Draft EIR

Z-Best Composting Facility Modifications

State Clearinghouse Number 2018102041

January 11, 2020

Prepared for

County of Santa Clara

Prepared by

EMC Planning Group

County of Santa Clara

Department of Planning and Development

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To Interested Parties:

SUBJECT: Z-BEST COMPOSTING FACILITY MODIFICATIONS DRAFT ENVIRONMENTAL IMPACT REPORT

The enclosed Draft Environmental Impact Report (Draft EIR) has been prepared to evaluate the potential environmental impacts of the project described below:

> The project proponent, Zanker Road Resource Management Ltd., has applied to the County of Santa Clara for a modification of its Use Permit for the Z-Best Composting facility at 980 State Route 25 (SR 25) in the unincorporated area approximately 5 miles southeast of Gilroy. The proposed modification would allow an upgrade of the existing municipal solid waste composting process from the current windrow method to an aerated static pile process, as well as other changes in operations and site design. Z-Best also proposes other site changes. Its existing detention pond #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. This flood storage capacity expansion will compensate for the impacts associated with Z-Best's elevation of the existing pad on which the new composting technology would be placed. In addition, SR 25 along the site frontage would be widened to allow installation of acceleration and deceleration lanes into and out of the facility entrance, which would be relocated to become a new fourth leg of the existing SR 25/Bolsa Road intersection. The existing facility driveway would be closed.

Your comments regarding the significant environmental effects of this project and the adequacy of the Draft EIR are welcome. Written comments, submitted to the Santa Clara County Planning Office by **5:00 p.m., March 1, 2021**, will be included in the Final EIR. Please address comments to:

Adam Petersen, Principal Planner
E-mail: apetersen@m-group.us.

A meeting to receive comments on the Draft EIR has been scheduled for Thursday, February 25, 2021 at 1:30 pm before the Planning Commission.

Sincerely,

DocuSigned by:
Bharat Singh
4A984F312D3A431...

Bharat Singh, Principal Planner

DRAFT EIR

Z-BEST COMPOSTING FACILITY MODIFICATIONS

State Clearinghouse #2018102041

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1.0 Introduction

Z-Best Products ("applicant" or "Z-Best") has requested approval of a major modification to a Use Permit and Architectural Site Approval from the County of Santa Clara ("County"). The original application for the approvals was submitted in April 2017 and deemed complete by the County in November 2018. The entitlement requests would allow the technological upgrades to increase the throughput capacity operation of Z-Best municipal solid waste and green waste composting operations. Z-Best's facility is located at 980 State Highway 25, Gilroy, California. The primary proposed modifications include the following:

- replacing an existing composting technology process with a newer technology that allows compost to be processed in a shorter amount of time, increasing the daily volume of municipal solid waste that may be accepted and processed at the facility;
- expanding an existing flood water storage pond;
- modifying an existing storm water retention pond;
- hiring additional employees and expanding the hours of operations; and
- relocating the existing facility access driveway to become a new fourth leg of the existing State Route 25 (SR 25)/Bolsa Road intersection and widening SR 25 along the project site frontage to accommodate new turn lanes into and out of the facility.

1.1 Purpose for Preparing the EIR

The County, acting as the lead agency, has determined that the Z-Best Composting Facility Modifications Project (hereinafter "proposed project") being proposed by Z-Best Products, could result in significant adverse environmental impacts and has prepared an environmental impact report (EIR) to evaluate these potentially significant adverse environmental impacts.

This EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970, as amended, to inform public decision makers and their constituents of the environmental impacts of the proposed project. In accordance with CEQA guidelines, this report describes both beneficial and adverse environmental impacts generated by the proposed project and suggests measures for mitigating significant adverse environmental impacts resulting from the proposed project.

1.2 METHODOLOGY

General

This EIR has been prepared in accordance with CEQA and its implementing guidelines, using an interdisciplinary approach. The County has the discretionary authority to review and approve the proposed project. This EIR is an informational document that is intended to inform the decision makers and their constituents, as well as responsible and trustee agencies, of the environmental impacts of the proposed project and to identify feasible mitigation measures and alternatives that would avoid or reduce the severity of the impacts. The lead agency is required to consider the information contained in this EIR and make certain findings prior to taking any discretionary action to approve the proposed project.

This EIR has been prepared using available information from private and public sources noted herein, as well as information generated through field investigation by the County's consultants and other technical experts.

