Road intersection) was undertaken by AECOM (AECOM 2023, see Appendix G-3). The evaluation applied the Highway Safety Manual predictive method and safety performance function to predict average crash frequency under proposed project conditions, and compared that to existing crash frequency, based on information from Caltrans' Statewide Integrated Traffic Records System. The study predicted that the proposed project would reduce the predicted number of annual crashes in the study area as a whole from an average of 2.8 crashes per year to 1.77 crashes per year, and would slightly decrease the number of predicted crashes at the Bolsa Road intersection from 1.8 crashes per year under existing conditions to 1.77 crashes per year with the project, as shown in Table 13-4.

Table 13-4 Existing and Predicted Crash Frequency Per Year

Scenario	Crashes per year at existing driveway	Crashes per year at Bolsa intersection	Crashes per year (total)
Existing Conditions	1	1.8	2.8
Proposed Project	0	1.77	1.77

Notes: Values for Existing Conditions based on 5-year crash history from 2016 through 2020. For Proposed Project, values are predicted using Highway Safety Manual predictive method and safety performance function . See Appendix G-3.

As discussed further in the traffic safety analysis (Appendix G-3), although the proposed project would be anticipated to slightly decrease the number of total crashes per year at the Bolsa Road intersection, a change in intersection geometry from a 3-leg to a 4-leg stop-controlled intersection generally results in an increased proportion of broadside

crashes, which are typically more severe than other crash types at intersections such as side swipe or rear-end crashes (AASHTO 2010). In general, realigning two 3-leg intersections to become a single 4-leg intersection with stop-controls on the minor approaches would be expected to increase the proportion of broadside/angle crashes from 23.7 percent to 43.1 percent of total crashes, and would increase the percentage of fatal and severe injury crashes from 5.7 percent to 6.2 percent. However, the existing crash history for the study area shows a much higher percentage of broadside crashes (57.1 percent) and fatal/serious injury crashes (14.3 percent) than is typical for other 3-leg stop controlled intersections (23.7 percent broadside and 5.7 percent fatal/serious injury). Given the large discrepancy between actual crash type and severity distribution for the study area and typical values for intersection types based on more generalized data, it is difficult to quantify the predicted impact that the project would have on crash type and injury severity distribution in the study area, and it is possible that the proportion of broadside and fatal/severe injury crashes within the study area might increase even further than existing.

Therefore, although the proposed project is not predicted to increase the overall frequency of crashes in the study area, it may increase the proportion of broadside and fatal/serious injury crashes, and could also increase the number of nighttime crashes. Due to the potential increase in frequency of night-time crashes and the potential increase in the proportion of severe crashes at the Bolsa Road/SR-25 intersection, the impact is conservatively identified as **potentially significant**.

13.4.2.3 Mitigation Options

The addition of intersection lighting (i.e., streetlights at the intersection) would further reduce the predicted crash frequency at the Bolsa Road intersection to approximately 1.62 crashes per year (Appendix G-3) compared to 1.77 crashes per year for the proposed project without intersection lighting, or compared to 1.8 crashes per year for the existing Bolsa Road intersection. Although this mitigation measure may reduce the number of nighttime crashes, it would still be expected to have a similar proportion of broadside and severe injury crashes as the proposed project without lighting, which, as discussed previously, could be higher than the existing conditions.

Installation of “trucks crossing” warning signage on both SR-25 approaches to the intersection may also raise awareness for oncoming drivers of the possibility of trucks turning onto/off the highway. There is no established crash modification factor for such signage; therefore, the effect of such a mitigation measure cannot be quantified. While the installation of such signage would not be likely to affect the type of crashes that would occur, it could decrease the number of crashes and/or the speed at which they occur (and therefore reduce the potential severity).

A combination of the above measures (intersection lighting and “trucks crossing” warning signage) together could be expected to result in a reduction in crash severity and number of nighttime crashes compared to the proposed project; however, whether it would fully mitigate the traffic safety impact to a less-than-significant level cannot be demonstrated with certainty.

Signalization of the intersection would reduce the predicted crash frequency in the overall study area to 2.1 crashes per year (compared to 2.8 under existing conditions), and it would be anticipated to reduce the proportion of broadside crashes compared to both the proposed project and existing conditions. As discussed further in the traffic

safety analysis (AECOM 2022), adding traffic signals to a rural intersection typically results in 77 percent reduction in broadside/angle crashes. A typical 4-leg signalized rural intersection has only 0.9 percent fatal crashes compared to 1.8 percent for a typical 4-leg stop-controlled intersection or 1.7 percent for a typical 3-leg stop controlled intersection (AASHTO 2010). Although the overall crash frequency at the SR-25/Bolsa Road intersection would be expected to increase slightly for a signalized intersection (2.1 crashes per year, compared to 1.8 under existing conditions), with implementation of recommended Mitigation Measure MM-TRA-2, detailed below, the number of severe crashes would be expected to substantially decrease, resulting in improved traffic safety compared to both existing conditions and the proposed project (unmitigated).

MM-TRA-2: Installation of Traffic Controls or Retention of Driveway in Existing Location

A. The applicant shall modify its proposed design for the SR-25 improvements and driveway relocation to include the installation of traffic signals at the intersection of SR-25/Bolsa Road/relocated driveway. The applicant shall obtain an encroachment permit from Caltrans to implement the modified design and shall comply with all conditions of the permit and/or modifications to the design requested by Caltrans as part of the permit review and approval process, including maintenance of a clear recovery zone. The applicant shall contribute its fair share of the cost of the traffic controls, as determined by Caltrans, with the remaining portion to be funded by Caltrans.

B. The applicant shall not increase processing capacity of the facility (and associated increase in haul-truck and employee traffic) at the site until either (1) the signalized intersection is operational in accordance with MM-TRA-2A above, or (2) alternative improvements are made to the existing project site driveway in accordance with Alternative 3 and mitigation measure MM-TRA-2-Alt 3 and no relocation of the project site driveway shall occur until the signalized intersection is operational in accordance with MM-TRA-2A. The applicant shall obtain an encroachment permit from Caltrans to implement the modified design and shall comply with all conditions of the permit and/or modifications to the design requested by Caltrans as part of their permit review and approval process.

Implementation of MM-TRA-2A (installation of traffic signals) would reduce the potentially significant project impacts relating to traffic safety by reducing the overall frequency of crashes in the study area compared to existing conditions and by reducing the proportion of severe crashes. If the intersection were signalized, as required by MM-TRA-2A, the mitigated project would not substantially increase traffic safety hazards and the impact would be less than significant with mitigation.

However, unless the applicant agrees to fully fund the costs of signalization themselves, implementation of MM-TRA-2A would require funding and approval of another agency (i.e., Caltrans), which is outside of the County's jurisdiction and control. Furthermore, even if Caltrans agrees to fund and approve signalization, such improvements might not be designed and constructed until some time after the project is implemented.

However, as discussed further in Section 18 of this EIR, an alternative to the project was considered under which the existing Z-Best driveway would remain the only access into the site from SR-25, and no changes would be made to the existing SR-25/Bolsa

Road intersection. Deceleration and acceleration lanes would be constructed on SR-25 at the existing Z-Best driveway to provide for improved operations and safety at the existing site entrance. This alternative is incorporated into modified mitigation measure MM-TRA-2-Alt3) (see discussion of Alternative 3 in Section 18.4.3). If Alternative 3 is implemented, either on a temporary basis until such time as a signalized intersection in accordance with MM-TRA-2A can be installed, or on a permanent basis if the intersection is not signalized because Caltrans does not approve or agree to fund the balance of signalization costs, then the project's potential impact on operational traffic safety would be avoided or mitigated.

With implementation of MM-TRA-2, which incorporates MM-TRA-2-Alt3, the impact of the proposed project would be **less than significant with mitigation**.

13.4.3 Construction Traffic Safety

IMPACT TRA-3	Project construction could substantially increase traffic hazards	Less than Significant with Mitigation

Movement of vehicles, particularly large trucks, into and out of the site during construction has potential to affect traffic safety on SR-25. As described under Impact 12-2 above, under existing conditions, vehicles turning into and out of the site can cause through traffic on SR-25 to slow or stop, as there are no separated lanes for left or right turns into or out of the site.

Based on the anticipated construction schedule and activities (Table 4-4, On-Site and Off-Site Improvements Construction Information), the most traffic-intensive phase of construction would be Phase 3, with approximately 50 concrete truck deliveries (100 one-way truck trips) and up to 25 commuting construction workers (50 one-way non-truck trips) per day for a duration of two to three months (i.e., 150 one-way trips in total). Phases 1 and 2 would have a lower level of construction-related traffic, as fewer construction workers would be required and, thus, fewer truck trips. Cut and fill volumes for the project would be balanced, with limited net import or export of soils required during Phase 1 (Table 4-5, Proposed Cut and Fill Volumes).

Table 13-5 Summary of Proposed Construction-Related Trips By Phase

Construction Phase	Duration	Employee Trips (vpd)	Vendor Trips (vpd)	Haul Trips (vpd)	Total Trips (vpd)
Phase 1 Grading Work	3 months	24	0	0	24
Phase 2 Underground and Trenching Work for Mechanical, Electrical, Drainage, Water, Concrete Footings	2 months	10	0	0	10
Phase 3 Above ground mechanical, concrete and utility work	2-3 months	50	100	0	150

Notes:
vpd = vehicles per day

During construction, primary and secondary MSW composting activities would largely cease, while green waste composting would continue. Operational truck trips would

therefore be anticipated to decrease from the existing 208 average truck trips per day, to approximately 104 truck trips per day[14], due to the decrease in MSW being hauled to the site during construction and associated reduction in off-haul of finished product and landfill waste. This decrease in operational truck traffic would offset the anticipated increase in construction-related truck traffic, therefore the only net increase of traffic to/from the project site during construction would be from the 10 to 50 construction workers commuting to the site each day.

For the proposed construction of the ECS composting technology, detention basin modifications, and flood storage expansion, construction activities and equipment would be contained within the project site and no road or lane closures or other encroachments to the SR-25 right-of-way would be required; therefore, there are unlikely to be significant traffic safety issues during construction of these project components.

However, the proposed driveway relocation and associated improvements to SR-25 would require the use of heavy construction equipment within the SR-25 right-of-way and would require temporary lane closures or possibly road closures/detours. If not managed appropriately, project-related construction activities within the SR-25 right-of-way could cause temporary traffic safety impacts that are **potentially significant.** Mitigation measure MM-TRA-3 is recommended for this impact.

MM-TRA-3: Construction Traffic Management Plan

The applicant or their contractor shall prepare a Construction Traffic Management Plan (CMP), in accordance with Manual on Uniform Traffic Control Devices requirements and the Caltrans Transportation Management Plan Guidelines. The CMP shall be subject to review and approval by Caltrans and the County Department of Roads and Airports, prior to issuance of a grading permit. The plan shall be implemented during construction and shall include, but not be limited to, the following:

- *Schedule of construction showing each phase of the project, construction hours, and anticipated method of handling traffic for each phase, including drawings identifying lane configurations, haul routes, road and lane closures, detour routes, work areas, staging areas, and worker parking areas. The location of signs, barricades, codes, etc., to warn, direct, and guide traffic shall be shown on the plan, as well as any supplementary traffic control devices that might be required.*
- *The repair and restoration of any damaged or deteriorated road rights-of-way according to Caltrans requirements after construction is completed.*
- *Provide for the appropriate control measures, including barricades, warning signs, speed control devices, flaggers, and other measures to mitigate potential traffic hazards;*
- *Ensure coordination with emergency response providers to provide sufficient emergency response access for the surrounding area;*

[14] Existing operations receive an average of 700 TPD of MSW feedstock and 700 TPD of green waste feedstock on non-peak days. Therefore, with no or very limited MSW processing operations, operational truck trips are anticipated to reduce by approximately half during construction.

- *Maintain emergency access to the project site throughout construction;*
- *Prohibit heavy vehicle traffic to and from the project site during the commute hours of 7:00-9:00 AM and 4:00-6:00 PM;*
- *Implement truck haul routes for construction trucks deemed acceptable by Caltrans and the County Department of Roads and Airports with SR-25 and U.S. Highway 101 as the assumed routes to and from the north; and*
- *Store construction equipment on the project site and outside the Caltrans right-of-way during the construction phase of the project.*

Implementation of mitigation measure MM-TRA-3 would minimize potential safety impacts by requiring the applicant to prepare and obtain Caltrans and the County Department of Roads and Airports' approval for a construction traffic control plan that would reduce potential short-term traffic impacts associated with project construction by providing traffic control measures, requiring coordination with emergency response providers, limiting heavy vehicle traffic during peak commute hours, identifying appropriate truck haul routes, and requiring construction equipment to be stored on site to minimize additional traffic. Therefore, with implementation of MM-TRA-3, this potentially significant impact would be reduced to **less than significant with mitigation incorporated**.

13.4.4 Emergency Access

IMPACT TRA-4	The project could result in inadequate emergency access	Less than Significant with Mitigation

The project site is served by the South Santa Clara County Fire District, which operates district fire stations at 3050 Hecker Pass Highway and 10810 No Name Uno in Gilroy. Local Gilroy and Hollister Fire Departments also have fire stations within 10 miles of the project site. Under the California Mutual Aid System, fire departments may be requested to respond to incidents in adjacent jurisdictions. Local law enforcement services are provided by the Santa Clara County Sheriff's Office, with the nearest station at 80 W. Highland Avenue in San Martin. The California Highway Patrol may also respond to incidents on SR-25 or nearby US-101.

Under the proposed project, the existing driveway to the site would be maintained until such time as the relocated driveway has been completed and is fully operational, such that emergency access to the site would be maintained at all times during construction. The proposed relocated driveway has been designed to accommodate large haul trucks and therefore would be sufficient to accommodate fire apparatus and other large emergency response vehicles. As discussed previously, the additional traffic associated with increased MSW processing capacity at the site would not occur during peak traffic hours when congestion is already an issue on SR-25 such that emergency access to nearby properties or along SR-25 would be impeded.

As noted above under Impact TRA-3, the majority of project-related construction activities would be contained within the project site and would not impede the travel of emergency response vehicles along SR-25. The exception would be during construction of the SR-25 improvements, when temporary lane/road closures or other traffic controls

could affect through-traffic on SR-25 and/or the movement of vehicles from Bolsa Road to SR-25 (or vice versa). Such conditions, if not managed appropriately, could have a **potentially significant impact** on emergency access to properties in the vicinity of the project site or to incidents occurring on SR-25 itself.

Mitigation measure **MM-TRA-3, Construction Traffic Management Plan,** which is described under Impact TRA-3 in Section 13.4.3 above, is proposed for this impact.

Implementation of MM-TRA-3 would minimize potential impacts to emergency access along SR-25 by requiring the applicant to submit, and Caltrans and the County Department of Roads and Airports to approve, a construction traffic control plan that would, among other provisions, require coordination with emergency response providers to provide sufficient emergency response access for the surrounding area. Therefore, this potentially significant impact would be **less than significant with mitigation incorporated**.

14 Effects Found Not Significant

CEQA Guidelines 15128 states that an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. The following topics were reviewed whose affects were found to be less than significant.

14.1 Energy

14.1.1 Thresholds of Significance

Would the project:

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

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

14.1.2 Impact Discussion

14.1.2.1 Wasteful, Inefficient or Unnecessary Consumption of Energy (Checklist Question a)

The proposed project would result in increased demand for energy during its construction and operation. Primary sources of energy use will be transportation fuels (gasoline and diesel) and electricity. Construction and operations phase sources of energy use and factors that affect the efficiency with which such energy is used are summarized below.

Appendix F of the State CEQA Guidelines requires the consideration of the energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient and unnecessary” energy usage (Public Resources Code Section 21100, subdivision (b)(3)). Neither the law nor the State CEQA Guidelines recommend criteria that define wasteful, inefficient, or unnecessary use of energy.

Construction Energy Consumption

During construction, transportation fuel energy consumption would result from operation of off-road construction equipment such as graders and scrapers, construction worker vehicle trips, and haul trucks supplying equipment and materials to the site. On-road vehicles, including concrete haul trucks and other materials delivery trips are expected to be the primary source of fuel use, followed by on-site construction equipment, which commonly is fuel powered. Worker trips would be a lesser source of fuel demand. Given that the primary construction activities involve grading (raising the ECS equipment pad, modification of Detention Basin #1 and excavation of additional flood storage capacity) and forming and pouring concrete for the CASP and eASP bunkers, electricity would be

required, but would likely be a much lesser component of total energy demand relative to fuel use.

The types of construction equipment that would be used and their associated energy consumption would be typical of that associated with many types of land development and infrastructure projects in Santa Clara County (County).

Construction equipment and related vehicle fuel efficiency regulations are not within the control of the applicant. As previously discussed in Sections 8 and 10, a multitude of state regulations are aimed at improving vehicle fuel efficiency including Pavley Greenhouse Gas Vehicle Emission Standards (AB 1493), the Advanced Clean Cars Program and the California Air Resources Board's Truck and Bus Regulation.

Required conformance of vehicles and equipment to the regulations would ensure that the proposed project does not result in wasteful, inefficient, or unnecessary consumption of transportation fuel during construction.

Operational Energy Consumption

Transportation Fuel Use

The proposed project would generate a maximum of approximately 378 new vehicle trips (64 new daily employee vehicle trips and 314 new truck haul trips) 20 days per year on peak waste intake days. About 264 new trips per day would be generated during normal daily operations (Hexagon Transportation Consultants 2020a). Transportation fuel demand would also increase as a result.

New vehicle trips to and from the project site would be made in vehicles that are subject to California's increasingly rigorous fuel efficiency regulations. Regulating fuel efficiency is not within the control of the applicant. Passenger and light-duty truck fuel efficiency and fuel substitution regulations such as the Pavley Greenhouse Gas Vehicle Emission Standards and Advanced Clean Car standards address fuel efficiency and alternative fuels. State regulations such as the California Air Resources Board's Truck and Bus Regulation are designed to improve truck fuel efficiency and substitute cleaner fuels (renewable electricity) for carbon-based fuels. These regulations would apply to the fleets of trucks that transport materials to and from the site. Therefore, the proposed project is not expected to result in wasteful or inefficient use of transportation fuel energy.

Mechanical Energy Use

Powering the ECS mechanical systems would be the dominant source of increased electricity demand from the proposed project. Ancillary increases in electricity use from the increase in daily employees would be a small component of the overall demand. The electricity demand increase for the ECS systems is projected at 8,151 megawatt per hour (MWh) per year (Engineered Compost Systems 2022).

The project is designed to expand MSW composting processing capacity to help implement state goals and regulations for increasing waste diversion, including organic waste, from landfills. Please refer back to Section 4.1, Project Purpose, for more information. In this regard, the proposed project serves the state's related goals and would provide indirect environmental benefits associated with increased waste diversion. Energy demand from the proposed project is, therefore, not considered unnecessary.

Summary

In summary, the project's energy consumption during construction and operations would not be wasteful, inefficient, or unnecessary. Therefore, this impact would be **less than significant.**

14.1.2.2 Conflict with Renewable Energy or Energy Efficiency Plans (Checklist Question b)

There are no state plans or regulations in place that mandate new or expanded industrial operations to use or provide renewable energy. The same is true for the County of Santa Clara as expressed through its General Plan and Ordinance Code. Therefore, the proposed project would not conflict with state or local plans or regulations regarding renewable energy.

The project would not be subject to state building energy efficiency requirements for commercial or residential uses because the project does not include such uses or buildings. As described above, transportation fuel energy efficiency would be assured through required conformance of employee vehicles and on-road truck fleets with state regulations which result in improved fuel efficiency and conservation over time. The County of Santa Clara has not adopted policies or regulations focused on energy efficiency for industrial uses. Therefore, the proposed project would not conflict with state or local plans or regulations for energy efficiency and there would be **no impact**.

14.2 Geology, Soils, and Paleontological Resources

14.2.1 Thresholds of Significance

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)
    ii. Strong seismic ground shaking?
    iii. Seismic-related ground failure, including liquefaction?
    iv. Landslides?
b) Result in substantial soil erosion or the loss of topsoil?
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d) Be located on expansive soil, creating substantial direct or indirect risks to life or property?

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

f) Directly or indirectly destroy a unique paleontological resource or unique geologic feature?

14.2.2 Impact Discussion

14.2.2.1 Seismic Hazards (Checklist Question a)

Fault Rupture and Landslides

The project site and the off-site improvement area associated with SR-25 are not located in an Alquist-Priolo Earthquake Fault zone or within the trace of any other known fault (Santa Clara Department of Planning and Development GIS Planning Office 2022a, Jennings and Bryant 2010). Furthermore, the project site and the off-site improvement area not within or near a landslide hazard zone (County of Santa Clara Department of Planning and Development GIS 2022b), and both areas are nearly flat. Thus, there would be **no impact** from surface fault rupture or seismically induced landslides.

Seismic Ground Shaking and Liquefaction.

The project site and the off-site improvement area associated with SR-25 are approximately 1 mile east of the active Castro Fault (part of the Sargent Fault System), and approximately 3 miles west of the active Calaveras Fault Zone (southern section) (Jennings and Bryant 2010). Based on seismic mapping by the California Geological Survey (Branum et al. 2016), the region, including the project site and the off-site improvement area, is likely to experience strong seismic ground shaking during the next 40 years. In addition, most of the project site and most of the off-site SR-25 improvement area are in a known liquefaction hazard zone (County of Santa Clara Department of Planning and Development GIS 2022c). The project would not involve the construction of any new habitable structures, and project site improvements would be required to be constructed in accordance with the most recent California Building Code (CBC) (Title 24 of the California Code of Regulations) standards, and off-site SR-25 improvements would be required to conform to Caltrans standards. The CBC provides standards for testing and building construction and safety measures for development within earthquake-prone areas. The CBC and Caltrans standards require that preliminary soils reports, geohazard reports, and geotechnical reports be prepared to identify design requirements that would minimize risk from seismic and geologic hazards including ground shaking and seismic related ground failure including liquefaction, as well as unstable and expansive soils. Furthermore, the County Geologist would review the on-site project plans to ensure that the proposed improvements are constructed consistent with the County's Geologic Hazards Ordinance. Therefore, impacts from seismic ground shaking or liquefaction would be **less than significant**.

14.2.2.2 Soil Erosion (Checklist Question b)

The proposed project would include grading, excavation, and trenching at the project site, which could expose soils to wind and water erosion. The on-site project improvements would be subject to the County Grading Ordinance and its associated performance standards that are designed to prevent soil erosion, sediment transport, and downstream sedimentation. Additionally, the project applicant would be required to develop and implement a stormwater pollution prevention plan (SWPPP) to comply with the State Water Resources Control Board's National Pollutant Discharge Elimination System Construction General Permit. The SWPPP would include a description of construction activities and is required to identify the site-specific best management practices (BMPs) that would be employed to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Work associated with SR-25 would be required to comply with Caltrans' Construction Site Best Management Practices (BMPs) Manual and the Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual, which contain requirements designed to reduce erosion and sediment transport. Compliance with the County Grading Ordinance, implementation of a SWPPP with associated BMPs, and implementation of Caltrans standard requirements would ensure that the proposed project would not result in substantial soil erosion or the loss of topsoil. Therefore, this impact would be **less than significant.**

14.2.2.3 Unstable and Expansive Soils (Checklist Questions c and d)

Soils at the project site and the off-site improvement area associated with SR-25 consist of Clear Lake clay, Pacheco clay loam, and Sunnyvale silty clay (Natural Resources Conservation Service [NRCS] 2021). The project site and the off-site improvement area are generally flat and therefore landslides associated with unstable soils would not represent a hazard. The Clear Lake clay and Sunnyvale silty clay soils are highly expansive, and the Pacheco clay loam is moderately expansive (NRCS 2021). Furthermore, NRCS (2021) soil survey data indicate that the project site and the off-site improvement area are rated as "very limited for shallow excavations and small commercial buildings" due to a high expansion (shrink-swell) potential, and the potential for caving of excavation walls, ponding, and flooding. Although the project site and the off-site improvement area do include unstable and expansive soils, all project-related facilities and the SR-25 improvements would be designed and constructed in accordance with standard engineering practices, the CBC, County Building Code requirements, and Caltrans standards, which require preparation of a site-specific geotechnical and engineering report that contains recommendations to reduce seismic, geologic, and soils hazards. Therefore, impacts from construction in unstable and expansive soils would be **less than significant**.

14.2.2.4 Septic Systems (Checklist Question e)

Wastewater from temporary construction workers at the project site and the off-site improvement area associated with SR-25 would be addressed through a portable restroom service provider. Wastewater generated operationally at the Z-Best facility through employee restrooms and sinks is disposed of through an existing mound septic system. The existing mound septic system is designed to handle a maximum of 600

gallons per day of wastewater. The current average daily volume generated at the facility is about 182 gallons. With new employees to be hired as part of the proposed project, average daily wastewater generation will increase to nearly 300 gallons per day, or about 48 percent of the mound septic system capacity. The existing mound system has been tested and its capacity and condition to accept the new flow has been found to be acceptable (Z-Best 2017). Therefore, soils would be capable of supporting the increased use of existing septic systems at the project site, and this impact would be **less than significant**.

14.2.2.5 Geological Resources (Checklist Question f)

Paleontological Resources

Based on Appendix G of the CEQA Guidelines, implementation of the proposed project would result in a potentially significant impact on paleontological resources if it would directly or indirectly destroy a unique paleontological resource or site. A "unique paleontological resource or site" is one that is considered significant under the following professional paleontological standards:

An individual vertebrate fossil specimen may be considered unique or significant if it is identifiable and well preserved, and it meets one of the following criteria:

- a type specimen (i.e., the individual from which a species or subspecies has been described);
- a member of a rare species;
- a species that is part of a diverse assemblage (i.e., a site where more than one fossil has been discovered) wherein other species are also identifiable, and important information regarding life history of individuals can be drawn;
- a skeletal element different from, or a specimen more complete than, those now available for its species; or
- a complete specimen (i.e., all or substantially all of the entire skeleton is present).

The value or importance of different fossil groups varies, depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Marine invertebrates generally are common, the fossil record is well developed and well documented, and they would generally not be considered a unique paleontological resource. Identifiable vertebrate marine and terrestrial fossils generally are considered scientifically important because they are relatively rare.

Based on a review of the *Geologic Map of the Monterey 30' x 60' Quadrangle* (Wagner et al. 2002) and the *Geologic Map of the Chittenden Quadrangle* (Dibblee 2006), the project site and the surrounding area, including the proposed off-site improvements associated with SR-25, are composed of Holocene-age (i.e., 11,700 years Before Present to Present Day) Alluvial and Basin Deposits. In order to be considered a fossil, a resource must be more than 11,700 years old. Holocene deposits contain only the remains of extant, modern taxa (if any resources are present), which are not considered "unique" paleontological resources. The maximum depth of excavation at the project site ranges from 5–15 feet below the ground surface, and since the depth of the Holocene Alluvial and Basin Deposits in the project area extends to depths of at least

50–100 feet below the ground surface, project-related earthmoving activities would occur only within these two Holocene-age formations. Thus, there would be **no impact.**

Unique Geological Features

A unique geologic feature consists of a major natural element or group of elements that stands out in the landscape and which are considered among the best of its kind. These features could include a large and scenic river, deep gorge or canyon, scenic waterfall, volcanic cinder cone, lava field, or glacier. There are no unique geologic features at the project site or the off-site improvement area associated with SR-25. Thus, there would be **no impact.**

14.3 Hazards and Hazardous Materials

14.3.1 Thresholds of Significance

Would the project:

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

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

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

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment?

e) For a project located within an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or a public-use airport, result in a safety hazard or excessive noise for people residing or working in the project area?

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

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

14.3.2 Impact Discussion

14.3.2.1 Hazardous Materials (Checklist Questions a and b)

Existing Z-Best operations do not involve transporting or disposing of hazardous materials. Z-Best does store minor amounts of hazardous materials on site associated with maintaining equipment and regulatory requirements for maintaining acceptable sanitary conditions. Existing operations do not result in release of hazardous materials to the environment. The proposed project would not modify existing operations in regard

to hazardous materials. Further, Z-Best has a Spill Prevention, Control, and Countermeasure Plan and a Consolidated Emergency Response/Contingency Plan in place consistent with federal and state requirements. Consequently, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, there would be **no impact**.

14.3.2.2 Hazardous Emissions Near Schools (Checklist Question c)

The nearest school is the Dr. TJ Owens Gilroy Early College Academy, a public high school created in partnership between Gilroy Unified School District and Gavilan College, located approximately 2.8 miles northeast of the project site (Google Earth 2022a). Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, there would be **no impact**.

14.3.2.3 Contaminated Sites (Checklist Question d)

The project site is not located on a site which is included on a list of hazardous materials sites such that the project would create a significant public hazard (California Department of Toxic Substances Control 2022). Therefore, there would be **no impact**.

14.3.2.4 Airport Hazards (Checklist Question e)

The nearest facility is Frazer Lake Airpark, located approximately 2.3 miles east of the project site (Google Earth 2022b). Frazer Lake Airpark is a small, privately-owner airpark hosting classic antiques, homebuilt, and certified aircraft. The Hollister Municipal Airport is located nearly six miles southeast of the project site. The project site is not located within an airport land use plan or within two miles of a public airport. Therefore, the proposed project would not result in a safety hazard or excessive noise associated with an airport for people residing or working in the project area. Therefore, there would be **no impact**.

14.3.2.5 Emergency Response and Evacuation Plans (Checklist Question f)

The project site does not provide emergency access or facilities and is not identified or referred to in the *County of Santa Clara Emergency Operations Plan* (County 2017). The project would not permanently block public roadways or otherwise impede implementation of an emergency response plan or evacuation plan. The impact of proposed SR-25 improvements on emergency access is discussed in Section 13, Transportation, under Impact TRA-4. Therefore, the impact would be **less than significant**.

14.3.2.6 Wildfire Hazards (Checklist Question g)

See Section 14.9, *Wildfire* for discussion of impacts pertaining to wildfire hazards.

14.4 Mineral Resources

14.4.1 Thresholds of Significance

Would the project:

a) Result in loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land-use plan?

14.4.2 Impact Discussion

14.4.2.1 Mineral Resources (Checklist Questions a and b)

According to the California Geological Survey's Mineral Resource Zone Map for Construction Aggregate in the Monterey Bay Production-Consumption Region (Key 2021), the project site is within an area identified as Mineral Resource Zone-1. The Mineral Resource Zone-1 notation includes areas where available geologic information indicates that little likelihood exists for the presence of significant construction aggregate resources. Because the project would not be located within an area of known mineral resources, the project would not result in the loss of known mineral resources or result in the loss of availability of a locally important resource recovery site. Therefore, there would be **no impact**.

14.5 Population and Housing

14.5.1 Thresholds of Significance

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

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

14.5.2 Impact Discussion

14.5.2.1 Growth Inducement (Checklist Question a)

The proposed project would add 30 new employees on-site in addition to the 60 employees currently at the site for a total of 90 employees. The applicant assumes that new employees would live in generally the same locations as existing employees.

Existing employees live in Hollister (51 percent), Gilroy (26 percent), Los Banos (12 percent) and the San Jose area (six percent) (Hexagon Transportation Consultants 2020a). Therefore, it is anticipated that these additional employees would come from the local labor pool and would not generate the demand for new residential development or directly induce substantial, unplanned population growth. The proposed increase in MSW processing capacity at the site is for the purpose of diverting a greater proportion of existing MSW from landfills and would not remove any barrier to growth that would indirectly induce population growth. Therefore, there would be **no impact**.

14.5.2.2 Displacement of People or Housing (Checklist Question b)

The proposed project would not involve the demolition or abandonment of existing residential uses and therefore would not displace existing people or housing. Therefore, there would be **no impact**.

14.6 Public Services

14.6.1 Thresholds of Significance

Would the project:

a) Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
   i. Fire protection?
   ii. Police protection?
   iii. Schools?
   iv. Parks?
   v. Other public facilities?

14.6.2 Impact Discussion

14.6.2.1 Public Services (Checklist Question a)

Police and Fire Services

The project site is served by the South Santa Clara County Fire District. The nearest district fire stations are located at 3050 Hecker Pass Highway and at 10810 No Name Uno in Gilroy, both of which are approximately 10 miles from the project site. Law enforcement services are provided by the Santa Clara County Sheriff's Office. The nearest Sheriff station is the South County Station located at 80 W. Highland Avenue in San Martin. California Highway Patrol may also respond to incidents on SR-25 or US-101.

The proposed project would employ a maximum of 30 additional people on-site (with 60 employees currently employed at the site), for a total of 90 employees. While the increase in employees may proportionally increase the need for fire and or law enforcement calls at the project site, there is no evidence that such an increase would require the construction of new public facilities. As discussed in Section 13, Transportation, construction of the SR-25 improvements may require temporary lane closures or other traffic control measures that might temporarily increase emergency service response times; however, due to the short-term nature of these construction-related disruptions would not necessitate the construction of new or altered public service facilities. Therefore, the project would not result in physical impacts associated with the provision of or need for new or physically altered police or law enforcement facilities, or other public facilities. Therefore, there would be **no impact**.

Schools, Parks, and Other Public Services

The applicant anticipates that new employees would live in generally the same locations as existing employees, who live in Hollister (51 percent), Gilroy (26 percent), Los Banos (12 percent) and the San Jose area (six percent) (Hexagon Transportation Consultants 2020a). Therefore, it is anticipated that these additional employees would come from the local labor pool and would not generate the demand for new residential development. Therefore, the project would not result in physical impacts associated with the provision of or need for new or physically altered school or park facilities or other public services. Therefore, there would be **no impact**.

14.7 Recreation

14.7.1 Thresholds of Significance

Would the project:

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

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

14.7.2 Impact Discussion

14.7.2.1 Increased Use of Recreational Facilities (Checklist Question a)

The proposed project would add 30 new employees on-site in addition to the 60 employees currently at the site for a total of 90 employees. As discussed previously, it is anticipated that these additional employees would come from the local labor pool and would not generate the demand for new residential development. Therefore, the project would not increase the use of existing neighborhood and regional parks or other

recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, there would be **no impact**.

14.7.2.2 New or Expanded Recreational Facilities (Checklist Question b)

The proposed project does not include recreational facilities, and for the reasons described above, would not increase demand for recreational facilities requiring the construction or expansion of recreational facilities. Therefore, there would be **no impact**.

14.8 Utilities and Service Systems

14.8.1 Thresholds of Significance

Would the project:

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

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

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

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

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

14.8.2 Impact Discussion

14.8.2.1 New or Expanded Utilities (Checklist Question a)

The proposed project would be served by existing on-site utilities and would not require the construction of new or expanded potable water, wastewater, electric power, natural gas, or telecommunication facilities with potential to cause significant environmental effects. Therefore, the project would have **no impact** related to constructing these types of facilities.

14.8.2.2 Sufficient Water Supplies (Checklist Question b)

The project site is not served by a municipal or public potable water supply. Section 14 of this EIR discusses the proposed water supply for the project, which would come from

groundwater (domestic and composting water needs) and retained stormwater (composting and dust control water needs). As discussed in that section, the proposed increase in water use at the site as a result of project improvements would not result in substantial groundwater drawdown or affect the sustainability of the groundwater basin; therefore, sufficient water supplies would be available to serve the project and there would be **no impact**.

14.8.2.3 Sufficient Wastewater Capacity (Checklist Question c)

The project site is not served by a municipal or public wastewater system. As discussed in Section 14.2.2.4 above, the existing mound septic system at the site is designed to handle a maximum of 600 gallons per day of wastewater. The current average daily volume generated at the facility is approximately 182 gallons. With the addition of 30 new employees to be hired as part of the proposed project, average daily wastewater generation is estimated to increase to nearly 300 gallons per day, or about 48 percent of the mound septic system capacity. Therefore, there would be adequate wastewater capacity to serve the project and there would be **no impact**.

14.8.2.4 Solid Waste (Checklist Questions d and e)

The proposed project is designed to expand MSW composting capacity at the Z-Best site to help implement state solid waste diversion/recycling goals, particularly goals related to related to reducing the amount of organic waste that is delivered to landfills. Please refer to Section 4.1, Project Purpose, for more information.

As shown in Table 4-1, Proposed Changes in Daily and Peak Day Limits, the proposed project would increase Z-Best facility's current Solid Waste Facilities Permit daily tonnage limits from 1,500 tons per day to 2,750 tons per day. This increase of 1,250 tons per day would be comprised solely of MSW and inert materials. Of the 1,250 tons per day, up to 875 tons per day would be comprised of compostable MSW (e.g., food and paper waste) that would be composted on site. The balance would be comprised of inert materials such as plastic that cannot be composted. The inert materials would be hauled off site for landfill disposal. Under peak day limits, the volume of MSW intake does not change relative to daily intake volumes. Therefore, the total amount of MSW that would be diverted from landfills is equivalent to 875 tons per day of compostable MSW multiplied by 365 days per year or approximately 319,375 tons per year. Therefore, the project would have a beneficial impact by supporting attainment of state solid waste reduction goals and there would be **no impact**.

14.9 Wildfire

14.9.1 Thresholds of Significance

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

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

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

14.9.2 Impact Discussion

14.9.2.1 Wildfire Hazards (Checklist Questions a through d)

The project site is not within a state responsibility area or a high fire hazard severity zone (California Department of Forestry and Fire Protection 2022). According to Figure 5N-1, Relative Fire Hazard, of the Santa Clara County General Plan, the project site is not located within a fire hazard area. The nearest “Areas of Extreme Fire Hazard” to the project site are located approximately five miles northeast of the project site. The proposed project would not increase the existing developed footprint of the Z-Best facility or include improvements that would result in increased susceptibility to fire hazards. Therefore, the project would not impair an adopted emergency response plan or emergency evacuation plan; or due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire; or require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

15 Cumulative Impacts

15.1 Cumulative Impact Assessment Methodology

CEQA requires that an EIR include an assessment of the cumulative impacts that could be associated with implementation of a project. This assessment involves examining project-related effects in connection with the environmental effects of past, current, and probable future projects. An EIR must discuss the cumulative impacts of a project when the project's incremental effect would be cumulatively considerable contribution to a significant cumulative impact (CEQA Section 21083(b)(2)).

Although project-related impacts may be individually minor, in combination with other past, present, and probable future projects producing related impacts, where the project's incremental effect could be cumulatively considerable, the EIR should evaluate whether the project's effect, in combination with other projects, would be cumulatively significant (CEQA Guidelines Section 15130(a)). CEQA Guidelines Section 15130(b) indicates that the level of detail for the cumulative impact analysis need not be as great as for the project impact analyses, but that it should reflect the severity of the impacts and their likelihood of occurrence, and that it should be focused, practical, and reasonable.

CEQA Guidelines Section 15130(b)(1) identifies two approaches to analyzing cumulative impacts. The first is the list approach, through which a defined set of past, present, and probable future projects producing related or cumulative impacts is considered for analysis. The second is the summary approach (also known as the "plan" approach), wherein the relevant projections, as contained in an adopted general plan or related planning document that evaluates regional or area wide conditions, are summarized. This EIR's cumulative impact analysis is based on a combination of these approaches, as described below, depending on the resource area being analyzed.

The methodology for addressing each cumulative impact topic is to: 1) summarize the proposed project impacts; 2) identify the geographic boundary or scope for the environmental topic; 3) determine whether past projects, other current projects, and foreseeable future projects, have or will likely combine to create a significant cumulative impact; and, if so, 4) evaluate whether the impacts of the proposed project to the cumulative impacts is cumulatively considerable (and therefore, significant).

An EIR should not discuss impacts which do not result in part from the project being evaluated; therefore, topics where the project itself would have "no impact" are not analyzed within this section.

15.1.1.1 Cumulative Projects List

The effects of past and present projects on the environment are reflected by the existing conditions in the project area. A list of probable future projects in the vicinity of the project site is provided below in Table 15-1, Cumulative Project List. The table is not intended to be an all-inclusive list of projects in Santa Clara County or surrounding

jurisdictions, but rather probable future projects in the project vicinity that have the possibility of combining with the project to generate a cumulative impact (based on proximity and construction schedule) and either:

- are partially occupied or under construction at the time of the NOP),
- have received final discretionary approvals at the time of the NOP, or
- have applications accepted as complete by local agencies and are currently undergoing review at the time of the NOP.

The following sources were utilized to identify planned, approved, or under construction projects that may contribute to cumulative impacts within the project area:

- Communications with staff from the County of Santa Clara, County of San Benito County staff (Tafoya, pers. comm. 2022), City of Gilroy (Romagnoli, pers. comm. 2022), and Caltrans (Guduguntla, pers. comm. 2022).
- County of Santa Clara "Development Projects" interactive website (County of Santa Clara County 2022).
- San Benito County GIS portal, "Tentative Map Layer" (San Benito County 2022a), "Project Notices" website (San Benito County 2022b) and "Current Major Planning Projects" website (San Benito County 2022c).
- City of Gilroy "Planning Current Project Log" (City of Gilroy 2022).

Table 15-1 identifies current and probable future projects that were considered in the development and analysis of the project's potential cumulative impacts. The project locations are illustrated on Figure 15-1, Locations of Cumulative Projects.