The purpose of an EIR is to identify a project's significant environmental effects, to indicate the manner in which those significant effects can be mitigated or avoided, and to identify alternatives to the proposed project.

An EIR is an objective public disclosure document that takes no position on the merits of the proposed project. Therefore, the findings of this EIR do not advocate a position "for" or "against" the proposed project. Instead, the EIR provides information on which decisions about the proposed project can be based. This EIR has been prepared according to professional standards and in conformance with legal requirements.

Environmental Impact Analysis

This EIR evaluates the environmental consequences and potentially significant impacts that would result from implementation of the proposed project. This EIR focuses on the project's significant effects on the environment in accordance with CEQA Guidelines section 15143. The impacts identified are compared with predetermined significance criteria discussed in each environmental topic chapter, and classified according to significance categories listed in Chapter 1.0.

To the extent the residual impact may still be significant even after implementation of the conditions, laws and regulations, potentially feasible mitigation measures are described which would eliminate or substantially reduce the severity of the impact. The effectiveness of a mitigation measure is determined by evaluating the residual impact remaining after its application. Those impacts meeting or exceeding the impact significance criteria after potentially feasible mitigation measures are incorporated are identified as residual impacts that remain significant and unavoidable. Implementation of more than one mitigation measure may be needed to reduce an impact below a level of significance.

The baseline environmental setting describes the conditions that exist prior to implementation of the project. For this EIR, the baseline environmental setting provides the point of reference for assessing the environmental impacts of the proposed project and project alternatives.

For purposes of assessing the environmental effects of a proposed project, CEQA Guidelines Section 15126.2 states, "the Lead Agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published." See also, CEQA Guidelines Section 15125(a). In Neighbors for Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal. 4th 439, 452-453, the California Supreme Court explained that CEQA does not impose a uniform, inflexible rule for establishing an existing conditions baseline, but rather gives lead agencies discretion.

For purposes of this EIR, the existing conditions "baseline" for most topical areas is the project site conditions at the time the Notice of Preparation was issued on October 15, 2018. For impact areas, such as air quality and greenhouse gas emissions that are estimated based on vehicle miles traveled, the baseline was calculated using trips occurring over the entire year of 2018, as recorded by on-site scale reports. See section 3.3 for more detail regarding the baseline for evaluating environmental impacts.

An analysis of cumulative impacts follows the project-specific impacts and mitigation measures evaluation in the Cumulative Impacts chapter. As described in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other past, present and reasonably foreseeable projects causing related impacts.

Forecasting

In accordance with CEQA Guidelines section 15144, preparing this EIR necessarily involved some degree of forecasting. While foreseeing the unforeseeable is not possible, the report preparers and technical experts used best available efforts to identify and disclose all that can reasonably be identified and disclosed.

Speculation

If, after thorough investigation, the report preparers in consultation with the lead agency determined that a particular impact is too speculative for evaluation, the conclusion is noted and the issue is not discussed further (CEQA Guidelines section 15145).

Degree of Specificity

In accordance with CEQA Guidelines section 15146, the degree of specificity in this EIR corresponds to the degree of specificity involved in the proposed project.

Technical Detail

Information in this EIR includes summarized technical data, maps, plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public, pursuant to CEQA Guidelines section 15147. Highly technical and/or specialized analysis and data, and/or highly lengthy information is included in appendices to the main body of the EIR. Appendices are included on a CD on the inside, back cover of the EIR.

Citation

In accordance with CEQA Guidelines section 15148, this EIR has been prepared using information from many sources, including engineering reports and scientific documents relating to environmental resources and conditions. If such documents were prepared specifically for the proposed project, the documents are included in the technical appendices. Documents that were not prepared specifically for the proposed project, but contain information relevant to the environmental analysis, are cited but not included in this EIR. This EIR cites all documents used in its preparation including, where appropriate, the page and section number where the cited information can be found.

1.3 EIR PROCESS

There are several steps required in an EIR process. The major steps are briefly discussed below.

Notice of Preparation

CEQA Guidelines section 15082 describes the purpose, content and process for preparing, circulating and facilitating early public and public agency input on the scope of an EIR. CEQA Guidelines section 15375 defines a notice of preparation (NOP) as:

…a brief notice sent by the Lead Agency to notify the Responsible Agencies, Trustee Agencies, the Office of Planning and Research, and involved federal agencies that the Lead Agency plans to prepare an EIR for the project. The purpose of the notice is to solicit guidance from those agencies as to the scope and content of the environmental information to be included in the EIR.

An NOP was prepared for the proposed project and circulated for 30 days from October 15, 2018 through November 16, 2018, as required by CEQA. Written responses to the NOP were received from the following:

- California Office of Planning and Research (October 16, 2018);
- Anna Montes, AMG Enterprises (October 23, 2018);

- Native American Heritage Commission (October 26, 2018);
- Kevin Conant, Resident (October 28, 2018);
- Jason Retterer, Law Firm of Johnson, Rovella, Retterer, Rosenthal & Gilles (October 30, 2018);
- CalRecycle (November 14, 2018);
- Council of San Benito County Governments (November 15, 2018);
- Bay Area Air Quality Management District (November 15, 2018);
- City of Hollister Development Services (November 16, 2018); and
- California Department of Transportation (Caltrans) (November 16, 2018).

The NOP and all comments received from agencies, organizations, and private individuals are included in Appendix A.

As part of the early consultation process and pursuant to CEQA Guidelines section 15082(c)(1) regarding projects of statewide importance, and section 15083 regarding early public consultation, the County held a scoping meeting at the City of Gilroy Library on October 30, 2018 from 6:30 PM to 8:00 PM. Representatives from the County, residents, owners of business in the project vicinity, and the applicant team attended the scoping meeting. A range of issues were discussed including concerns about traffic, odor, water quality, and proposed changes in existing project operations.

Draft EIR

Contents

This EIR is an informational document which will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The County is required to consider the information in the EIR along with other information which may be presented to it. CEQA Guidelines Article 9 requires a draft EIR contain the following information:

- Table of Contents;
- Summary;
- Project Description;
- Environmental Setting;

- Consideration and Discussion of Environmental Impacts;
- Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects;
- Consideration and Discussion of Alternatives to the Proposed Project;
- Effects not found to be Significant;
- Organization and Persons Consulted; and
- Discussion of Cumulative Impacts.

The contents of this EIR are outlined in the table of contents.

Public Review

The draft EIR will be circulated for a 45-day public review period. All comments addressing environmental issues received on the draft EIR will be addressed in the final EIR. CEQA Guidelines section 15204(a) states that in reviewing a draft EIR, persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters.

CEQA Guidelines section 15204(c) states that reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to section 15064, an effect shall not be considered significant in the absence of substantial evidence.

Final EIR

Contents

In accordance with CEQA Guidelines section 15132, the final EIR will provide the following:

- List of persons, organizations, and public agencies commenting on the draft EIR;
- Comments received on the draft EIR;

- Responses to significant environmental points raised in comments; and
- Revisions that may be necessary to the draft EIR based upon the comments and responses.

According to CEQA Guidelines section 15204(a), when responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR. The final EIR and the draft EIR will constitute the entire EIR.

Certification

CEQA Guidelines section 15088 requires the lead agency to provide a written proposed response to a public agency on comments made by that public agency at least 10 days prior to certifying an EIR.

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

1.4 TERMINOLOGY

Characterization of Impacts

This EIR uses the following terminology to denote the significance of environmental impacts.

No Impact

"No impact" means that no change from existing conditions is expected to occur.

Adverse Impacts

A "less-than-significant impact" is an adverse impact, but would not cause a substantial adverse change in the physical environment, and no mitigation is required.

A "significant impact" or "potentially significant impact" would, or would potentially, cause a substantial adverse change in the physical environment.

A "less-than-significant impact with implementation of mitigation measures" means that the impact would cause no substantial adverse change in the physical environment if identified mitigation measures are implemented.

A "significant and unavoidable impact" would cause a substantial change in the physical environment and cannot be avoided if the project is implemented; mitigation or alternatives may be recommended, but would not avoid or reduce the impact to less-than-significant levels.