Table 15-1 Cumulative Project List

Map #	Project	Status	Location	Project Description
1	Z-Best Temporary Office Trailers	Approved	At project site	Z-Best intends to install two temporary office trailers at the site for use by employees until the previously unpermitted modifications to the existing office/shop building are legalized through issuance of the Use Permit for the Facility Expansion Project.
2	Sargent Quarry	Proposed	1.6 miles to west of Z-Best facility	A sand and gravel mining operation, as well as construction and operation of aggregate processing facilities, on approximately 320 acres. The remaining approximately 6,083 acres of the Sargent Ranch would be maintained in their current conditions
3	Christopher Ranch Processing Plant	Proposed	305 Bloomfield Avenue, Unincorporated Santa Clara County	Use Permit modification for Christopher Ranch's processing facility, located at 305 Bloomfield Avenue, Gilroy
4	Grading Abatement	Proposed	1020 Highway 25, Unincorporated	Grading abatement for 2,000 CY of base rock imported and placed to average depth of 18 inches

Map #	Project	Status	Location	Project Description
			Santa Clara County	
5	PFG Warehouse	Under Construction	5480 Monterey Road, Gilroy	Grocery and dry goods distribution center with 347,651 square-foot warehouse
6	Gateway Apartments	Under Construction	Monterey Road/Ervin Court	4-story, 75-unit affordable senior housing
7	Hampton Inn	Under Construction	5975 Travel Park Circle	100-room hotel with basement parking garage
8	Construction Storage Yard	Approved	360-380 Obata Way, Gilroy	Two industrial lots, construction storage yards
9	Larson Steel	Plan Check	5747 Obata Way, Gilroy	Extension of approval AS17-23 (expires 7/20/20) - New warehouse for steel construction company
10	5987 Obata	Approved	5987 Obata Way, Gilroy	Conditional use permit to legalize expansion of an existing recycling facility
11	New Warehouse	Approved	Corner of Obata Way and Maycock	New 16,340 square-foot metal industrial warehouse building
12	205 Maycock	Under Construction	205 Maycock Road, Gilroy	10,000 square-foot addition to industrial building
13	Strada Verde Innovation Park	NOP released April 2022	San Benito County, between Pajaro River and Union Pacific Railroad Corridor (Immediately east of Z-Best facility).	Application for General Plan Amendment, a Specific Plan, a Zone Change, a Vesting Tentative Map, and a Development Agreement to allow the creation of a new automotive research and development campus and business center on an approximately 2,767-acre lot. At maximum build-out, the proposed project would include approximately 7,221,159 square feet in testing grounds, research park, e-commerce, and commercial areas. Access proposed via Y Road to US-101 with optional emergency vehicle access to SR-25.
14	SR-25/Bolsa Road Intersection Restriping	Being constructed in Summer 2023	SR-25/Bolsa Road Intersection	Pavement restriping to provide an southbound center receiving lane (refuge lane) for traffic turning left out of Bolsa Road onto SR-25, and a left turn lane for traffic turning onto Bolsa Road from southbound SR-25.
15	SR-25 Expressway Conversion Project	Environmental review, design, and construction pending further funding.	SR-25 between US-101 and San Felipe Road	Caltrans, in cooperation with the Council of San Benito County Governments (SBCOG) and the Santa Clara Valley Transportation Authority (VTA), is proposing the eventual replacement and/or realignment of 11.2 miles of the existing SR-25 two-lane highway with a four-lane expressway in San Benito and Santa Clara counties. San Benito COG and Caltrans entered a Cooperative Agreement for the southern segment (south of Hudner Road).

Map #	Project	Status	Location	Project Description
16	US-101/SR-25 Interchange Phase 1	Proposed for construction 2024-2027	US-101 and SR-25 interchange	Replacement of existing overcrossing; off-ramp improvements (including ramp signals); and realignment of SR-25.

Source: Santa Clara County 2022, City of Gilroy 2022; San Benito County 2022a, 2022b, 2022c, 2022d; SVIP 2022; Caltrans 2023.
Notes:
Caltrans = California Department of Transportation
COG = County Government
CY = cubic yards
NOP = Notice of Preparation
SR-25 = State Route 25

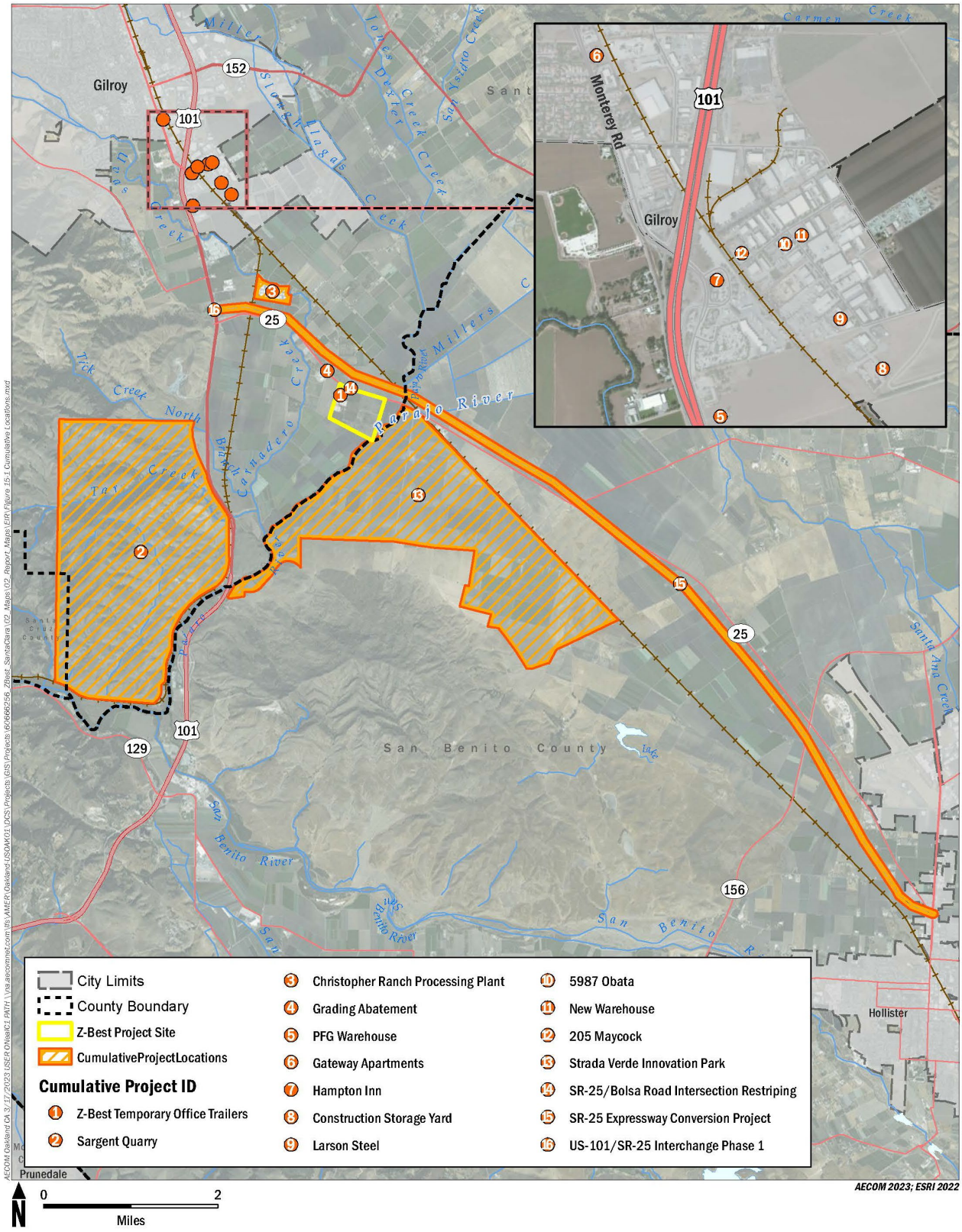


Figure 15-1 Locations of Cumulative Projects

15.1.1.2 Projected Cumulative Growth

The southern boundary of the City of Gilroy is approximately 2.75 miles northwest of the project site, while the western boundary of San Benito County is immediately east of the project site at the Pajaro River. Because SR-25 is a heavily traveled corridor for residents and businesses in the City of Hollister, existing and proposed future development in the City of Hollister is a notable contributor to cumulative air quality, noise, and traffic conditions in the project vicinity. The Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission's (MTC) Plan Bay Area 2050, City of Gilroy 2040 General Plan, and the Association of Monterey Bay Area Governments' (AMBAG) 2022 Regional Growth Forecast were reviewed to identify anticipated growth within the region that might affect the severity of project impacts identified in this EIR.

Santa Clara County is projected to increase from 623,000 households in 2015 to 1,075,000 households in 2050, a 73 percent increase over the 35-year period. The South Santa Clara County subarea (containing the cities of Gilroy, Morgan Hill, and southern parts of San Jose, and surrounding unincorporated areas) is projected to increase from 35,000 households in 2015 to 43,000 households in 2050, a 24 percent increase (ABAG and MTC 2021). ABAG projections for the City of Gilroy indicate an increase in population from approximately 53,000 residents in 2015 to 61,000 in 2040 (15 percent increase over 25 years), however the City's own projections indicate that Gilroy could have a population of between 72,800 and 84,400 residents by 2040 (37 to 59 percent increase over 25 years) (City of Gilroy 2019).

San Benito County's population is projected to increase from approximately 58,000 residents in 2015 to more than 83,000 residents in 2045, a change of 43 percent over the 30-year period. The City of Hollister population is projected to increase from approximately 37,300 residents in 2015 to 45,600 residents in 2045, an approximately 22 percent increase (AMBAG 2022).

15.1.1.3 Geographic Scope

The geographic scope of the area affected by cumulative impacts can vary with the specific environmental topic being evaluated. Generally, for specific projects, the geographic scope of the area affected by cumulative impacts is larger than the boundary of the project site itself. For purposes of analyzing cumulative impacts, the geographic scope of the area affected ranges from development within the immediate project site area vicinity to much broader areas such as the county or the air basin. For example, aesthetic impacts are evaluated within a geographic boundary that includes the project site and the immediate project vicinity, the entire air basin is the geographic boundary used in the cumulative air quality analysis and the proposed project effect on climate change is evaluated at a state/global scale. Identification of the geographic scope for each topic is included at the start of each cumulative impact discussion.

15.2 Thresholds of Significance

The discussions below address the following aspects of cumulative impacts:

- Would the effects of the proposed project, when combined with the effects of all past, present, and pending development result in a cumulatively significant impact on the resources in question?
- If a cumulative impact is likely to be significant, would the contribution of the proposed project to that impact be cumulatively considerable?

15.3 Cumulative Impact Analysis

As described in earlier sections of this EIR, the proposed project would have no impact in the areas of hazards and hazardous materials, mineral resources, population and housing, public services, recreation, or wildfire impacts. Therefore, the proposed project would have no contribution to cumulative project impacts in these areas. No further evaluation of these issues is required with respect to cumulative impacts.

15.3.1 Aesthetics

15.3.1.1 Proposed Project Impact Summary

As discussed in Section 5, Aesthetics, the proposed project would result in the following aesthetic impacts:

- Impact AES-1. The proposed project would not have an Adverse Effect on a Scenic Vista. **No Impact.**
- Impact AES-2. The proposed project Could Degrade the Existing Visual Character or Quality of the Site and Its Surroundings. **Less than Significant with Mitigation Incorporated.**
- Impact AES-3. The proposed project Would Introduce New Sources of Light with the Potential to Adversely Affect Nighttime Views. **Less than Significant.**

In accordance with Section 15130(a)(i) of the CEQA Guidelines, impacts for which the project was determined to have no impact are not analyzed within the cumulative analysis, as the project would not contribute to the overall cumulative impact for that topic.

15.3.1.2 Cumulative Context

The geographic scope for cumulative aesthetic impacts is the area visible from the approximately nine-mile long segment of SR-25 located between Highway 101 and SR 156. This segment extends through southern Santa Clara County into western San Benito County. Beyond this segment, the project would contribute to visual effects. This boundary encompasses the largely rural visual landscape through which the highway passes. The landscape is dominated by foreground and background views of agricultural land and more distance mountains both north and south of the highway. Scattered agricultural industrial related uses occur intermittently along the highway, interspersed with the dominant rural agricultural landscape.

15.3.1.3 Cumulative Impacts

Visual Character and Quality

Past and existing cumulative urban development within the SR-25 corridor has been relatively limited. Visual character and quality continue to be defined by views of rural landscapes, agricultural lands and distant mountain ranges with scattered individual agricultural support uses and homes. The area remains zoned primarily for agricultural use and ancillary support uses. With the exception of the temporary trailer project and Strada Verde Innovation Park (SVIP) Specific Plan, discussed further below, none of the other cumulative projects in Table 15-1 would affect the visual character and quality of the SR-25 corridor as they would not be visible from the corridor, due to distance.

The temporary office trailers to be installed at the Z-Best site would only be intermittently visible from the SR-25 corridor, due to their proposed location behind (south of) the existing office/shop building, which would largely screen them from the sight of passing motorists. The trailers would be a maximum of 12 feet in height and located within an area of the property that already contains structures and buildings, and therefore would not combine with improvements related to the proposed project to adversely affect the visual character and quality of views from the SR-25 corridor.

Due to the relatively flat topography and general lack of existing development and vegetation along the SR-25 corridor, future development within the 2,767-acre SVIP Specific Plan area is likely to be visible from the highway, even though only a short segment (approximately 1,100 feet) would directly abut SR-25. The most intensive development uses (commercial, research park, and e-commerce) would be concentrated on approximately 400 acres near the center of the site, approximately half a mile from the highway and would be subject to design guidelines, which include a maximum building height of between 45 to 55 feet (although certain logistical uses and wind tunnels up to 140 feet would be permitted in some areas more than a half-mile from SR-25). The area closest to the highway (adjacent to the Pajaro River) would be rehabilitated as a 400-acre wetlands and riparian preserve, with another approximately 150 acres of upland habitat preserve and 650 acres of agriculture, greenway, or stormwater management uses. Approximately 1,000 acres of the specific plan area would be developed as “testing grounds” with open areas, roads, tracks, and other features designed for the testing and engineering of new technology in the mobility sector (e.g., electric and automated vehicles) and supporting ancillary facilities. Whether the SVIP Specific Plan on its own would result in a significant impact to the visual character of the area has not been determined, as the EIR for that project has not yet been completed, but there is potential that the future development may degrade the existing views of rural landscapes, agricultural lands, and distant mountain ranges, and result in a more urbanized character along the corridor. The overall cumulative impact could therefore be **potentially significant**.

The main impact to visual character from the proposed Z-Best project relates to the potential for windblown debris and litter along the highway, and changes to the highway itself to accommodate the new site access, as other proposed project components would be barely discernable from the existing composting operations occurring at the site. Neither the potential increase in debris, nor the proposed changes to the highway access would contribute to or block views of rural landscapes, agricultural lands and distant mountain ranges that characterize the current visual character of SR-25 corridor, nor result in a more urbanized character. Therefore, even if the overall combined impact

of future development were to have a significant cumulative impact on visual quality, the proposed project's contribution to that cumulative impact would be **less than cumulatively considerable.**

Lighting and Nighttime Views

Development associated with the SVIP Specific Plan would include new buildings, street lighting, and parking lots, and associated exterior lighting sources, but such new development would be subject to the design guidelines of the Specific Plan, which require shielding, adherence to "dark sky" principles, and other guidelines which would limit the potential for glare, light spill or sky glow from new lighting sources (SVIP 2022). Due to the distance between the main development areas of the SVIP property and the proposed project, the presence of the Pajaro River riparian corridor between the two sites, and the proposed enhancement of riparian vegetation along the river as part of the specific plan, the impacts of new lighting sources from both project sites would be unlikely to combine. The overall cumulative impact would be **less than significant**.

15.3.2 Agriculture and Forestry Resources

15.3.2.1 Proposed Project Impact Summary

As discussed in Section 6, Agriculture and Forestry Resources, the proposed project would result in the following impacts:

- Impact AFR-1. Conversion of Farmland to Non-Agricultural Use. **No Impact.**
- Impact AFR -2. Conflict with Agricultural Zoning. **No Impact.**
- Impact AFR -3. Indirect Conversion of Farmland to Non-Agricultural Use. **Less than Significant.**

In accordance with Section 15130(a)(i) of the CEQA Guidelines, impacts for which the project was determined to have no impact are not analyzed within the cumulative analysis, as the project would not contribute to the overall cumulative impact for that topic.

15.3.2.2 Cumulative Context

Agriculture is a large contributor to California's economy and extremely important in providing a stable and healthy food source to the State and the rest of the nation (USDA, 2016). The geographic scope for consideration of cumulative agricultural impacts is southern Santa Clara County and adjacent portions of San Benito County.

15.3.2.3 Cumulative Impact Analysis

Indirect Conversion of Farmland to Non-Agricultural Use

According to comments received on the original Draft EIR (Taylor 2021, Willoughby Farms, JRG 2021), past and current development at the Z-Best property has indirectly resulted in approximately 122 to 135 acres of the neighboring property (Sargent Ranch, operated by Willoughby Farms, Inc.) being unable to be farmed for food crops due to stringent food safety protocols which require a setback from active composting operations. Other future cumulative development within the unincorporated areas of Santa Clara and San Benito counties would result in direct conversion of agricultural

lands to non-agricultural uses, and could potentially also result in additional indirect conversion of farmland to non-agricultural uses. For example, the SVIP Specific Plan on the property to the southeast of the Pajaro River from the Z-Best project site and Sargent Ranch would result in all but 227 acres of the 2,767-acre property being converted to non-agricultural uses such as research and development, commercial and e-commerce uses, as well as wetlands, and stormwater management. Other cumulative development on the urban-agricultural boundary near the cities of Hollister and Gilroy could result in indirect impacts due to incompatibility of some agricultural uses with residential uses. This overall cumulative impact is **potentially significant**.

However, as discussed in Section 6.4.3, the proposed project would not directly convert agricultural lands to non-agricultural uses, and any potential indirect impacts (e.g., due to increased bird activity potentially resulting in loss of viability for food crop farming on adjacent parcels) would not preclude the use of such lands for other agricultural purposes such as grazing or non-edible crops. Although such alternative agricultural uses may not have the same economic benefits as food crop farming, economic or financial impacts are not considered a physical environmental impact under CEQA. Therefore, the project's contribution to the overall cumulative impact would be **less than cumulatively considerable**.

15.3.3 Air Quality

15.3.3.1 Proposed Project Impact Summary

As discussed in Section 7, Air Quality and Odors, the proposed project would result in the following impacts:

- Impact AIR-1. Criteria Pollutant Emissions – Construction. **Less than Significant with Mitigation.**
- Impact AIR-2. Criteria Pollutant Emissions – Operations. **Significant and Unavoidable.**
- Impact AIR-3. Exposure of Sensitive Receptors to Carbon Monoxide. **Less than Significant.**
- Impact AIR-4. Exposure of Sensitive Receptors to Toxic Air Contaminants from Truck Trips. **Less than Significant.**
- Impact AIR-5. Exposure of Sensitive Receptors to Toxic Air Contaminants from Composting Operations. **Less than Significant (beneficial).**
- Impact AIR-6. Other Emissions - Odors. **Less than Significant.**
- Impact AIR-7. Other Emissions - Bioaerosols. **Significant and Unavoidable.**
- Impact 6-6. Consistency with the Clean Air Plan. **Significant and Unavoidable.**

15.3.3.2 Cumulative Context

This section describes the potential cumulative air quality impacts resulting from the proposed project in conjunction with past, present, and future projects. For criteria air pollutant emissions impacts and the analysis of air quality plan conflicts, the geographic scope for the cumulative analysis is considered to be the boundary of the air basin,

which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. It is appropriate to consider the entire air basin because air emissions can travel substantial distances and are not confined by jurisdictional boundaries; rather, they are influenced by large-scale climatic and topographical features. By its very nature, air pollution is largely a cumulative impact.

However, some air quality emissions can be localized, such as toxic air contaminant impacts, carbon monoxide impacts, and impacts from other emissions, such as those leading to the generation of odors and bioaerosols.

The geographic scope of the project's potential to contribute to carbon monoxide impacts would be primarily limited to intersections to which the project would contribute new vehicle trips that could also have foreseeable additional new vehicle trips due to probable future projects. For the cumulative analysis of exposure of sensitive receptors to sources that generate toxic air contaminant emissions, the BAAQMD considers a 1,000-foot radius (BAAQMD 2017a). The temporal context would include those probable future projects that have the potential to emit toxic air contaminants that could result in exposure of the same sensitive receptors as the proposed project during the same time period.

Similarly, the geographic scope of the project's potential to contribute to impacts from other emissions such as those resulting in odors or bioaerosols would be limited to the immediate vicinity of the project site. The temporal context would include those probable future projects that have the potential to emit pollutants or other emissions that could result in exposure of the same sensitive receptors as the proposed project during the same time period.

15.3.3.3 Cumulative Impact Analysis

Criteria Air Emissions and Consistency with the Clean Air Plan

As described above, the SFBAAB is in nonattainment for ozone, particulate matter with aerodynamic diameter less than 10 microns (PM_{10}), and particulate matter with aerodynamic diameter less than 2.5 microns ($PM_{2.5}$) with respect to the state ambient air quality standards. The nonattainment status of regional pollutants is a result of past and present development in the SFBAAB, and this regional impact is cumulative rather than attributable to any one source and is potentially significant. Cumulative projects throughout the air basin would generate construction and operational air emissions that could contribute to regional air quality impacts. Generally, projects that are consistent with the applicable planning documents used to formulate the Clean Air Plan and State Implementation Plan would not produce emissions beyond what is forecast and would not hinder the ability to meet air quality standards. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Construction-related emissions of the proposed project would not exceed the thresholds of significance recommended by the BAAQMD. In addition, with implementation of MM-AIR-1, the proposed project would not generate substantial fugitive dust emissions. Therefore, in relation to the potentially significant cumulative impacts on criteria air pollutants generated during construction, the proposed project's incremental contribution would not be cumulatively considerable. However, as described for Impact AIR-2, during operations, the proposed project would generate nitrogen oxide (NO_X) emissions that exceed the BAAQMD thresholds of significance. Implementation of MM-AIR-2 would reduce operational NO_X emissions, but not below the BAAQMD thresholds. Therefore, the proposed project's contribution to cumulative operational NO_X impacts would be cumulatively considerable.

Although the proposed project would be consistent with strategies included in the BAAQMD 2017 Clean Air Plan, which is the plan for the region to reach and maintain attainment of all state and federal ambient air quality standards, because the proposed project would result in an exceedance of NO_X emissions, it would conflict with the overall purpose of the Clean Air Plan to set strategies to attain state and federal ambient air quality standards. Therefore, this impact would be cumulatively **significant and unavoidable**.

Carbon Monoxide

Concentration of CO is a direct function of vehicle idling time and, thus, traffic flow and congestion. As described in Impact AIR-3, the proposed project would not contribute to CO concentrations under worst-case conditions with greatest potential to adversely impact nearby sensitive receptors. CO concentrations in the SFBAAB have realized a significant decrease over the years, and the SFBAAB is currently in attainment for CO (BAAQMD 2017a). Therefore, no cumulative impact currently exists. In addition, past and existing cumulative urban development within the surrounding transportation network of the project area has been relatively limited. From the list of probable projects included in Table 15-1, the main project of concern that could generate additional vehicle traffic within the transportation network surrounding the project is the SVIP Specific Plan. Whether the SVIP Specific Plan on its own would result in a significant CO impact has not been determined, as the EIR for that project has not yet been completed; however, the preliminary technical studies indicate that the SVIP Specific Plan is not anticipated to result in a significant CO impact (Kimley Horn 2022). While future projects in the area could generate additional vehicle trips and congestion in the area, average CO ambient air quality concentrations have decreased substantially over the years due to improvements in vehicle emission standards and technology and will continue to decrease due to regulations such as the Advanced Clean Fleets. For these reasons, cumulative CO hotspot impacts as a result of the proposed project, combined with other past, present, and reasonably foreseeable projects, would be **less than significant**.

Toxic Air Contaminants (TAC)

As described in Impact AIR-4, TACs from diesel-fueled truck traffic trips on SR-25 would increase as a result of the proposed project, but would not exceed the BAAQMD thresholds of significance. With the exception of the temporary trailer project, the probable future projects in the vicinity of the project site listed in Table 15-1 would not be located within a 1,000-foot radius of the project site. Installation and eventual removal of the temporary trailers would require minimal heavy truck traffic over a very limited period

of time, and therefore would not be expected to cause TAC emissions that might combine with TAC emissions from the proposed project to cause a significant cumulative impact.

The most significant foreseeable development in the project area is the SVIP Specific Plan; however, the SVIP Specific Plan area boundary is located over 3,000 feet away from the proposed project site and over 2 miles away from the area proposed for the most intensive development uses (commercial, research park, and e-commerce). In addition, the proposed SVIP Specific Plan project would include no public access to/from SR-25, as all access (except for a secondary emergency access) would be provided via the Highway 101/Betabel Road interchange. The SVIP project is anticipated to reduce traffic on SR-25, by providing thousands of local jobs, many of which would be filled by San Benito County residents that currently commute to Silicon Valley on SR-25. Furthermore, vehicle trips associated with the SVIP Specific Plan are anticipated to be predominantly light-duty (i.e., not a source of diesel particulate matter) (Kimley Horn 2022). Therefore, buildout of the SVIP Specific Plan is not anticipated to add new diesel-related traffic in conjunction with the proposed project that would result in toxic air contaminant emissions that would be cumulatively considerable. Furthermore, the development of other projects considered in this cumulative analysis would be subject to the BAAQMD permit requirements, which includes health risk analyses. As discussed in Impact AIR-5, the proposed project would result in a decrease in TAC emissions from the composting process itself, due to the new technology providing greater control on emission-generating processes, therefore the proposed project would not result in cumulatively considerable increase in TAC emissions from onsite operations. Therefore, the overall cumulative impact relating to toxic air contaminants as a result of the proposed project onsite operations and truck traffic, combined with other past, present, and reasonably foreseeable projects, would be **less than significant**.

Odors

As described for Impact AIR-6 in Section 7, odor concentrations for the proposed ECS technology would be significantly lower relative to the current CTI technology. Therefore, because odor emissions under post-project conditions will decline relative to existing conditions, the project's contribution to cumulative odor impacts would be **less than cumulatively considerable**.

Bioaerosols

As described for Impact AIR-7 in Section 7, bioaerosols occur naturally in the environment and are typically introduced into the air via wind turbulence over a surface, such as soil or water. However, the production and/or transmission of bioaerosols can also be accelerated by various human activities, e.g., through processes that increase the number of biological particulates in a medium (such as composting) or through processes that increase turbulence or the surface area of the medium (such as tilling of the soil or ground-disturbing construction activities). As discussed in Section 7.4.7, bioaerosol concentrations quickly reduce with distance, and previous studies at other composting facilities have found that concentrations typically reduce to background levels within approximately 75 to 300 meters (246 to 984 feet) downwind of composting activities. The only cumulative projects within this distance of the project site are the temporary trailer project (onsite), the Caltrans restriping project within the SR-25 right-of-way immediately adjacent to the project site. Neither of these cumulative projects

would have potential to generate substantial bioaerosol emissions, due to the lack of ground disturbance. However, since the surrounding area remains zoned primarily for agricultural use and ancillary support uses, ongoing agricultural activities in close proximity to the project site could generate bioaerosol emissions that might combine with the proposed project's bioaerosol emissions.

As described in Impact AIR-7 and detailed in Appendix B-6, since regulatory exposure limits have not been established for bioaerosol emissions, and due to the uncertainties associated with correlating health risks to bioaerosol emissions, this overall cumulative impact is **potentially significant**. Since the effectiveness of MM-AIR-7a and MM-AIR-7b to reduce the project's bioaerosol emissions cannot be assured, it conservatively determined that the project's contribution to the overall cumulative impact would be **cumulatively considerable**.

15.3.4 Biological Resources

15.3.4.1 Proposed Project Impact Summary

As discussed in Section 8, Biological Resources, the proposed project would result in the following impacts:

- Impact BIO-1. Special-Status Wildlife Species (California Red-Legged Frog). **Less than Significant with Mitigation Incorporated.**
- Impact BIO-2. Special-Status Wildlife Species (Nesting Raptors and Migratory Birds). **Less than Significant with Mitigation Incorporated.**
- Impact BIO-3. Special-Status Wildlife Species (Western Mastiff Bay and Pallid Bat). **Less than Significant with Mitigation Incorporated.**
- Impact BIO-4. Wetlands. **Less than Significant with Mitigation Incorporated**.

15.3.4.2 Cumulative Context

The geographic distribution ranges for special-status species vary greatly depending largely on environmental factors such as habitat suitability criteria (e.g., some species may only occur locally while others may range throughout large geographic areas such as the western U.S.). For the purposes of cumulative analysis for special status species and other biological resources, including jurisdictional wetlands and waterways, the geographic boundary for cumulative impacts is generally defined as the nine 7.5-minute USGS quadrangles centered on the project site. These include the Mount Madonna, Gilroy, Gilroy Hot Springs, Watsonville East, Chittenden, San Felipe, Prunedale, San Juan Bautista, and Hollister USGS quadrangles. A 7.5-minute quadrangle map typically covers an area of about 49 to 70 square miles. An analysis at this level is considered adequate for determining whether impacts could affect the sustainability of special status species and their habitats. Within this area, regulatory agencies and conservation organizations including USFWS, CDFW, and California Native Plant Society, work to establish and update critical distribution range information for species thought to be declining within their geographic ranges due to habitat loss and degradation.

15.3.4.3 Cumulative Impacts

Special Status Species

Past and present projects within the nine-quadrangle geographic boundary identified above have permanently removed plant and wildlife habitats to varying degrees. This development has reduced the range and number of multiple plant and wildlife species and contributed to threats to their continued viability. The fact that federal and state agencies recognize numerous plant and wildlife species with special status, which requires that the species be given specific consideration and protection, reflects the agencies' concern that the species are declining in number and range relative to their historic occurrences. Special-status species are generally considered rare, restricted in distribution, declining throughout their range, and/or to have a critical, vulnerable stage in their life cycle, that warrants their protection and monitoring. Such development has also caused the loss and decline of sensitive natural plant communities including riparian, woodlands, and wetland communities; constrained wildlife movement; and reduced nesting and foraging habitat for resident and migratory avian species. The overall impact of past and present projects on special-status species and protected habitat communities are therefore cumulatively significant. The additional projects presented in Table 15-1, as well as those projects in the larger nine-quadrangle geographic area would further exacerbate the overall cumulative impact, which is **potentially significant.**

Implementation of project level mitigation measures identified in Section 8 (MM-BIO-1 through MM-BIO-3) would either avoid potential impacts to special status species or reduce impacts to a less-than-significant level. Given that the project site is relatively devoid of biological resource habitats and that the proposed mitigation measures have a strong track record of being effective, the impacts of the mitigated project on these special status species would be **less than cumulatively considerable**.

State and Federally Protected Wetlands

Past and present cumulative projects have resulted in impacts to wetlands and waterways under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, and Central Coast Regional Water Quality Control Board. Many of these projects were approved since enactment of federal and state legislation that mandate protecting or conserving these resources through regulatory permitting processes. These permits commonly include wetland habitat restoration requirements or other appropriate mitigation to ensure no net loss of habitat functions and values.

As discussed in Section 8.4.4, the proposed project may also impact jurisdictional wetlands, but implementation of project-level mitigation measure MM-BIO-4 would require the appropriate permits to be obtained. Because the wetland permitting process applies to all wetlands within the jurisdiction of the various agencies, and the permitting conditions are designed to achieve no net loss of wetland values or functions, the impact of the mitigated project on wetland resources would be **less than cumulatively considerable.**

15.3.5 Cultural Resources

15.3.5.1 Proposed Project Impact Summary

As discussed in Section 9, Cultural Resources, the proposed project would result in the following impacts:

- Impact CUL-1. Historical Resources or Unique Archaeological Resources. **Less than Significant with Mitigation Incorporated.**
- Impact CUL-2. Human Remains. **Less than Significant.**
- Impact CUL-3. Tribal Cultural Resources. **Less than Significant with Mitigation Incorporated**.

15.3.5.2 Cumulative Context

The geographic scope for historic and archaeological resources includes the City of Gilroy, the SR-25 corridor between U.S. Highway 101 and SR 152, and the City of Hollister and surrounding unincorporated areas. This boundary was selected because urban development within the two cities typically involves surface and subsurface disturbance activities such as grading, trenching, and excavations. These activities have a higher potential to impact historical resources and unique archaeological resources than do common agricultural cultivation practices within the SR-25 corridor, though this area was included due to its proximity to the project site.

15.3.5.3 Cumulative Impacts

Past, present, and future developments within unincorporated Santa Clara County and within the Cities of Gilroy and Hollister could impact known or unknown cultural resources, human remains, or tribal cultural resources, depending on the proximity to known resources, sensitivity of the area, and the extent of the proposed ground-disturbing activities. Such impacts would be **potentially significant**; however, each of the cumulative projects would be subject to its own environmental review under CEQA, either at a project-level or as part of a programmatic CEQA analysis, and therefore appropriate mitigation measures to avoid or reduce potential impacts would be required, similar to the proposed project. Furthermore, existing laws relating to the treatment of human remains and consultation with local tribal representatives would apply to all projects. With implementation of such mitigation measures and mandatory regulations, the overall cumulative effect on cultural resources, human remains, or tribal cultural resources would be reduced to **less than significant**.

15.3.6 Energy

15.3.6.1 Proposed Project Impact Summary

As discussed in Section 14.1, Energy, the proposed project would result in the following impacts:

- Wasteful, inefficient, or unnecessary consumption of energy resources. **Less than Significant.**

15.3.6.2 Cumulative Context

The geographic scope for this effect is cumulative development in California with particular emphasis on current and future cumulative development. This broad geographic context is reflective of the rigorous state effort, as expressed through multitude legislative acts and regulations, to reduce energy consumption across energy consumptive uses and sectors. The state effort has and continues to focus on the benefits of energy conservation with specific regard to addressing climate change and natural resource conservation.

15.3.6.3 Cumulative Impacts

Past, present, and probable future projects throughout the state would result in the irreversible use of diesel and gasoline resources during construction, as well as the incremental increase in energy consumption from facility energy uses and operational traffic associated with those projects. However, the use of such resources would be subject to the same regulatory framework relating to energy and fuel efficiency as the project and would be anticipated to become more energy efficient over time as regulatory requirements change and technological advancements are made. Therefore, while the overall use of electricity and natural gas associated with cumulative projects may increase, the energy use per square foot is expected to decrease due to compliance with modern standards and incorporation of modern technologies and design standards. Specifically, regarding petroleum use during construction, the proposed project and other future projects would consume energy associated with the off-road equipment, truck trips, and worker vehicle trips, but this energy use would be temporary and would be required to comply with BAAQMD Basic Construction Measures which would help reduce construction-related fuel usage.

During operation of the proposed project and future projects, increased land use intensity would result in additional vehicles miles traveled and increased electricity and/or natural gas consumption in the area. However, over the lifetime of the project and past, present, and future projects, the fuel efficiency of vehicles is expected to increase. Similarly, with increasingly stringent local and state regulations for energy efficiency in buildings, operational building energy consumption is also expected to decrease.

Furthermore, the project is designed to increase composting processing capacity to help implement statewide CalRecycle goals to increase waste diversion from landfills and to implement state regulations imposing restrictions on placing organic materials in landfills. The proposed ECS technology would be more energy efficient than the existing CTI technology, and is less wasteful than sending the MSW to landfill.

Therefore, the overall cumulative impact relating to energy consumption and consistency with energy plans would be **less than significant.**

15.3.7 Geology and Soils

15.3.7.1 Proposed Project Impact Summary

As discussed in Section 14.2, Geology and Soils, the proposed project would result in the following impacts:

- Substantial adverse effects involving fault rupture and landslides. **No Impact**.
- Substantial adverse effects involving seismic groundshaking and liquefaction. **Less than Significant Impact**.
- Result in substantial soil erosion or the loss of topsoil **Less than Significant Impact**.
- Be located on unstable or expansive soils. **Less than Significant Impact**.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. **Less than Significant Impact**.
- Destruction of a unique paleontological resource or unique geologic feature. **No Impact**.

In accordance with Section 15130(a)(i) of the CEQA Guidelines, impacts for which the project was determined to have no impact are not analyzed within the cumulative analysis, as the project would not contribute to the overall cumulative impact for that topic.

15.3.7.2 Cumulative Context

The geographic context for seismic hazards encompasses the California Coast Range Geomorphic Province. The geologic formations and soil types vary widely depending on project location and are site specific.

15.3.7.3 Cumulative Impacts

Other past, present, and reasonably foreseeable future developments may pose geological and soils hazards if identified impacts are not adequately mitigated. However, these types of hazards are typically site-specific, and therefore tend not to combine with other developments for a cumulative impact. Further, each of these other developments, similar to the project, would be required to evaluate potential geology and soils impacts and to implement feasible mitigation measures to reduce or avoid such impacts. Furthermore, the development of other projects considered in this cumulative analysis would be subject to the requirements of the CBC and County standards to reduce geologic and soil hazards. For these reasons, the overall cumulative impact relating to geology and soil, as a result of the proposed project, combined with other past, present, and reasonably foreseeable projects, would be **less than significant**.

15.3.8 Greenhouse Gases

15.3.8.1 Proposed Project Impact Summary

As discussed in Section 10, Greenhouse Gases, the proposed project would result in the following impacts:

- Impact GHG-1. GHG Emissions. **Less than Significant.**
- Impact GHG-2. Conflicts with applicable plans to reduce GHG emissions. **Less than Significant.**

15.3.8.2 Cumulative Context

As previously described, the geographic scope of consideration for GHG emissions is on a global scale, because such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies evaluate the cumulative impacts of GHGs, even relatively small additions, on a global basis.

15.3.8.3 Cumulative Impacts

Past, present, and future human activities have had, and are anticipated to continue to have, a significant effect on global climate, which is a **significant cumulative impact**. The GHG emissions impact analysis within Section 10 constitutes a cumulative analysis, in that it considers global, statewide, and regional projections of GHG emissions, as well as the contribution of the project, to GHG emission impacts. Therefore, the significance conclusions reached in Section 10.4 above for project-level impacts GHG-1 and GHG-2 also constitute the significance conclusions of this EIR with respect to cumulative GHG emissions impacts and the Project's incremental contribution to GHG emissions would be **less than cumulatively considerable.**

15.3.9 Hydrology and Water Quality

15.3.9.1 Proposed Project Impact Summary

As discussed in Section 11, Hydrology and Water Quality, the proposed project would result in the following impacts:

- Impact HYD-1. Water Quality Standard Violations or Degradation of Water Quality. **Less than Significant with Mitigation.**
- Impact HYD-2. Decrease Groundwater Supply. **Less than Significant.**
- Impact HYD-3. Decrease Groundwater Recharge Potential. **Less than Significant.**
- Impact HYD-4. Alteration of Drainage Patterns. **Less than Significant.**
- Impact HYD-5. Release of Pollutants due to Flood Inundation. **Less than Significant with Mitigation.**
- Impact HYD-6. Consistency with Water Quality Control Plan. **Less than Significant with Mitigation.**
- Impact HYD-7. Consistency with Sustainable Groundwater Management Plan. **Less than Significant.**

15.3.9.2 Cumulative Context

Surface Water Quality

The geographic scope for assessment of cumulative hydrology and water quality impacts is past and present development within the portions of Monterey County, Santa Clara County, San Benito County and Santa Cruz County located within the boundaries of the Pajaro River watershed. The Pajaro River is the primary surface water body in the region with potential to experience water quality degradation from urban and agricultural

land uses. Urban development and agricultural uses within this boundary have significant potential to impact water quality in the river.

Flood Hazards

The geographic scope for flood hazard conditions is considered to be the same as for water quality impacts. This boundary is selected because development in this area has resulted in loss of flood storage capacity and increased flood hazard potential by changing the rate and volume of stormwater runoff to the Pajaro River and the timing of peak flows with the river. These factors have contributed to increased flood hazards from the Pajaro River.

Groundwater Quality, Supply and Recharge

Regarding groundwater quality, supply, and recharge potential, the geographic scope for cumulative impacts is the Llagas Subbasin which underlies the project site and parts of southern Santa Clara Valley and adjacent San Benito County and is within the watershed boundaries noted above.

15.3.9.3 Cumulative Impacts

Water Quality

Past and existing cumulative development has contributed to significant cumulative surface and groundwater quality impacts during construction and during operations of the cumulative development in a variety of ways. These include, but are not limited to, erosion of soils exposed during site preparation/construction processes and subsequent sedimentation of surface water bodies, release of urban pollutants such as oils or hazardous materials stored in underground storage tanks or elsewhere, release of urban pollutants contained in storm water discharged from developed project sites and roadways to surface water, and release of agricultural fertilizers/chemicals and livestock wastes, etc. Water quality in the Pajaro River and many of its tributaries is considered impaired (Central Coast Regional Water Quality Control Board 2015; SWRCB 2021); therefore, the overall cumulative impact of past, present, and foreseeable future development is **significant**.

The proposed project, and other cumulative projects included in Table 15-1, could further contribute to this existing significant cumulative impact. However, as discussed in Section 11.4.1 above, the project is required to comply with existing water quality regulations, including preparation of a site-specific SWPPP in conformance with the NPDES Stormwater Construction General Permit, compliance with the Composting General Order, and conditions of industrial stormwater operating permits, which have been developed to protect the environment and improve water quality in impaired water bodies. In particular, the proposed new ECS technology that is part of the project would provide improved leachate management relative to the existing CTI system and would facilitate the proposed project's conformance with storm water quality control standards and the Composting General Order.

Additionally, the proposed lining of Detention Basin #1 would decrease the potential for contaminants from stormwater in the basin to leach to groundwater; and the increased berm height at Detention Basin #1 would reduce the potential for overtopping of the detention basin berms, which would allow floodwaters into the detention basin during a flood event and allow leachate from the basin to mingle with the floodwaters. With implementation of mitigation measures MM-HYD-1A, MM-HYD-1B, MM-HYD-1C and

MM-HYD-5, the on-site detention capacity would be increased to reduce the likelihood of discharge even if a large storm event were to occur during an abnormally wet season, the pump capacity would be sufficient to reduce the potential for localized flooding in the green waste composting areas, the berm height of Detention Basin #2 would be raised to reduce potential for overtopping by floodwaters, and the existing sediments in Detention Basin #1 would be investigated and removed if they pose a threat of leaching to groundwater. For all of the above reasons, the contribution of the proposed project to the overall cumulative impact would be **less than cumulatively considerable with mitigation**.

Flood Hazards

Past and current cumulative development has contributed to flood hazard conditions on the Pajaro River by increasing the volume and rate of storm water runoff from developed sites relative to undeveloped land conditions and by reducing flood storage capacity within the original 100-year floodplain of the river. The overall cumulative impact from past and present development on flood hazard conditions in the Pajaro Watershed is **significant**.

Current and foreseeable projects, including the proposed project and those included in Table 15-1, are not expected to contribute further to this existing cumulative impact as they will be required to conform to current stormwater management regulations and the County's Floodplain Management Ordinance (or applicable ordinance for San Benito County), which requires project proponents to demonstrate that proposed fill within the 100-year floodplain would not have a cumulative effect, when combined with other development within the floodplain, and would not increase the water surface elevation of the 100-year base flood by more than 1 foot. As discussed in Section 11.4.4, hydraulic modeling results demonstrate that with the additional flood storage provided by the proposed project, the maximum increase in water surface elevation between the pre-2012 condition and the proposed project condition would be approximately 0.01 foot. With implementation of mitigation measure MM-HYD-1B, the applicant would be required to update the modeling to determine if the modifications required to further increase detention basin capacity would increase the water surface elevation of the 100-year base flood beyond the allowable limit. If so, excavation of additional excavation below the base flood elevation would be required such that no net loss of flood storage would occur. Therefore, the proposed project's contribution to the cumulative impact would be **less than cumulatively considerable with mitigation**.

Groundwater Supply and Recharge

Past, present and future projects within the Llagas Subbasin have extracted, and will continue to extract, groundwater from the subbasin. Valley Water prepared detailed groundwater budgets for the Llagas Subbasin using historic water data for calendar years 2010 through 2019. Modeling was then performed to incorporate the projected change in demand through the year 2045, based on Countywide projections for land uses and employment. Based on modeling results, the annual Llagas Subbasin inflow (from recharge and surface water) is estimated to be 44,700 acre feet per year (AFY), while the annual subbasin outflow (primarily groundwater pumping) is estimated to be 43,900 AFY. The projected future change in groundwater storage in year 2045 is an increase of approximately 800 AF, indicating inflows and outflows are generally balanced over time (Valley Water 2021a: Table 4-10). The Llagas Subbasin is not in a condition of chronic overdraft and long-term average yields are sustainable. Valley

Water makes investments, implements programs, and modifies water supply operations as needed to maintain sustainable conditions now, and in the future (Valley Water 2021a: Chapters 5 and 6). Valley Water is not aware of any areas where groundwater pumping has a significant or unreasonable effect on interconnected surface water (Valley Water 2021a). Consequently, the overall cumulative impact relating to groundwater supply and groundwater recharge potential is **less than significant**.

15.3.10 Noise

15.3.10.1 Proposed Project Impact Summary

As discussed in Section 12, Noise, the proposed project would result in the following impacts:

- Impact NOI-1. Project construction would not substantially increase ambient noise levels at the nearest sensitive receptor. **Less than Significant.**
- Impact NOI-2. On-site operations would not substantially increase ambient noise levels at the nearest sensitive receptor. **Less than Significant.**
- Impact NOI-3. Project-related traffic would not substantially increase ambient noise levels. **Less than Significant.**
- Impact NOI-4. The project would not result in substantial ground-borne noise or vibration. **No Impact.**

In accordance with Section 15130(a)(i) of the CEQA Guidelines, impacts for which the project was determined to have no impact are not analyzed within the cumulative analysis, as the project would not contribute to the overall cumulative impact for that topic.

15.3.10.2 Cumulative Context

The geographic context for analysis of cumulative impacts related to noise is the immediate project vicinity. Noise is a localized occurrence and attenuates rapidly with distance. For construction noise, the cumulative context would be limited to those cumulative projects within the immediate vicinity of the project site that would have overlapping construction periods with the project. The geographic scope for cumulative traffic noise impacts includes those areas in proximity to the SR-25 corridor that can perceive traffic noise from the highway. The geographic scope for cumulative noise impacts from on-site operations is an area that encompasses the project site and land in the immediate vicinity of the project site on which noise generating activities have or could contribute to cumulative noise levels over the operational lifetime of the project.

15.3.10.3 Cumulative Impacts

Construction Noise

The closest cumulative project is the temporary trailer project occurring on the Z-Best site. Installation of the trailers would occur prior to implementation of the proposed project. Removal of the trailers would occur after the Use Permit for the proposed project is issued and office functions have been moved into the previously unpermitted office space within the existing office/shop building. This would likely occur before

construction of other proposed project improvements, but even if the removal were to overlap with project construction, the noise associated with removal of the trailers or use of the trailers as temporary office space would not generate any substantial additional noise that could combine with noise from the proposed project.

Caltrans' proposed re-striping of the SR-25/Bolsa Road intersection is immediately adjacent to the project site, located between the project site and the nearest noise-sensitive receptor; however, because that project is anticipated to be completed prior to commencement of the Z-Best project, construction noise from both projects would not combine to cause a cumulative impact.

Development of the SVIP Specific Plan area, to the southeast of the Pajaro River, is anticipated to occur on an incremental basis, with the configuration, number, and timing of each phase based on the demands of the market and individual users (SVIP 2022). Even if construction activities associated with some parts of the SVIP build out were to coincide with the proposed project's construction schedule, construction noise from SVIP construction is unlikely to affect any of the same sensitive receptors as there are no sensitive receptors within close proximity to both sites. The closest receptors to the SVIP project are to the south of the Specific Plan area, several miles from the Z-Best project site. The closest receptor to the project site (R1, shown in Figure 12-1) is more than 3,700 feet to the northwest of the closest boundary of the SVIP area, and more than 2 miles from the more intensive areas of proposed development, where the majority of construction activities would occur. The acoustical assessment for the SVIP project (Kimley Horn 2022) has estimated that various construction activities could generate noise levels up to 79.8 dBA L_{eq} at a distance of 200 feet. Such noise levels would be expected to attenuate to approximately 55 dBA at a distance of 3,700 feet or to approximately 45 dBA at a distance of 2 miles. Therefore, the overall cumulative impact from construction noise would be **less than significant**.

Long-term Traffic Noise

Past and present development within the region has contributed to increased ambient noise levels as a result of increases in traffic volumes on SR-25. With increasing noise levels, noise sensitive residential uses near the segment of SR-25 onto which project-generated trips would be distributed have been and will continue to be exposed to traffic noise that exceeds county noise exposure standards. As discussed in Section 11.0, Noise, existing traffic noise levels at all but one of sensitive receptors already exceed the County's 55 dB L_{dn} noise exposure standard under existing conditions.

Traffic volumes on this segment of SR-25 for 2020, the latest year for which Annual Average Daily Traffic (AADT) information is currently available, showed an approximately 9 percent decrease in AADT compared to the previous year; however, this decrease is presumably due to the impacts of the COVID-19 pandemic and the resulting increase in remote work opportunities. Prior to the pandemic, traffic volumes on this segment of SR-25 were fairly stable with no change in overall AADT between 2017 and 2019, and growth of approximately 6 percent per year between 2013 and 2017 (Caltrans 2022). While the extent and duration of effects associated with the pandemic on traffic volumes is somewhat speculative, is it anticipated that traffic volumes along this segment of SR-25 will eventually recover and continue to increase as population within the area continues to grow. Cumulative residential projects within the City of Hollister and unincorporated San Benito County would potentially contribute to increased traffic volumes on SR-25, whereas cumulative projects that provide local

employment opportunities, such as the Strada Verde Innovation Park[15], could potentially slow the growth in traffic on SR-25 by improving the jobs to housing balance in the local area and decreasing the proportion of San Benito County residents commuting to Silicon Valley for work opportunities.

In order for cumulative traffic noise impacts to be perceptible to nearby receptors, traffic noise would need to increase by more than 3 dBA, as increases of less than 3 dBA are imperceptible to most humans (Caltrans 2013). Typically, a doubling of traffic volume would be required to result in a 3 dBA increase in traffic noise. Based on a conservative assumption that traffic volume might continue to grow at the similar rates to pre-2017 (approximately 6 percent per year), traffic on this segment of SR-25 might be expected to double by 2031 or 2032. If this level of traffic growth were to be realized, the cumulative noise impacts from highway traffic could be **potentially significant**.

Project-generated traffic (264 additional vehicle trips per day) would be only approximately 1 percent of the total increase in cumulative traffic growth that would be required to double existing traffic volumes (25,500 in 2020 or 27,900 pre-pandemic). Furthermore, as discussed in Section 13, the project would decrease peak-hour traffic volumes, when the highest levels of cumulative traffic noise would be expected. Therefore, the project's contribution to the cumulative impact would be **less than cumulatively considerable**.

Long-Term Operations Noise Impacts

The only cumulative project within the potential to generate ongoing operational noise in the vicinity of the project site is the Strada Verde Innovation Park. Potential on-site noise sources associated with operational activities within the Specific Plan area would include mechanical equipment, delivery trucks, automotive testing grounds and research park operations, e-commerce district operations, landscape maintenance activities, and parking-related noise (Kimley Horn 2022). The majority of these activities would occur more than two miles from the nearest sensitive receptor to both sites (R1, see Figure 12-1), but some automotive testing ground activities (e.g., the three-mile straight track along the northeastern boundary of the SVIP area and other test track facilities near the Pajaro River) would occur closer to the Z-Best property and the R1 receptor. Based on the conceptual site plan for the SVIP, the closest track facility would be approximately one mile southeast of the R1 receptor.

Because the exact details of future operational activities within the testing grounds are unknown, the acoustical assessment for the SVIP recommends implementation of mitigation that requires a focused acoustical analysis prior to the issuance of building permits, and if individual project operations within the SVIP area would exceed the applicable thresholds of the San Benito County noise ordinance, then a noise management plan would be required to reduce noise impacts. Although the EIR for the SVIP Specific Plan has not yet been completed, and therefore San Benito County has not yet included the recommended mitigation measure within an adopted mitigation monitoring and reporting program, it is reasonable to assume that such a mitigation measure, or a modified version of it, would be adopted in the future if the SVIP Specific Plan is approved. If future development of the SVIP Specific Plan area is required to

[15] All public vehicular access to the SVIP would come from the US-101/Betabel Road interchange, therefore buildout of the SVIP would not directly contribute any additional traffic to SR-25.

undertake such mitigation, the overall cumulative impact would be **less than significant**.

15.3.11 Transportation

15.3.11.1 Proposed Project Impact Summary

As discussed in Section 13, Transportation, the proposed project would result in the following impacts:

- Impact TRA-1. Vehicle Miles Traveled. **Significant and Unavoidable.**
- Impact TRA-2. Operational Traffic Safety. **Less than Significant with Mitigation.**
- Impact TRA-3. Construction Traffic Safety. **Less than Significant with Mitigation.**
- Impact TRA-4. Inadequate Emergency Access. **Less than Significant with Mitigation.**

15.3.11.2 Cumulative Context

The geographic scope for analyzing cumulative operational transportation impacts is the region covering the farthest distance employees and trucks would travel to and from the project site, which is the Zanker Material Processing Facility near Alviso to the north, Hollister to the south, and Los Banos to the southeast.

The cumulative context for analyzing construction-related transportation impacts is limited to those projects that would generate temporary construction-related traffic on the same roads and during the same period as construction-related traffic from the proposed project. As discussed in Section 13.4.4, the project's impact on emergency access would be limited to the construction period, therefore cumulative analysis of emergency access is also limited to those projects that would impact or add traffic to the segment of SR-25 adjacent to the project site during the project's construction period.

15.3.11.3 Cumulative Impacts

Vehicle Miles Traveled

Although the state has enacted laws aimed at encouraging transit-oriented and infill land use planning and development, it is assumed that other growth will continue to occur in suburban and rural areas such as unincorporated Santa Clara County and other areas from which Z-Best employees commute. The cumulative impact area, like much of the state, already experiences significant VMT. Because there are few mitigation options available for future projects within rural areas to reduce or mitigate their VMT impacts, the overall cumulative VMT impact is assumed to be **significant**.

As discussed in Section 15, Transportation, the project would generate significant increases in truck VMT, and would exceed established thresholds for employee-based VMT, and no feasible mitigation measures have been identified to effectively reduce the project's impact. Therefore, the project's contribution to the overall cumulative impact would be **cumulatively considerable**.

Operational Traffic Safety Impacts

As described in Section 13, Transportation, the segment of SR-25 adjacent to the project site and including the existing Z-Best driveway and the SR-25 Bolsa Road already has a much higher incidence of serious crashes and fatalities than would be expected of similar segments with the same traffic volumes or geometric layouts, with 21 crashes having occurred in the area between January 2016 and December 2020, including two fatalities (i.e., 9.5 percent of all crashes). Past and present development, including recent population growth in Hollister and surrounding areas, and the associated increase in commuting traffic between Hollister and Santa Clara County have contributed to this significant cumulative impact. As discussed in Section 15.1, the projected population in Hollister and the wider San Benito County is expected to continue to increase in coming years, which will further increase traffic volumes along the SR-25 corridor, as will the increase in truck traffic associated with the proposed project. Therefore, the overall cumulative impact for operational traffic safety is **significant**.

The proposed Strada Verde Innovation Park Specific Plan project, to the southeast of the Z-Best site, would include no public access to/from SR-25, as all access (except for a secondary emergency access) would be provided via the Highway 101/Betabel Road interchange. The SVIP project is anticipated to reduce traffic on SR-25, by providing thousands of local jobs, many of which would be filled by San Benito County residents that currently commute to Silicon Valley on SR-25 (SVIP 2022).

The SR-25 Expressway Conversion Project may eventually result in improved traffic safety along SR-25 by replacing and/or realigning 11.2 miles of the existing two-lane SR-25 with a four-lane expressway. However, the northern segment of this project (north of Hudner Lane) has not yet secured funding for environmental review, design, or construction; therefore, the potential traffic safety benefits from this project may not be realized.

Caltrans has recently proposed a restriping project for the SR-25/Bolsa Road intersection, to help alleviate peak hour queuing on Bolsa Road and improve traffic safety at the intersection. The Caltrans project would create an southbound central receiving lane (i.e., a refuge lane) for traffic turning left out of Bolsa Road onto SR-25, in order to create a two-step turning movement and avoid turning traffic having to wait for a gap in traffic from both directions. The Caltrans project would also include a left turn deceleration lane for traffic turning left from southbound SR-25 onto Bolsa Road.

AECOM traffic engineers created a conceptual layout for an intersection that would combine both the proposed Z-Best and Caltrans projects, as shown in Figure 12-2 below.

The combined “Project plus Cumulative” scenario assumes the following intersection geometry:

- Minor Stop-Controlled 4-Leg Intersection
- Center deceleration lane for traffic turning left from northbound SR-25 into the new Z-Best driveway
- Right deceleration lane for traffic turning right from northbound SR-25 onto Bolsa Road

- Center acceleration lane on northbound SR-25 for traffic turning left out of new Z-Best driveway
- Center deceleration lane for traffic turning left from southbound SR-25 onto Bolsa Road
- Right deceleration lane for traffic turning right from southbound SR-25 into the new Z-Best driveway
- Center acceleration lane on southbound SR-25 for traffic turning left out of Bolsa Road
- Painted central median on both southbound and northbound approaches of SR-25 to allow proper alignment of through-lanes and to avoid negative offset[16] of left-turn lanes.

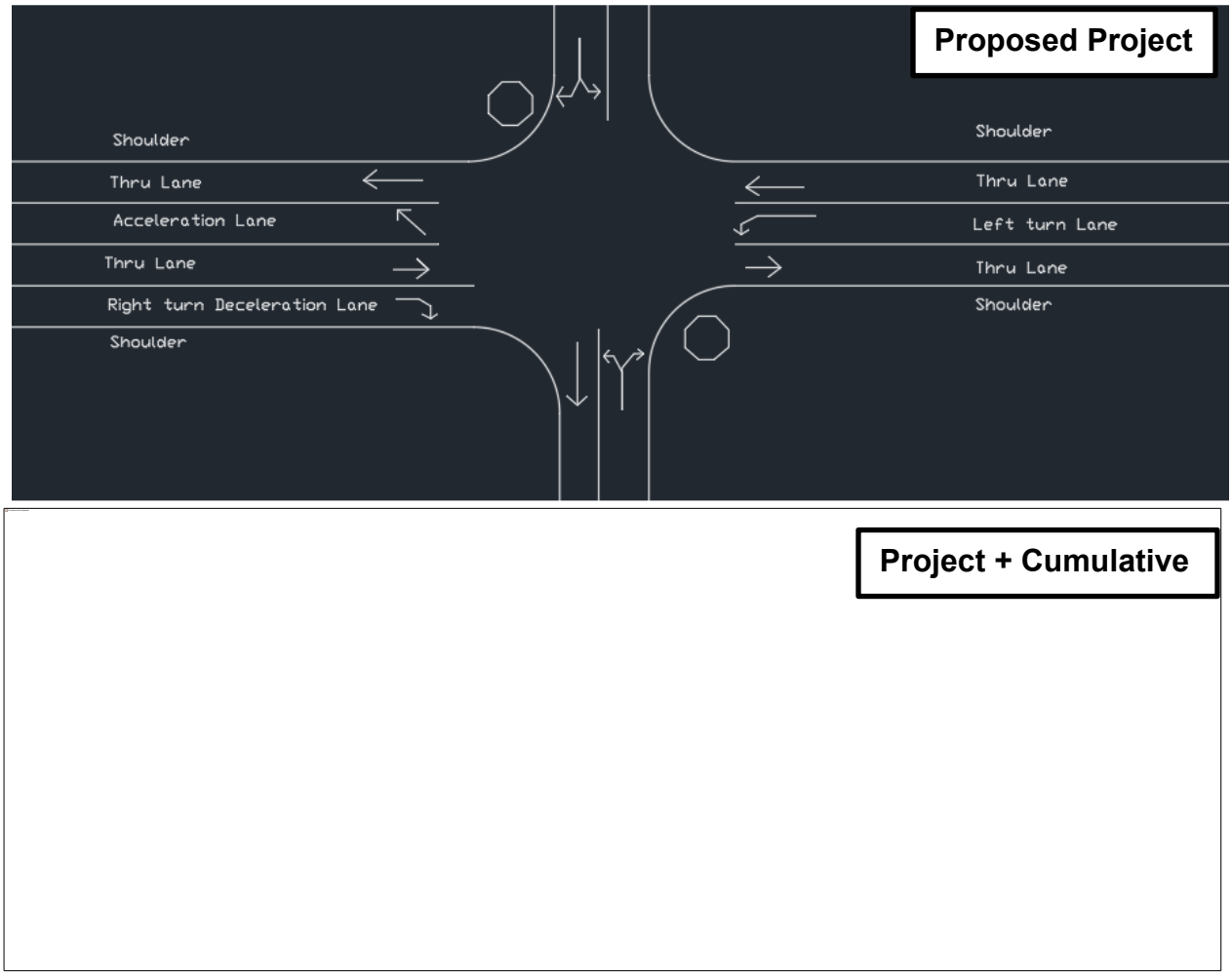


Figure 15-2 Conceptual Intersection Layout for Proposed Project and Project + Cumulative Scenarios

AECOM's traffic safety analysis (Appendix G-3) calculated that the predicted crash frequency for the combined Project plus Cumulative scenario would be less than for the proposed project itself (1.49 crashes per year compared to 1.77), but stated that it

[16] Negative offset occurs when opposing left turn lanes are not aligned such that vehicles waiting in one left turn lane block the view of oncoming traffic for other vehicles waiting in the opposing left turn lane, which can lead to increased crash frequency (https://www.fhwa.dot.gov/publications/research/safety/09036/index.cfm).

would create an uncommon and less intuitive roadway configuration; therefore, the predicted safety improvements may not be realized due to driver error. As discussed for the proposed project, a change from two 3-leg intersections to one 4-leg intersection may also increase the proportion of more serious, broadside crash types. Furthermore, such a layout would require a substantial increase in roadway width (at least 88 feet pavement width) to accommodate the five travel lanes plus painted median on each SR-25 approach. Due to the increased intersection roadway width and complexity, it is unclear whether the project plus cumulative scenario would improve operational traffic safety compared to existing conditions; therefore, the overall cumulative impact is identified as potentially significant. Due to the increased traffic volumes from the proposed project, and the relocation of the Z-Best driveway to become part of the SR-25/Bolsa Road intersection, the project's contribution to the cumulative impact would be **potentially significant**.

Mitigation Measure **MM-TRA-2, Installation of Traffic Controls or Retention of Driveway in Existing Location,** detailed in Section 13.4.2 above, and which incorporates Alternative 3 and MM-TRA-2-Alt3 as detailed in Section 18.4.3.3, would mitigate the cumulative impact as well as the project-level impact, by either requiring traffic signals be installed at the SR-25/Bolsa Road/Z-Best driveway intersection, or that the Z-Best driveway be retained in its current location with acceleration and deceleration lanes and intersection lighting installed (per Alternative 3 and MM-TRA-2-Alt3 discussed in Section 18). Either of these mechanisms would reduce the potential cumulative traffic safety impact. The first (traffic signals) would negate the need for a left-turn refuge lane for traffic turning left onto SR-25 from Bolsa Road, as such turns would now be signal-controlled, not stop-controlled. The second (retaining Z-Best driveway in current location) would allow Caltrans to proceed with their proposed installation of a left-turn refuge lane without the additional complication of a fourth leg to the SR-25/Bolsa Road intersection and associated increase in turning movements through the intersection from project-related traffic. With implementation of MM-TRA-2, the project's contribution to the cumulative impact would be **less than cumulatively considerable with mitigation.**

Construction Traffic Safety

None of the projects listed in Table 15-1, except for Caltrans' proposed improvements to the existing SR-25/Bolsa Road intersection (discussed more below) are expected to directly contribute substantial construction-related traffic to the segment of SR-25 near the project site, due to the distance of the cumulative projects from Z-Best. Although the Strada Verde Innovation Park Specific Plan is located close to the project site and has a short frontage with SR-25, all access, including construction access, would be obtained via the Highway 101/Betabel Road interchange.

Caltrans' proposed restriping of the SR-25/Bolsa Road intersection is anticipated to begin in the summer of 2023 and would be completed prior to commencement of proposed project construction. Therefore, construction-related traffic impacts from both projects would not combine, and the overall cumulative impact would be **less than significant.**

Emergency Access

As discussed above, none of the cumulative projects would result in additional construction-related traffic or direct impacts to the SR-25 corridor during the period that the proposed project would have temporary impacts to emergency access along SR-25

during construction. Therefore, the overall cumulative impact to emergency access would be **less than significant**.

16 Significant Unavoidable Impacts

16.1 CEQA Requirements

A significant adverse unavoidable environmental impact is a significant adverse impact that cannot be reduced to a less-than-significant level through the implementation of mitigation measures. CEQA Guidelines section 15093 requires that a lead agency make findings of overriding considerations for unavoidable significant adverse environmental impacts before approving a project.

CEQA Guidelines section 15093(a) requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable." CEQA Guidelines section 15093(b) states that when the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.

16.2 Significant and Unavoidable Impacts

As discussed in Sections 5 through 15 of this EIR, most of the project's impacts would be either less than significant or could be mitigated to a less-than-significant level with implementation of the recommended mitigation measures. However, the project would also result in some significant impacts that cannot feasibly be avoided or mitigated to less-than-significant levels. Based on the environmental analyses within this EIR, the County has determined that implementation of the project would result in the following significant and unavoidable impacts:

- **Impact AIR-2:** NO_X emissions from operational truck trips would exceed the daily and annual thresholds of significance (project-level and cumulative).
- **Impact AIR-7:** The project could increase bioaerosol emissions from the facility, which could have potential health and/or environmental impacts (project-level and cumulative).
- **Impact AIR-8:** NO_X emissions from operational truck trips would make the project inconsistent with the Clean Air Plan (project-level and cumulative).
- **Impact TRA-1:** The project would conflict with CEQA Guidelines Section 15064.3 by exceeding the applicable VMT threshold (project-level and cumulative).

17 Growth Inducement

17.1 CEQA Requirements

CEQA Guidelines section 15126.2 states that an EIR must discuss the ways in which the project may directly or indirectly foster economic or population growth or additional housing in the surrounding environment, remove obstacles to growth, tax existing community services facilities, or encourage or facilitate other activities that cause significant environmental effects, either individually or cumulatively. Direct growth-inducing impacts result when the development associated with a project directly induces population growth or the construction of other development within the same geographic area.

The analysis of potential growth-inducing impacts should include a determination of whether a project would remove physical obstacles to population growth. This often occurs with the extension of infrastructure facilities that can provide services to new development. In addition to direct growth-inducing impacts, an EIR must also discuss growth-inducing effects that will result indirectly from the project, by serving as catalysts for future unrelated development in an area. Development of public institutions or creating significant new employment opportunities within the same geographic area are examples of projects that may result in growth-inducing impacts.

An assumption should not be made as to whether growth-inducing effects are beneficial, detrimental or of little significance to the environment. CEQA requires an EIR to include a discussion of the ways in which the proposed project could foster growth

17.2 Analysis of Growth-Inducing Effects

Based on the reasons provided below, the proposed project would not be growth inducing.

- The project would create 30 new jobs. Most existing Z-Best employees live in surrounding communities within San Benito and Santa Clara counties, including the cities of Gilroy, Hollister and San Jose (Hexagon Transportation Consultants 2020a). As of January 2023, the unemployment rate was 6.2 percent in San Benito County and 3.0 percent in Santa Clara County (California Employment Development Department 2023). It is anticipated that Z-Best will be able to recruit new employees who are already residing in Santa Clara and San Benito counties and that a substantial number of employees would not relocate to the area as a result of the project. As a result, population in the area would not increase in response to the new employment opportunities.
- Most proposed improvements would occur on the project site. No changes to utility infrastructure are needed to support the proposed facility modifications. However, improvements are proposed within the Caltrans right-of-way of SR-25, include widening the highway to enable installing protected acceleration and deceleration lanes for turns into and out of the proposed new entrance. These improvements would not be growth-inducing because they would not increase

the vehicle carrying capacity of SR-25 or remove any barriers to growth in the area.

- The proposed increase in MSW processing capacity at the site is for the purpose of diverting a greater proportion of existing MSW from landfill in order to reduce GHG emissions and help the State to meet its climate change targets. Although the project would indirectly increase the landfills' capacity to serve additional development and/or extend their operational lifetimes, the increased diversion of compostable MSW from existing landfills in and of itself would not remove any existing barriers to growth in the State that would indirectly induce population growth.

18 Alternatives

18.1 CEQA Requirements

CEQA Guidelines section 15126.6(a) requires that an EIR describe a range of reasonable alternatives to the proposed project, or to the location of the project, which could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. It also requires an evaluation of the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project, but must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

CEQA Guidelines section 15126.6(b) further requires that the discussion of alternatives focus on those alternatives capable of avoiding or substantially lessening the proposed project's significant adverse environmental impacts, even if the alternatives would impede to some degree the attainment of the project objectives or would be more costly. The EIR must present enough 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 shall be discussed, but in less detail than the significant effects of the project as proposed.

CEQA Guidelines section 15126.6(c) states in part that an EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. Section 15126(f)(1) of the CEQA Guidelines states that, "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…and whether the proponent can reasonably acquire control or otherwise have access to the alternative site. No one of these factors establishes a fixed limit on the scope of reasonable alternatives."

18.2 Project Objectives and Significant Impacts

18.2.1.1 Project Objectives

As discussed above, alternatives must be able to meet most of the basic objectives of the project. As discussed in Section 4.1.2, the objectives of the project are to:

- Increase Z-Best's current Solid Waste Facilities Permit daily tonnage limits from the current 1,500 tons per day with up to 15 days at 2,500 TPD, to 2,750 tons per day with up to 20 days at 3,500 TPD, providing additional composting capacity toward achieving CalRecycle diversion goals and a partial remedy for regulations

imposing restrictions on organics in landfills as directed in state laws including SB 1383, AB 1826, AB 1594, AB 605, and SB 876 and implementing regulations;

- Increase composting efficiency by completing the composting process in 34-38 days (4-5 weeks) with the ECS system compared to the current 14 weeks with the CTI system;
- Process and compost over two times the feedstock in the same geographical footprint on site in the same amount of time;
- Reduce odors associated with MSW composting in using the ECS system while avoiding an increase in operational noise;
- Reduce site emissions utilizing the best available technology for aeration, biofiltration, and liquid capture;
- Ensure operational consistency with the State Water Quality Control Board's General Waste Discharge Requirements regarding waste discharges from composting operations[17];
- Avoid additional peak hour traffic by restricting deliveries associated with the proposed increase in feedstock to between the hours of 8 PM and 4 AM. Delivery times are to be monitored regularly and rules enforced by referencing scale reports and site surveillance cameras currently on site;
- Improve traffic safety at the SR-25 Z-Best facility entrance/exit by proposing safety improvements to SR-25 at the entrance/exit; and
- Provide additional mulch and compost products that are beneficial to the environment as soil amendments, water conserving mulch ground cover, erosion control and bio-soil products; and
- Provide up to 30 additional local jobs to the community.

18.2.1.2 Significant Impacts

As discussed above, alternatives considered within the EIR should be able to substantially lessen one or more of the significant effects of the project. As summarized in Section 16 of this EIR, the project would have the following significant and unavoidable impacts:

- Impact AIR-2: NO_X emissions from operational truck trips would exceed the daily and annual thresholds of significance (project-level and cumulative).
- Impact AIR-7: The project could increase bioaerosol emissions from the facility, which could have potential health and/or environmental impacts (project-level and cumulative).
- Impact AIR-8: NO_X emissions from operational truck trips would make the project inconsistent with the Clean Air Plan (project-level and cumulative).

[17] The General Waste Discharge Requirements for Composting Operations are often referred to as the Composting General Order. The General Waste Discharge Requirements for Composting Operations and the Composting General Order are the same document. The 2015 General Waste Discharge Requirements for Composting Operations was amended in 2020 as the General Discharge Requirements for Commercial Composting Operations. The technical requirements of the 2015 and 2020 orders are very similar and do not affect project design. The Z-Best Compost Facility will comply with the 2020 requirements.

- Impact TRA-1: The project would conflict with CEQA Guidelines Section 15064.3 by exceeding the applicable VMT threshold (project-level and cumulative).

As discussed within Sections 5 through 15, the project would also have the following potentially significant impacts that would be reduced to less than significant with implementation of recommended mitigation measures:

- Impact AES-2: The project could degrade existing visual character or quality.
- Impact AIR-1: The project would have potentially significant fugitive dust (particulate matter with aerodynamic diameter less than 10 microns [PM_{10}] and particulate matter with aerodynamic diameter less than 2.5 microns [$PM_{2.5}$]) emissions during construction.
- Impact BIO-1: The project could result in potential loss or disturbance of special status wildlife species (California red-legged frog).
- Impact BIO-2: The project could result in potential loss or disturbance of special status wildlife species (nesting raptors and migratory birds).
- Impact BIO-3: The project could result in potential loss or disturbance of special status wildlife species (western mastiff bat and pallid bat).
- Impact BIO-4: The project could result in loss of potential State or federally protected wetlands.
- Impact CUL-1: Potential for accidental discovery and disturbance of significant historical resources or unique archaeological resources.
- Impact CUL-3: Potential for accidental discovery and disturbance of tribal cultural resources.
- Impact HYD-1: The project could violate water quality standards, waste discharge requirements or otherwise substantially degrade water quality.
- Impact HYD-5: The project could risk the release of pollutants due to flood inundation.
- Impact HYD-6: The project could conflict with a water quality control plan.
- Impact TRA-2: Project operation could substantially increase traffic hazards.
- Impact TRA-3: Project construction could substantially increase traffic hazards.
- Impact TRA-4: Project construction could result in inadequate emergency access.

The analysis of alternatives within the following subsections therefore focus on those alternatives which have potential to reduce one or more of these potentially significant environmental impacts of the proposed project.

18.3 Alternatives Considered But Rejected

18.3.1 Alternative Project Location

CEQA Guidelines section 15126.6(f)(2) identifies considerations for evaluating an alternative project location. Among these are whether any of the significant effects of the project would be avoided or substantially lessened and whether feasible alternative locations exist. Feasibility is described in section 15126.6(f)(1) and includes factors such as site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site. An alternative project location is considered here as a basis for avoiding or substantially lessening the significant and unavoidable NO_X and GHG impacts of the project.

The applicant is proposing the project, in part, to respond to the state's regulatory mandates for increasing the volume of organic waste to be diverted from landfills. Refer back to Section 4.1, Project Purpose, for more information. A substantial increase in organic waste composting capacity across California is required to achieve state organic waste diversion goals as required by AB 1826 and SB 1323. An additional estimated 20 million tons of organics per year will need to be managed in 2025. To properly manage these quantities of organics, CalRecycle has estimated 50 to 100 new composting facilities will be needed.

To meet state regulatory waste diversion requirements, it is likely that existing composting facilities will expand operations and/or that new composting facilities will be developed to meet increased waste diversion goals. New truck and vehicle trips associated with the proposed project would, therefore, likely occur in other locations regardless of whether or not the proposed project is approved. With the goal of avoiding or substantially lessening the NO_X impacts of the project through reducing truck VMT, the primary question is whether an alternative location can be identified that results in substantially reduced truck NO_X emissions (through reduced VMT) relative to that resulting from the proposed project.

Truck trips associated with the proposed project have a variety of origins and destinations. As described in Section 13, Transportation, under proposed daily operations, all of the MSW feedstock truck trips travel to and from the Zanker Material Processing Facility near Alviso and other points in San Jose and beyond via SR-25; these constitute about 57 percent of the total truck trips. Finished product trips and landfill trips that constitute the remaining 43 percent of truck trips have a number of different origins and destinations, but with approximately 23 percent of them also traveling north on SR-25, as about 83 percent of all truck trips travel in this direction to and from the site. Therefore, it is likely that an alternative site location must be closer to San Jose for total truck trip NO_X and VMT to appreciably decline.

18.3.1.1 Alternative Sites within the Applicant's Control

The Z-Best facility is owned by Zanker Recycling, which in partnership with other companies, controls a site at 675 Los Esteros Road in north San Jose (near Alviso) on which a large dry anaerobic digestion facility is operated. That facility uses organic

waste as feedstock and produces energy and compostable feedstock as a product. Zanker also operates a landfill in north San Jose at 705 Los Esteros Road. If either site were capable of accommodating MSW composting capacity at a similar level as proposed for the Z-Best site, it is possible that VMT and NO_X emissions from truck traffic associated with the proposed project would be lessened, as feedstock may be supplied from sources generally located closer to either site than to the Z-Best site at the southern end of Santa Clara County. The two sites are being reviewed here because the applicant appears to have sufficient control over both. An applicant's control over an alternative project location is a key consideration in assessing feasibility of an alternative project location.

However, these sites are fully utilized with other recycling operations and lack the 22 acres of available land that would be required for the installation of an ECS composting system (Z-Best 2020). Zanker Road Resource Recovery at 705 Los Esteros Road is a 70-acre site total made up of 30 acres of wetlands; 3 acres for shop, office, scales, and entrance roads; 5 acres of recycled material sales yard; 15 acres of slopes and access roads; 7 acres of uncapped landfill; and 10 acres of wood, concrete and demolition material processing. Zanker Material Processing Facility at 675 Los Esteros Road is a 42-acre site made up of 30 acres of uncapped landfill; 6 acres of shop, office, parking facility and a stormwater basin; and 6 acres of resource recovery processing of construction waste, rubbish, and bulky items. Therefore, sites within the control of the applicant would not be feasible as alternative sites for the proposed project.

18.3.1.2 Expansion of MSW Composting at Existing Composting Locations

The Newby Island Compost Facility (1601 Dixon Landing Rd, Milpitas) and South Valley Organic Composting Facility (3675 Pacheco Pass Highway, Gilroy) are two other MSW composting facilities located further north within Santa Clara County. The applicant does not have control over either site, but it is conceivable that one or both could expand their operations to accommodate the increased processing capacity that is proposed for the Z-Best facility.

The Newby Island Composting Facility is an approximately 18-acre site located approximately 2,000 feet west of the Dixon Landing Road overcrossing of Interstate 880 in Milpitas. Because the proposed project would require 22 acres to establish the ECS composting facility, this site is not feasible as an alternative project site.

The South Valley Organic Composting Facility is permitted to occupy 46 acres on two parcels (841-41-010 and 841-41-021) owned by Recology Pacheco Pass. The two parcels total approximately 98 acres and are located approximately five miles east of the City of Gilroy in the hills northeast of Highway 52. A 16-acre landfill facility is located on parcel 814-41-010 southwest of the composting facility. It is possible that there is available acreage for expansion of the existing composting facility. However, the undeveloped areas of the site would require significant grading to establish a feasible development site. This grading would increase construction impacts in comparison to the proposed project site, which has already been graded.

Furthermore, this site is only 5 miles from the Z-Best project site, and therefore is unlikely to achieve any reduction in transportation-related impacts (such as NO_X emissions or VMT) compared to the proposed project.

18.3.1.3 Establishing a New Alternative Location

Establishing a new MSW composting facility is highly unlikely to have fewer or reduced significant environmental impacts than the proposed project. This is because expanding the capacity of the Z-Best facility can be done within the existing facility footprint. Developing an entirely new site would likely result in new or more severe significant impacts compared to the existing environmental setting than have been identified for the proposed project, such as air quality (including odors), biological, cultural resources, hydrology and water quality, and noise impacts. The applicant would also need to obtain control of a new site that is of sufficient size to accommodate the composting infrastructure to handle the additional capacity that would be serviced by the proposed project.

18.3.2 Alternative Technologies

Public comments received on the original Draft EIR suggested that consideration should be given to alternative technologies such as an enclosed composting system. ECS (the provider of the aerated static pile system currently proposed for the project) offers an in-vessel tunnel-type composting system which is advertised as providing sealed, well-drained, and high controlled aeration which allows reliable management of feedstock mixes without creating nuisance odors, and a unique level of thermal control to quickly and reliably achieve the conditions needed to meet the Process to Further Reduce Pathogens (PFRP) requirements. ECS has indicated that such technology would substantially increase capital expenditure costs for the Z-Best facility, due to a large increase in structural elements, an additional and much larger air handling system for interior air, extensive corrosion resistant coatings, fire suppression and lighting systems, large motorized doors, and other factors. The estimated development cost for a fully enclosed system is likely to increase by a factor of 2.5 to 3 times that of an open system as proposed by the project (O'Neill, pers. comm. 2022). Furthermore, construction of an enclosed system would be anticipated to increase construction-related haul trips and associated air emissions, aesthetic impacts, energy use and GHG emissions, due to the more intensive construction and increased ventilation requirements, and would not avoid or minimize the project's significant and unavoidable impacts related to operational NO_X emissions, Clean Air Plan inconsistency, or VMT. While it is possible that an enclosed system may potentially reduce bioaerosol emissions from the facility, the extent of any reduction would depend on the design and filtration of the air handling system. Furthermore, due to the inherent uncertainties and lack of regulatory exposure thresholds for bioaerosols discussed in Section 7 and the associated technical memorandum in Appendix B-6, it would be difficult to confirm that such an alternative would effectively reduce potential bioaerosols to a less-than-significant level.

18.4 Alternatives Considered

The following alternatives to the project were analyzed within this EIR:

- Alternative 1: No Project; and
- Alternative 2: Reduced Project Scale; and

- Alternative 3: No Driveway Relocation

Each of these alternatives is described below, followed by an analysis of how each alternative may avoid or lessen significant impacts associated with the proposed project.

18.4.1 Alternative 1: No Project Alternative

18.4.1.1 Description of Alternative

CEQA Guidelines section 15126.6(e) requires the "No Project" alternative to be evaluated along with its impacts. The "No Project" alternative analysis must discuss the existing conditions, 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.

The "no project" alternative describes the condition where existing Z-Best operations would continue. No increase in composting capacity would occur and no switch to ECS bio-layer covered aerated static pile technology would take place. It is unclear whether the applicant would construct the proposed improvements to SR-25 (acceleration and deceleration lanes) or the new project site entrance to improve the safety of operations on SR-25 at the existing site driveway if the project is not approved. However, it is assumed that modifications to Detention Basin #1 would proceed, as Z-Best is under regulatory mandate to implement this change.

18.4.1.2 Consistency with Project Objectives

This alternative would fail to meet project objectives regarding increasing MSW composting capacity to support state regulatory requirements regarding diverting organic wastes from landfills. These objectives include increasing permitted MSW intake, switching to ECS technology to increase MSW composting process throughput, reducing odors (by employing ECS technology), avoiding traffic congestion from new employee and truck traffic by adding additional trips only outside of AM and PM peak traffic hours, improving traffic safety, and providing additional composting products that have beneficial environmental effects.

18.4.1.3 Analysis of No Project Alternative

Aesthetics

The proposed project would result in a potentially significant, but mitigable aesthetic impact from a potential increase in litter generation associated with increased haul truck traffic, which could adversely affect views of the site and surrounding area from SR-25. The no project alternative would avoid this potentially significant impact, as there would be no change to facility operations or the number of haul trucks accessing the project site. The no project alternative would have **no impact**, which is a lesser level of significance than the proposed project.

Air Quality

The proposed project would result in significant and unavoidable operational phase NO_X emissions, primarily due to increased haul truck traffic. The no project alternative would avoid this impact, as no new haul trucks trips would be required for operations.

The proposed project would result in two beneficial impacts that would not occur with the no project alternative – reduced composting-related toxic air contaminants and reduced odor emissions from MSW composting. Both of these benefits accrue to the proposed change to ECS technology. However, even if these benefits are not realized, the no project alternative is superior to the proposed project for its elimination of two significant unavoidable criteria air pollutant emissions impacts.

The no project alternative would have **no impact**, which is a lesser level of significance than the proposed project.

Biological Resources

The proposed project would have potentially significant, but mitigable, impacts on California red-legged frog, special-status bats, protected nesting birds and a potentially sensitive natural community/jurisdictional waters (small wetland) due to proposed construction activities.

The no project alternative would avoid the majority of construction activities, except for the proposed modifications to Detention Basin #1, which are required for the existing facility to comply with the Composting General Order. Under the no project alternative, construction activities associated with Detention Basin #1 modifications could still adversely affect California red-legged frog habitat, special-status bats, and protected nesting birds, and potential jurisdictional aquatic features, but the impact is substantially lessened compared to the proposed project, as the construction footprint would be smaller and less construction activity would occur. Mitigation measures MM-BIO-1 through MM-BIO-4 would still be required. The no project alternative would have a **less than significant impact with mitigation**, which is the same level of significance as the proposed project.

Cultural Resources

The proposed project has potential to significantly impact cultural and tribal cultural resources due to planned construction activities that disturb soil through grading and/or excavations, which would be reduced to less-than-significant with implementation of mitigation measures. All of the potential cultural and tribal cultural resource impacts are associated with construction activities.

Under the no project alternative, Detention Basin #1 would still be modified; related construction activities could adversely affect these resources, but the potential for these impacts to occur is substantially lessened because substantially less construction activity would occur. Mitigation measure MM-CUL-1 would still be required. The no project alternative would have a **less than significant impact with mitigation**, which is the same level of significance as the proposed project.

Hydrology and Water Quality

The proposed project has potential to significantly impact surface and groundwater quality due to inadequate detention basin capacity, presence of existing contaminated soils within the existing Detention Basin #1, and potential for overtopping of Detention Basin #2 during a 100-year flood event. These impacts would be reduced to less-than-significant with implementation of mitigation measures.

Under the no project alternative, Detention Basin #1 would still be proposed to be modified in the same manner as the proposed project due to Composting General Order

requirements, and the capacity of those proposed improvements would still be insufficient, as described for the project in Section 11.3.3, as the area draining to the detention basins would be the same as the proposed project. Similarly, the existing berm height of Detention Basin #2 would still be insufficient to prevent overtopping during a 100-year flood event, and the existing sediments within the footprint of Detention Basin #1 could still be contaminated and pose a risk of leaching to groundwater. Mitigation measures MM-HYD-1A, MM-HYD-1B, MM-HYD-1C and MM-HYD-5 would still be required for this alternative. The no project alternative would have a **less than significant impact with mitigation**, which is the same level of significance as the proposed project.

Transportation

The proposed project would result in a significant and unavoidable VMT impact from employee and truck trips. The no project alternative would avoid the VMT impacts because the new employee and truck trips would not occur. Regarding traffic safety, the no project alternative would not require any change to site access or the construction of any traffic improvements on SR-25. Therefore, the significant but mitigable impacts relating to operational traffic safety would be avoided.

Although a small amount of construction would occur to complete the required modifications to Detention Basin #1, the duration and volume of construction-related traffic would not require a construction traffic management plan. The no project alternative would have **no impact** in relation to VMT and operational traffic safety, and a **less than significant impact** in relation to construction traffic safety and emergency access. These are all a lesser level of significance than the proposed project.

Other Potential Impacts

Because the purpose of the alternatives analysis is to identify possible alternatives to the project that would avoid or reduce the significant impacts of the proposed project, the analysis above focuses on those impacts for which the proposed project would have a potentially significant (but mitigable) or significant and unavoidable impact.

In addition to those impacts described in detail above, the no project alternative would also avoid almost all of the less than significant impacts of the proposed project, except for those that would occur as a result of construction of the Detention Basin #1 modifications and associated operational benefits to groundwater quality and reduction in potential for Detention Basin overtopping during a flood event. Because the no project alternative would not include any additional construction or operational components beyond the Detention Basin modifications which were already analyzed as part of the proposed project, this alternative would not introduce any new potentially significant impacts.

18.4.2 Alternative 2: Reduced Project Scale

18.4.2.1 Description of Alternative

This alternative involves one change to the proposed project. It would limit the proposed increase in daily truck trips to 138 trips per day, i.e., a 56 percent reduction from the proposed project's projected increase of 314 peak season daily truck trips. The primary purpose is to avoid or substantially lessen the proposed project's significant and

unavoidable project-level and cumulative impacts from exceeding the BAAQMD's daily NO_X emissions threshold. In this context, "scaled down" refers to reducing the number of new daily truck trips to and from the Z-Best facility such that NO_X emissions are reduced below the threshold of significance. With this reduction in proposed new truck trips, the total peak-day truck volume for this alternative would be 346 truck trips (i.e., 208 existing truck trips plus 138 new truck trips).

No changes to other components of the proposed project would occur as part of this alternative. Although the volume of MSW processed at the site would be reduced as a result of the reduction in daily truck trips, it is conservatively assumed that this alternative would require the same level of staffing and the same operating hours as the proposed project. This alternative would include the same grading and construction activities, physical on-site improvements, composting equipment/technologies, and utility improvements as described for the proposed project in Section 4.1.3.

To identify the truck trip volume reduction required to avoid the significant and unavoidable daily NO_X impacts, two pieces of information were used. Information from Table 7-7, Unmitigated Operational Criteria Air Pollutant Emissions, found in Section 7, Air Quality, shows that under peak season daily operations, the increase in daily NO_X emissions associated with the proposed project would exceed the BAAQMD threshold by 69.19 pounds per day (123.19 pounds per day produced minus the 54 pounds per day threshold) or about 127 percent. On these peak days, the project's proposed increase in daily truck trip volume above existing would be 314 trips. Therefore, on average, each truck trip is assumed to generate about 0.39 pounds per day of NO_X (123.19 pounds per day divided by 314 truck trips). To avoid the daily NO_X emissions impact, the proposed increase in daily truck trip volume must be reduced to a number that results in an increase of less than 54 pounds per day NO_X emissions. The resulting truck trip volume is approximately 138 trips (0.39 pounds per day/truck trip multiplied by 138 truck trips equals 53.82 pounds per day).

As shown in Table 7-7, the estimated increase in annual NO_X emissions for the proposed project (22.48 tons per year) would exceed the annual NO_X emissions threshold of 10 tons per year by approximately 125 percent. By limiting the increase in daily truck trips to a maximum of 138 trips per day, as described above, the increase in annual NO_X emissions would also be expected to be reduced to a level below the 10 tons per year annual emissions threshold (53.82 pounds per day times 365 days, divided by 2,000 pounds per ton equals 9.82 tons per year).

18.4.2.2 Consistency with Project Objectives

By reducing the number of truck trips delivering new MSW feedstock for composting, the reduced scale alternative would reduce the degree to which several project objectives would be attained. Table 18-1, Reduced Scale Alternative - Attainment of Project Objectives, summarizes how this alternative would affect attainment of the project objectives listed in Section 4.2, Project Objectives. The attainment status is based on the alternative description and on the following analysis of the environmental effects of the alternative.

Table 18-1 Reduced Scale Alternative - Attainment of Project Objectives

Objective	Objective Attainment Status
Increase Z-Best's current Solid Waste Facilities Permit daily tonnage limits from the current 1,500 TPD to 2,750 TPD, providing additional composting capacity to implement state solid waste/recycling goals as directed in state laws including, SB 1383, AB 1826, AB 1594, AB 605, and SB 876	Reduced objective attainment. Z-Best's ability to increase daily MSW processing capacity to the extent proposed would be constrained by reducing the number of truck trips delivering MSW feedstock to the site. The extent to which the proposed project would help to implement solid waste/recycling/organic waste diversion goals would also be reduced.
Increase composting efficiency by completing the composting process in 34-38 days (4-5 weeks) with the ECS system compared to the current 14 weeks with the CTI system	Objective attained. ECS technology would still be employed to increase composting throughput efficiency.
Process and compost over two times the feedstock in the same geographical footprint on site in the same amount of time	Reduced objective attainment. Z-Best's ability to process over two times the MSW feedstock would be constrained by reducing the number truck trips delivering MSW feedstock to the site.
Reduce odors associated with MSW composting in using the ECS system while avoiding an increase in operational noise	Objective attained. ECS technology, which results in reduced odor generation, would be deployed. Attainment of noise objective remains unchanged.
Reduce site emissions utilizing the best available technology for aeration, biofiltration, and liquid capture	Objective attained. ECS technology would be employed, which reduces MSW composting TAC emissions and leachate production relative to the existing CTI process.
Ensure operational consistency with the State Water Quality Control Board's 2015 Composting General Order	Objective attained. Elements of the proposed project required to assure consistency with the Composting General Order would be implemented.
Avoid operational traffic impacts from new employee and truck traffic by adding additional trips only outside of AM and PM peak hours	Objective attained. All proposed new trucks trips would occur outside AM and PM peak hours regardless of whether the number of trips is reduced.
Improve traffic safety along the project site frontage with SR-25 by relocating the existing facility access driveway to become a new fourth leg of the existing SR-25/Bolsa Road intersection, and by widening SR-25 to enable installation of acceleration and deceleration lanes into and out of the relocated driveway	Objective attained. Proposed SR-25 and entrance improvements would be made.
Provide additional mulch and compost as soil amendment products including water conserving mulch ground cover, erosion control, and bio-soil products that are beneficial to the environment	Reduced objective attainment. The volume of finished projects would be reduced with reduced MSW feedstock intake and reduced daily volume of MSW processing.

Notes:
AB = Assembly Bill
CTI = Compost Technologies, Inc.
ECS = Engineered Composting System
MSW = Municipal Solid Waste
SB = Senate Bill
SR-25 = State Route 25
TPD = Tons per Day

18.4.2.3 Analysis of Reduced Scale Alternative

Aesthetics

The proposed project would result in a potentially significant, but mitigable aesthetic impact from a potential increase in litter generation, which could adversely affect views of the site and surrounding area from SR-25. The reduced scale alternative would reduce this impact by reducing the number of trucks delivering MSW feedstock to the site and in turn, the volume of litter that may be produced as a by-project of MSW sorting and processing activities. It is assumed that the same mitigation (Mitigation Measure AES-2) would be applied to the reduced-scale alternative, which would also mitigate the reduced litter impact to a less-than-significant level. The reduced scale alternative would have a substantially reduced aesthetic impact compared to the proposed project, but the level of significance would still be **less than significant with mitigation**, which is the same level of significance as the proposed project.

Air Quality

The proposed project would result in significant and unavoidable operational NO_X emissions impacts, and associated inconsistency with the Clean Air Plan, primarily due to increased haul truck traffic. As discussed in Section 18.4.1.1 above, the reduced scale alternative would reduce the number of new permitted haul truck trips to a level at which associated daily and annual NO_X emissions fall below the BAAQMD thresholds of significance, and therefore would avoid the Project's significant, unmitigable impact relating to NO_X emissions and Clean Air Plan inconsistency. The impact of the reduced scale alternative would be **less than significant**, which is a lesser level of significance than the proposed project.

The proposed project would result in a potentially significant and unavoidable impact relating to bioaerosol emissions, due to the increased volume of MSW that would be processed at the site and the proposed change in composting technology. The reduced scale alternative would reduce the volume of MSW processed at the site, and therefore would be expected to decrease the volume of bioaerosols emitted compared to the proposed project, but could still result in an increase in bioaerosol emissions compared to existing conditions. For the same reasons discussed for the proposed project in Section 7.4.7, due to the uncertainties regarding bioaerosol generation and dispersal, and the lack of established exposure thresholds, the reduced scale alternative could still have potentially significant health and environmental impacts due to bioaerosol emissions, which might not be fully mitigated by implementation of MM-AIR-7A and MM-AIR-7B. Because the effectiveness of MM-AIR-7a and MM-AIR-7b cannot be quantified and there are no regulatory exposure levels for this impact, this impact has been conservatively determined to be **significant and unavoidable**, which is the same level of significance as the proposed project.

Biological Resources

The proposed project would have potentially significant impacts on California red-legged frog, special-status bats, protected nesting birds, and wetlands/jurisdictional waters, which would be reduced to less-than-significant with implementation of mitigation measures.

All of the potential biological resource impacts are associated with construction activities. This alternative would not affect the location or extent of construction activities. Therefore, the reduced scale alternative would result in the same significant,

but mitigable impacts. The impact of the reduced scale alternative on biological resources would be **less than significant with mitigation**, which is the same level of significance as the proposed project.

Cultural Resources

The proposed project has potential to significantly impact cultural and tribal cultural resources due to planned construction activities that disturb soil through grading and/or excavations, which would be reduced to less-than-significant with implementation of mitigation measures. All of the potential cultural and tribal cultural resource impacts are associated with construction activities.

This alternative would not affect the location or extent of construction activities. Therefore, the reduced scale alternative would result in the same significant, but mitigable impacts. The impact of the reduced scale alternative on cultural and tribal cultural resources would be **less than significant with mitigation**, which is the same level of significance as the proposed project.

Hydrology and Water Quality

The proposed project has potential to significantly impact surface and groundwater quality due to inadequate detention basin capacity, presence of existing contaminated soils within the existing Detention Basin #1, and potential for overtopping of Detention Basin #2 during a 100-year flood event. These impacts would be reduced to less-than-significant with implementation of mitigation measures.

Under the reduced scale alternative, Detention Basin #1 would still be proposed to be modified in the same manner as the proposed project due to Composting General Order requirements, and the capacity of those proposed improvements would still be insufficient, as described for the project in Section 11.3.3, as the size of the areas draining to the detention basins would the same as under the proposed project. The volume of compost being processed at the site would be reduced, which might be expected to decrease the concentration of contaminants within the leachate.

Similarly, the existing berm height of Detention Basin #2 would still be insufficient to prevent overtopping during a 100-year flood event, and the existing sediments within the footprint of Detention Basin #1 could still be contaminated and pose a risk of leaching to groundwater. Mitigation measures MM-HYD-1A, MM-HYD-1B, MM-HYD-1C and MM-HYD-5 would still be required for this alternative. The reduced scale alternative would have a **less than significant impact with mitigation**, which is the same level of significance as the proposed project.

Transportation

The proposed project would result in a significant and unavoidable VMT impact from the increases in employee and truck trips. No change in proposed staffing levels (and associated employee-based VMT) would occur as part of the reduced scale alternative. This alternative would reduce the number of additional truck trips by approximately 56 percent compared to the proposed project's peak-day truck trips. However, as discussed in Section 13.3.2, this EIR evaluates any increase in VMT resulting from additional truck trips as a potentially significant impact. Therefore, because the reduced scale would still increase the number of truck trips compared to existing conditions, the VMT impact would be potentially significant. As discussed in Section 13.4.1, there are no mitigation measures currently available to address this impact. Therefore, although

the reduced scale alternative would have a substantially reduced VMT impact compared to the proposed project, the level of significance would still be **significant and unavoidable**, which is the same level of significance as the proposed project.

This alternative would require the same construction activities within the SR-25 right-of-way, and would therefore have the same potentially significant impact on construction-related traffic safety and emergency access as the proposed project, which would be mitigated to a less-than-significant level by implementation of MM-TRA-3. The impact of the reduced scale alternative on traffic safety and emergency access during construction would be **less than significant with mitigation**, which is the same level of significance as the proposed project.

This alternative would include the same modifications to the site access and SR-25/Bolsa Road intersection as the proposed project, but would substantially reduce the volume of traffic utilizing the new intersection/site access. For the same reasons as discussed for the proposed project in Section 13.4.2, although the change in intersection layout is anticipated to decrease the overall frequency of vehicle accidents (even more so for this alternative given the reduction in traffic volumes), the new layout could result in an increased number of higher severity crashes compared to existing conditions, which would be a potentially significant impact. Implementation of MM-TRA-2, which incorporates Alternative 3 and MM-TRA-2-Alt3, would reduce the impact to **less than significant with mitigation**, which is the same level of significance as the proposed project.

Other Potential Impacts

Because the purpose of the alternatives analysis is to identify possible alternatives to the project that would avoid or reduce the significant impacts of the proposed project, the analysis above focuses on those impacts for which the proposed project would have a potentially significant (but mitigable) or significant and unavoidable impact.

In addition to those impacts described in detail above, because the reduced scale alternative would include less operational truck traffic than the proposed project, it would also result in a proportional reduction in other less than significant impacts that are associated with operational truck traffic, such as operational traffic noise and operational GHG. Because the reduced project scale alternative would not include any additional construction or operational components beyond those already analyzed as part of the proposed project, this alternative would not introduce any new potentially significant impacts.

18.4.3 Alternative 3: No Driveway Relocation

18.4.3.1 Description of Alternative

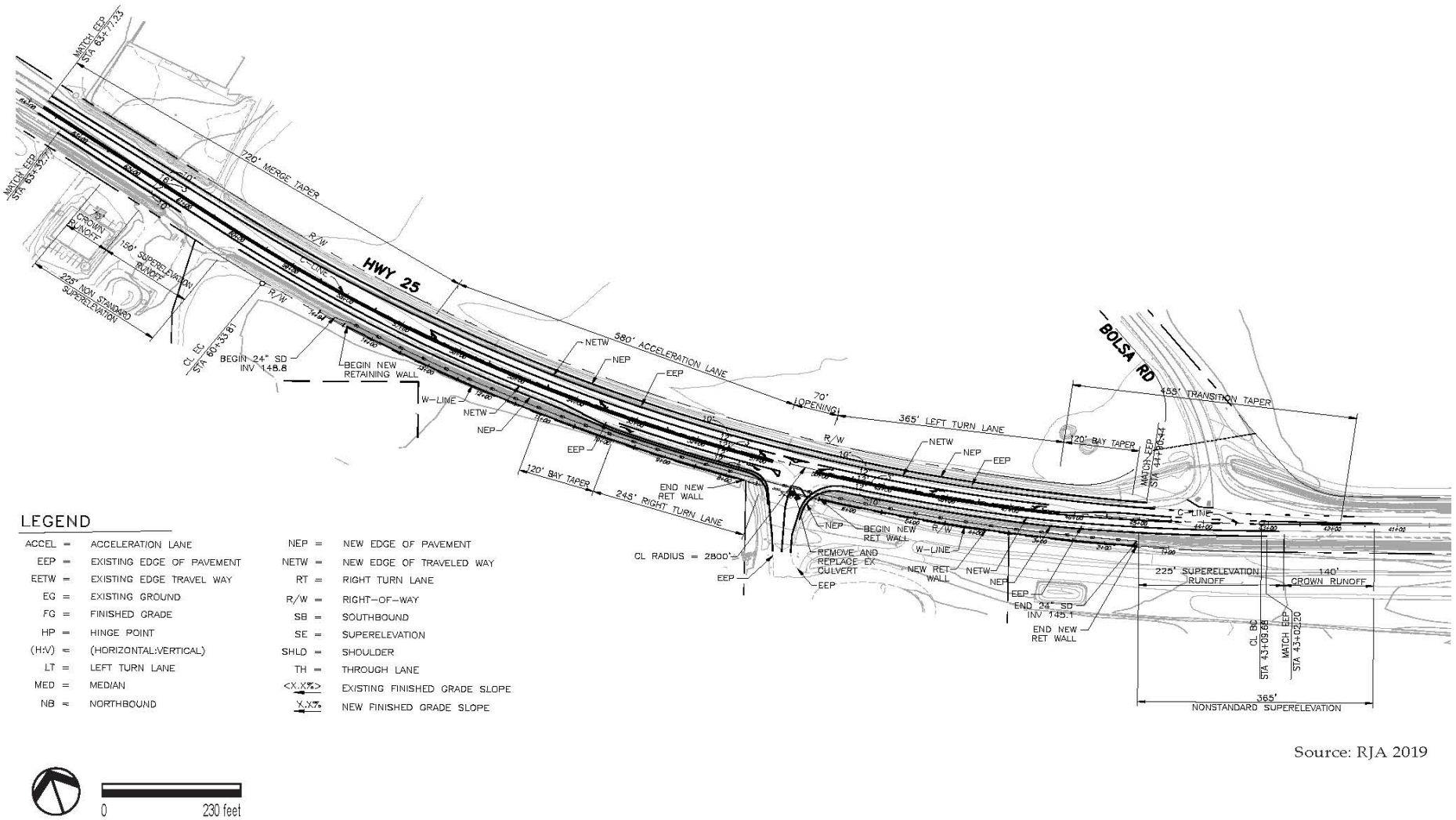
The no driveway relocation alternative would eliminate the proposed relocation of the existing driveway into the Z-Best site. Under this alternative, the existing Z-Best driveway would remain the only access into the site from SR-25, and no changes would be made to the existing SR-25/Bolsa Road intersection. Deceleration and acceleration lanes would be constructed on SR-25 at the existing Z-Best driveway, to provide for improved operations and safety at the existing site entrance. Figure 18-1, No Driveway

Relocation Alternative - SR-25 Improvements for Existing Driveway, shows the location and extent of the SR-25 improvements that would occur with this alternative.

The primary changes that would occur with this alternative relative to the proposed project are as follows:

- Eliminates construction/paving of the proposed approximately 600-foot long by 20-foot wide new on-site driveway;
- Reduces required filling of drainage ditches along SR-25 to accommodate road widening from a total of about 3,400 linear feet on both sides of the highway to about 1,400 linear feet on the south side of the highway. The total linear footage of pavement widening would remain similar, but with more widening occurring in locations that do not require drainage ditch fill;
- Eliminates fill of an approximately 75-foot long segment of the drainage ditch on the south side over which the new driveway would pass;
- Eliminates removal of approximately 10 ornamental poplar trees that are located along the proposed new driveway alignment;
- Reduces the duration and intensity of construction activities by eliminating new driveway construction and reducing grading/excavations associated with drainage ditch fill; and
- Eliminates creating a new fourth leg of the existing SR-25/Bolsa Road intersection.

No other components of the proposed project would change with this alternative.



Source: RJA 2019

Figure 18-1 No Driveway Relocation Alternative - SR-25 Improvements for Existing Driveway

18.4.3.2 Consistency with Project Objectives

Table 18-2, No Driveway Relocation Alternative - Attainment of Project Objectives, summarizes how this alternative would affect attainment of the project objectives listed in Section 4.2, Project Objectives. The attainment status is based on the alternative description and on the following analysis of the environmental effects of the alternative.

Table 18-2 No Driveway Relocation Alternative Attainment of Project Objectives

Objective	Objective Attainment Status
Increase Z-Best's current Solid Waste Facilities Permit daily tonnage limits from the current 1,500 TPD to 2,750 TPD, providing additional composting capacity to implement state solid waste/recycling goals as directed in state laws including, SB 1383, AB 1826, AB 1594, AB 605, and SB 876	Objective attained
Increase composting efficiency by completing the composting process in 34-38 days (4-5 weeks) with the ECS system compared to the current 14 weeks with the CTI system	Objective attained
Process and compost over two times the feedstock in the same geographical footprint on site in the same amount of time	Objective attained
Reduce odors associated with MSW composting in using the ECS system while avoiding an increase in operational noise	Objective attained
Reduce site emissions utilizing the best available technology for aeration, biofiltration, and liquid capture	Objective attained
Ensure operational consistency with the State Water Quality Control Board's 2015 Composting General Order	Objective attained
Avoid operational traffic impacts from new employee and truck traffic by adding additional trips only outside of AM and PM peak hours	Objective attained
Improve traffic safety along the project site frontage with SR-25 by relocating the existing facility access driveway to become a new fourth leg of the existing SR-25/Bolsa Road intersection, and by widening SR-25 to enable installation of acceleration and deceleration lanes into and out of the relocated driveway	Objective partially attained. The proposed entrance relocation would not occur, but SR-25 improvements would be made that have equivalent traffic operations benefit.
Provide additional mulch and compost as soil amendment products including water conserving mulch ground cover, erosion control, and bio-soil products that are beneficial to the environment	Objective attained

Notes:
AB = Assembly Bill
CTI = Compost Technologies, Inc.
ECS = Engineered Composting System
MSW = Municipal Solid Waste
SB = Senate Bill
SR-25 = State Route 25
TPD = Tons per Day

18.4.3.3 Analysis of No Driveway Relocation Alternative

Aesthetics

The proposed project would result in a potentially significant, but mitigable, aesthetic impact resulting from a potential increase in litter generation that would adversely affect views from SR-25. This alternative would involve the same increase in haul truck trips, and therefore the same potential for increased litter generation as the proposed project. For the same reasons discussed in Section 5.4.2, the aesthetics impact of this alternative would be potentially significant, but would be reduced to **less than significant with implementation of mitigation** measure MM-AES-2. This is the same level of significance as the proposed project.

Air Quality

The proposed project would result in significant and unavoidable operational NO_X emissions impacts, and associated inconsistency with the Clean Air Plan, primarily due to increased haul truck traffic. This alternative would result in the same number of proposed truck and employee trips as the proposed project. Therefore, for the same reasons discussed in Section 7.4.2 and 7.4.8, the impacts of the no driveway relocation alternative relating to NO_X emissions and Clean Air Plan consistency would be **significant and unavoidable**, which is the same level of significance as the proposed project.

The proposed project would also result in a potentially significant and unavoidable impact relating to bioaerosol emissions, due to the increased volume of MSW that would be processed at the site and the proposed change in composting technology. Mitigation measures MM-AIR-7A and MM-AIR-7B would help to control emissions, but cannot be assured to reduce impacts to a less-than-significant level. The no driveway relocation alternative would include the same change in technology and the same increase in MSW volume as the proposed project. Therefore, for the same reasons discussed for the proposed project in Section 7.4.7, the impact of this alternative in relation to bioaerosols would be **significant and unavoidable**, which is the same level of significance as the proposed project.

Biological Resources

The proposed project would have potentially significant impacts on California red-legged frog, special-status bats, protected nesting birds, and to potential wetlands/jurisdictional waters. These impacts would be reduced to less than significant with implementation of mitigation measures. The impacts are associated with construction activities. Impacts of the proposed project on California red-legged frog and on ditches/potential wetland specifically linked with the proposed filling of approximately 3,400 linear feet of existing drainage ditches on each side of SR-25 needed to accommodate SR-25 improvements, and potentially from the proposed modifications to Detention Basin #1.

The no driveway relocation alternative would require approximately 1,400 lineal feet of drainage ditch on the south side of the highway be filled. This alternative would, therefore, lessen these potentially significant impacts by avoiding approximately 2,000 lineal feet of drainage ditch fill, including the portion of drainage ditch on the north side of SR-25 in which a small potential wetland is located. This alternative would also eliminate the need to fill an approximately 75-foot long segment of ditch over which the new site entrance would have been constructed. Therefore, this alternative would reduce the significant, mitigable impacts on California red-

legged frog and on potentially jurisdictional aquatic features/wetlands. This alternative would involve the same modifications to Detention Basin #1 as the proposed project.

This alternative also results in a minor decrease in potential for significant, mitigable construction impacts on other special-status species with potential to occur near the proposed new driveway location, due to the decreased construction footprint.

The no driveway relocation alternative would have a slightly reduced impact to biological resources compared to the proposed project, but would still require implementation of mitigation measures MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-4. The level of significance would be **less than significant with mitigation**, which is the same level of significance as the proposed project.

Cultural Resources

The proposed project has potential to significantly impact cultural and tribal cultural resources due to planned construction activities that disturb soil through grading and/or excavations, which would be reduced to less-than-significant with implementation of mitigation measures. All of the potential cultural and tribal cultural resource impacts are associated with construction activities.

With the no project driveway alternative, grading and any excavation work associated with the new entrance drive would be eliminated. By reducing the construction footprint, the potential to encounter previously unknown cultural and tribal cultural resources would also be reduced. However, implementation of mitigation measure MM-CUL-1 would still be required. For the same reasons described in Section 9.4, the level of significance would be **less than significant with mitigation**, which is the same level of significance as the proposed project.

Hydrology and Water Quality

The proposed project has potential to significantly impact surface and groundwater quality due to inadequate detention basin capacity, presence of existing contaminated soils within the existing Detention Basin #1, and potential for overtopping of Detention Basin #2 during a 100-year flood event. These impacts would be reduced to less-than-significant with implementation of mitigation measures.

Under the no driveway relocation alternative, Detention Basin #1 would still be proposed to be modified in the same manner as the proposed project due to Composting General Order requirements, and the capacity of those proposed improvements would still be insufficient, as described for the project in Section 11.3.3, as the area draining to the detention basins would be the same as the proposed project. Similarly, the existing berm height of Detention Basin #2 would still be insufficient to prevent overtopping during a 100-year flood event, and the existing sediments within the footprint of Detention Basin #1 could still be contaminated and pose a risk of leaching to groundwater. Mitigation measures MM-HYD-1A, MM-HYD-1B, MM-HYD-1C and MM-HYD-5 would still be required for this alternative. The no driveway relocation alternative would have a **less than significant impact with mitigation**, which is the same level of significance as the proposed project.

Transportation

The no driveway relocation alternative would not change the number of employee or truck trips from operations compared to the proposed project. Therefore, for the reasons described for the

project in Section 13.4.1, the VMT impact of this alternative would be **significant and unavoidable**, which is the same level of significance as the proposed project.

Regarding the significant but mitigable construction phase traffic safety and emergency access impacts of the proposed project, the no driveway relocation alternative may slightly lessen the impacts due to a minor reduction in construction trip volume and minor reduction in the duration of construction, but these impacts would still be potentially significant. For the same reasons discussed in Sections 13.4.3 and 13.4.4, implementation of MM-TRA-3 would reduce these impacts to **less than significant with mitigation**, which is the same level of significance as the proposed project.

Regarding operational traffic safety effects, AECOM traffic engineers analyzed the predicted crash frequency for Alternative 3, which assumed the same increase in traffic volumes as the proposed project (see traffic safety memorandum in Appendix G-3). Table 18-3 shows the predicted crash frequency for Alternative 3, as well as for existing conditions and the proposed project.

Table 18-3 Predicted Crash Frequency for Alternative 3 compared to Existing Conditions and Proposed Project

Scenario	Crashes per Year at Existing Driveway	Crashes per Year at Bolsa Intersection	Crashes per Year (total)
Existing Conditions	1	1.8	2.8
Proposed Project	0	1.77	1.77
Project + Mitigation (traffic signals)	0	2.1	2.1
Alternative 3	0.8	1.81	2.61

As shown in the table, Alternative 3 is predicted to decrease the overall number of annual crashes in the study area from 2.8 crashes per year under existing conditions to 2.61 crashes per year, but would slightly increase the predicted crash rate at the Bolsa Road intersection compared to existing conditions (by 0.01 crashes per year) due to the slight increase in through-traffic associated with the Project. Although this minor predicted increase in the number of crashes at the Bolsa Road intersection would be offset by a larger (0.2 crashes per year) decrease in crashes at the Z-Best driveway, the impact of the no driveway relocation alternative is considered to be potentially significant, as the existing Bolsa Road intersection already has safety issues which would be slightly exacerbated by the increased traffic volumes associated with Alternative 3, and in particular, by the proposed increase in nighttime truck traffic.

Although Alternative 3 would not reduce the predicted crash frequency as much as the proposed project, the overall impact to traffic safety would be less under Alternative 3 compared to the proposed project, because the SR-25/Bolsa Road intersection and SR-25/driveway intersection would both continue to operate as 3-leg minor stop-controlled intersections. Therefore, the proportion of more severe or broadside crashes in the study area would not be anticipated to increase, as it would for the proposed project due to the change to a 4-leg minor approach stop-controlled intersection, which would add additional traffic and turning movements to the SR-25/Bolsa Road intersection (see Section 13.4.2). Compared to the mitigated project (i.e., driveway relocated to Bolsa Road intersection, but with traffic signals instead of stop-sign control

on minor approaches), Alternative 3 is predicted to result in a lower number of crashes at the Bolsa Road intersection, but a higher number of crashes in the study area as a whole.

The **potentially significant** impact of Alternative 3 could be reduced to less than significant with implementation of the following mitigation measure:

> ***Mitigation Measure MM-TRA-2-Alt3: Installation of Intersection Lighting and Warning Signage***
>
> *The proposed design for Alternative 3 shall include the installation of a southbound acceleration lane for trucks turning right out of the existing Z-Best driveway, as well as installation of intersection lighting at the existing intersection of SR-25/Bolsa Road and at the existing Z-Best driveway, and installation of "Caution: Trucks Entering Highway" signage on SR-25 on both approaches to the driveway. The applicant shall obtain an encroachment permit from Caltrans to implement the modified design and shall comply with all conditions of the permit and/or modifications to the design requested by Caltrans as part of their permit review process.*

With implementation of MM-TRA-2-Alt3, the predicted number of crashes per year at both the existing Z-Best driveway and the SR-25/Bolsa Road intersection, and in the project area as a whole, would be reduced compared to existing conditions (see Table 18-4 and detailed calculations in Appendix G-3). In particular, this mitigation measure would be expected to reduce the frequency of nighttime crashes due to the addition of intersection lighting. In addition, preliminary discussions with Caltrans staff (Saleh, pers. comm., 2023) have indicated that the mitigated Alternative 3 would likely be compatible with Caltrans' proposed restriping project at Bolsa Road that is expected to be constructed in the summer of 2023, but that additional modifications or conditions may be imposed during the encroachment permit process.

Table 18-4 Predicted Crash Frequency for Alternative 3 with Mitigation

Scenario	Crashes per year at existing driveway	Crashes per year at Bolsa intersection	Crashes per year (total)
Existing Conditions	1	1.8	2.8
Proposed Project	0	1.77	1.77
Project + Mitigation	0	2.1	2.1
Alternative 3	0.8	1.81	2.61
Alternative 3 + Mitigation	0.56	1.66	2.21

With implementation of MM-TRA-2-Alt3 the impact of Alternative 3 would be reduced to **less than significant with mitigation**, which is the same level of significance as the proposed project.

Other Potential Impacts

Because the purpose of the alternatives analysis is to identify possible alternatives to the project that would avoid or reduce the significant impacts of the proposed project, the analysis above focuses on those impacts for which the proposed project would have a potentially significant (but mitigable) or significant and unavoidable impact.

In addition to those impacts described in detail above, because the no driveway relocation alternative would have a smaller construction footprint than the proposed project, it would result in a lesser scale of other construction-related impacts such as construction-related noise, construction-related stormwater impacts, or construction-related air quality issues.

Because on-site operations and truck trip volumes under the no driveway relocation alternative would be identical to the proposed project, this alternative would have the same operational impacts as described for the proposed project.

Because the no driveway relocation alternative would not include any additional construction or operational components beyond those analyzed as part of the proposed project, this alternative would not introduce any new potentially significant impacts.

18.5 Comparison of Alternatives

Pursuant to CEQA Guidelines section 15126.6(a), an EIR shall evaluate the comparative merits of the alternatives. The significance of effects of the alternatives relative to the proposed project are summarized Table 18-5, Summary of Alternatives Impacts Compared to the Proposed Project Impacts. Table 18-5 presents information on whether the alternatives have potential to avoid or substantially lessen the significant mitigable impacts and the significant and unavoidable impacts of the proposed project.

18.6 Environmentally Superior Alternative

The no project alternative is the environmentally superior alternative. It would avoid the significant unavoidable operational NO_X, bioaerosol, and VMT impacts of the proposed project and would avoid all other significant but mitigable impacts of the proposed project, except those relating to modification of Detention Basin #1, which would still occur under the no project alternative. However, the no project alternative would not achieve any of the project objectives.

CEQA Guidelines section 15126.6(e)(2) states that if the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

The reduced scale alternative and the no driveway relocation alternative are both also environmentally superior to the proposed project. The reduced scale alternative would reduce two significant unavoidable impacts (operational NO_X emissions and consistency with Clean Air Plan) to less than significant and would substantially lessen two other impacts (bioaerosols and VMT), even though the impacts would still be significant and unavoidable.

The no driveway relocation alternative would incrementally lessen several construction phase related significant but mitigable impacts, but would not avoid or substantially reduce any of the significant and unavoidable impacts. The no driveway relocation alternative would also reduce the level of mitigation required for operational traffic safety impacts.

For all of the above reasons, the reduced scale alternative is considered to be the environmentally superior alternative among the remaining alternatives because its impact reduction features are of greater magnitude than impact reduction features of the no driveway relocation alternative and its impact reductions would occur over the entire life of the project rather than solely over the short-term construction period. However, the reduced scale alternative would not meet all of the project objectives, and in particular, would reduce the extent to which the project would help to implement the State's solid waste/recycling/organic waste diversion goals.

Table 18-5 Summary of Potentially Significant Impacts of the Proposed Project Compared to the Alternatives

Significant Environmental Impact	Proposed Project: Impact Level	Alternative 1: No Project	Alternative 2: Reduced Scale	Alternative 3: No Driveway Relocation
Impact AES-2. The project could degrade existing visual character or quality.	LTSM	NI Impact Avoided	LTSM Less than Project	LTSM Same as Project
Impact AIR-1. The project would have potentially significant fugitive dust (PM_{10} and $PM_{2.5}$) emissions during construction.	LTSM	NI Impact Avoided	LTSM Same as Project	LTSM Less than Project
Impact AIR-2. NO_X emissions from operational truck trips would exceed the daily and annual thresholds of significance (project-level and cumulative).	S&U	NI Impact Avoided	LTS Less than Project	S&U Same as Project
Impact AIR-7. The project could increase bioaerosol emissions from the facility, which could have potential health and/or environmental impacts (project-level and cumulative).	S&U	NI Impact Avoided	S&U Less than Project	S&U Same as Project
Impact AIR-8. NOx emissions from operational truck trips would make the project inconsistent with the Clean Air Plan (project-level and cumulative).	S&U	NI Impact Avoided	LTS Less than Project	S&U Same as Project
Impact BIO-1. Potential loss or disturbance of special-status wildlife species (California red-legged frog)	LTSM	LTSM Less than Project	LTSM Same as Project	LTSM Less than Project
Impact BIO-2 Potential loss or disturbance of special-status wildlife species (nesting raptors and migratory birds)	LTSM	LTSM Less than Project	LTSM Same as Project	LTSM Less than Project
Impact BIO-3 Potential loss or disturbance of special-status wildlife species (western mastiff bat and pallid bat)	LTSM	LTSM Less than Project	LTSM Same as Project	LTSM Less than Project
Impact BIO-4 Loss of potential state or federally protected wetlands	LTSM	LTSM Less than Project	LTSM Same as Project	LTSM Less than Project
Impact CUL-1 Potential for accidental discovery and disturbance of significant historical resources or unique archaeological resources	LTSM	LTSM Less than Project	LTSM Same as Project	LTSM Less than Project

Significant Environmental Impact	Proposed Project: Impact Level	Alternative 1: No Project	Alternative 2: Reduced Scale	Alternative 3: No Driveway Relocation
Impact CUL-3 Potential for accidental discovery and disturbance of tribal cultural resources	LTSM	LTSM Less than Project	LTSM Same as Project	LTSM Less than Project
Impact HYD-1 Violation of water quality standards or waste discharge requirements or other degradation of water quality	LTSM	LTSM Same as Project	LTSM Same as Project	LTSM Same as Project
Impact HYD-5 Release of pollutants due to flood inundation	LTSM	LTSM Same as Project	LTSM Same as Project	LTSM Same as Project
Impact HYD-6 Conflict with or obstruct implementation of the Water Quality Control Plan	LTSM	LTSM Same as Project	LTSM Same as Project	LTSM Same as Project
Impact TRA-1 Generate VMT that exceeds threshold (project level and cumulative)	S&U	NI Impact Avoided	S&U Less than Project	S&U Same as Project
Impact TRA-2 Project operation could substantially increase traffic hazards (project level and cumulative)	LTSM	NI Impact Avoided	LTSM Less than Project	LTSM Less than Project
Impact TRA-3 Project construction could substantially increase traffic hazards	LTSM	LTS Less than Project	LTSM Same as Project	LTSM Less than Project
Impact TRA-4 Project construction could result in inadequate emergency access	LTSM	LTS Less than Project	LTSM Same as Project	LTSM Less than Project
Meets Project Objectives?	Yes	No	Reduced attainment of several project objectives	Attains all project objectives except for one relating to driveway relocation
Number of S&U impacts avoided or reduced to LTSM	N/A	4	2	0
Number of LTSM impacts avoided or reduced to LTS	N/A	5	0	0
Number of S&U or LTSM impacts reduced in scale (but same level of significance)	N/A	6	4	10
Number of S&U or LTSM impacts unchanged from Proposed Project	N/A	3	12	8

SOURCE: Compiled by AECOM in 2023

NOTE: NI – No Impact; LTS – Less Than Significant; LTSM – Less-Than-Significant with Mitigation; S&U – Significant and Unavoidable; N/A – not applicable

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20 Report Authors

County of Santa Clara (Lead Agency)

Emmanuel Ursu ..... Consultant Planner
Valerie Negrete ..... Senior Planner
Sam Gutierrez ..... Principal Planner
Lizanne Reynolds ..... Deputy County Counsel
Elizabeth Vissers ..... Deputy County Counsel

AECOM (CEQA Consultant)

Rod Jeung ..... Project Director
Emma Rawnsley ..... Project Manager
Chris Kaiser ..... Acoustics and Noise Control Specialist
Jafar Al-Khalaf ..... Acoustics and Noise Control Specialist
Paola Peña ..... Air Quality Scientist
Kathleen Kubal ..... Senior Archaeologist
Peter Boice ..... Senior Biologist
Justin Whitfield ..... Wetlands Biologist
Allison Brock ..... Environmental Scientist
Wendy Copeland ..... Environmental Analyst
Elizabeth Neilsen ..... Hydrologist/Civil Engineer
Scott Shea ..... Senior Traffic Engineer
Deborah Jew ..... Document Production
Katie Brown ..... GIS Analyst/Graphics
Chris O'Neal ..... GIS Analyst/Graphics

Appendix A – Notice of Preparation and Scoping Comments

Contains:

- Notice of Preparation
- Scoping Period Comments

Appendix B – Air Quality and Greenhouse Gas Supporting Information

Contains:

- 2019 Air Quality and Greenhouse Gas Emissions Report (SCS Engineers) and peer review (EMC Planning Group)
- 2019 Health Risk Assessment for Increased Truck Traffic (Illingworth and Rodkin)
- 2020 Toxic Air Contaminant Emissions Evaluation for Proposed Capacity Expansion (Yorke Engineering)
- 2019 Air Dispersion Modelling Report (Englobe) and peer review (Yorke Engineering)
- 2020 GHG Offset Memorandum (SCS Engineers) and 2023 peer review (AECOM)
- 2022 Bioaerosols Memorandum (AECOM)
- 2023 NOx Emissions Mitigation Memorandum (AECOM)
- 2023 Updated Air Quality and Greenhouse Gas Modeling (AECOM)

Appendix C – Biological Resources Supporting Information

Contains:

- 2014 California Red-Legged Frog Habitat Assessment (WRA Environmental Consultants)
- 2017 Verification of Absence of Sensitive Species and Habitat (WRA Environmental Consultants)
- 2020 Biological Report for Site Access and State Highway 25 Improvements (EMC Planning Group)
- 2022 Updated Biological Records Searches (AECOM)

Appendix D – Energy Supporting Information

Contains:

- 2022 Power Use Comparison: CASP and eASP versus CTI Composting (ECS)

Appendix E – Hydrology and Water Quality Supporting Information

Contains:

- 2020 Peer Review of Selected Water Quality and Hydrology Reports (Tetra Tech)
- 2022 Updated Floodplain Storage Analysis for Z-Best Compost Facility (Schaaf & Wheeler)
- 2022 Clarification of Previous Hydrology and Water Supply Analyses (Golder)
- 2022 Further Clarification of Previous Hydrology and Water Supply Analyses (Golder) and 2022 Water Supply Evaluation (Golder)
- 2022 Groundwater Drawdown Evaluation Memorandum (Golder)
- 2023 Detention Basin Evaluation (AECOM)
- 2023 Flood Frequency Evaluation (AECOM)

Appendix F – Noise Supporting Information

Contains:

- 2023 Noise Memorandum (AECOM)

Appendix G – Transportation Supporting Information

Contains:

- 2020 Z-Best Traffic Operations and Site Access Analysis (Hexagon Transportation Consultants), Peer Review (Keith Higgins, Traffic Engineer), and Response to Peer Review (Hexagon Transportation Consultants)
- 2020 Supplemental Vehicle Miles Traveled Clarification and Analysis (Hexagon Transportation Consultants)
- 2023 Traffic Safety Memorandum (AECOM)