Abbreviations and Acronyms

AB	Assembly Bill
AF	Acre Feet
AFY	Acre Feet per Year
BAAQMD	Bay Area Air Quality Management District
BEES	Building Energy Efficiency Standards
BMP	Best Management Practices
BOD	Biological Oxygen Demand
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CASP	Covered Aerated Static Pile
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geologic Survey
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CTI	Compost Technologies, Inc.
dB	Decibel
DNL	Day-night averaged noise level (also referred to as L_{dn})
DWQ	Department of Water Quality
eASP	Extended Bed Aerated Static Pile
ECS	Engineered Composting System
EIR	Environmental Impact Report

EMFAC	Emissions Factor Model
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	Greenhouse Gases
HCP	Habitat Conservation Plan
L_{dn}	Day-night averaged noise level (also referred to as DNL)
LEA	Local Enforcement Agency
LED	Light Emitting Diode
L_{eq}	Energy-equivalent sound/noise descriptor
MSW	Municipal Solid Waste
MM	Mitigation Measure
MMT	Million Metric Tons
MT	Metric Tons
NCCP	Natural Community Conservation Plan
NOP	Notice of Preparation
NOx	Nitrogen Oxides
$PM_{2.5}$	Fine Particulate Matter 2.5 micrometers or less
PM_{10}	Suspended Particulate Matter 10 micrometers or less
PPV	Peak Particle Velocity
ROG	Reactive Organic Gases
ROW	Right of Way
SB	Senate Bill
SCVWD	Santa Clara Valley Water District
SGMA	Sustainable Groundwater Management Act
SO_2	Sulfur Dioxide
SR	State Route
SWFP	Solid Waste Facility Permit
SWRCB	State Water Resources Control Board

TAC	Toxic Air Contaminant
TPD	Tons per day
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compounds
WQ	Water Quality

2.0
Summary

2.1 CEQA Requirements

CEQA Guidelines Section 15123 requires an EIR to contain a brief summary of the proposed 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 summary also includes a brief summary of the project description. Detailed project description information, including figures illustrating the project location and components, is included in Section 2.0 Project Description.

2.2 Proposed Project Summary

The proposed project includes a set of physical changes to the existing Z-Best composting facility. The changes have two primary purposes. First, 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 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 ECS composting system (described in further detail below) 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.

Z-Best also plans other site changes. Its existing detention pond #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. This flood storage capacity expansion will compensate for the impacts associated with Z-Best's elevation of the existing pad on which the new composting technology would be placed. In addition, State Route 25 (SR 25) along the site frontage would be widened to allow installation of acceleration and deceleration lanes into and out of the facility entrance. The existing facility driveway would be closed and relocated to become the fourth (southern) leg of the existing State Route 25/Bolsa Road intersection.

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 nitrogen oxide (NO_x) 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 were considered but not carried forward for further evaluation because they were found to be infeasible.

2.5 AREAS OF KNOWN CONTROVERSY

A number of issues of concern about potential effects of the project were raised as part of the NOP process. These include, but were not limited to:

- Odor;
- Traffic safety at the Z-Best entrance on SR 25;
- Traffic operations/congestion on SR 25;
- Visual impacts related to litter and debris;
- Conflicts with adjacent agricultural land uses; and
- Air emissions.

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 construction and operations would cause of significant unavoidable nitrogen oxide air quality impacts, greenhouse gas impacts, and vehicle miles travelled impacts. The reduced scale alternative would reduce the significant unavoidable air quality impact from project operation to a less-than-significant level, and also reduces 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 greenhouse gas 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

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
AESTHETICS			
Impact 5-2. The Proposed Project Could Degrade the Existing Visual Character or Quality of the Site and Its Surroundings	Significant	Mitigation Measure 5-2. 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. Prior to the County LEA's approval of a revised Solid Waste Facilities Permit, Z-Best shall submit a 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: a. Regular inspections of the project site frontage to identify and clean up any litter that may be generated by on-site operations or trucks hauling materials to or from the site. b. Increased frequency of current clean-up activities, such as trash removal from the litter fence and 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 will continue to conduct regular monitoring of Z-Best litter management activities to ensure the updated litter management plan is implemented.	Less than Significant
AIR QUALITY			
Impact 6-1. Construction Phase NOx Emissions Will Exceed Air District Threshold (This is a proposed project and cumulative project impact)	Significant	Mitigation Measure 6-1a Prior to issuance of a grading permit, the project applicant shall develop a plan demonstrating that off-road equipment (more than 50 horsepower) to be used during construction (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOX reduction compared to the most recent California Air Resources Board fleet average. Acceptable options for reducing emissions include the use of newer model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filers, and/or other options as such become available. The plan shall be subject to review and approval by the County Planning Department.	Significant and Unavoidable

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		Mitigation Measure 6-1b. 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: a. Minimizing the idling time of diesel-powered construction equipment and haul trucks to two minutes; b. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx; c. Requiring all contractors use equipment that meets California Air Resources Board's most recent certification standard for off-road heavy-duty diesel engines; and d. Watering all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) at a frequency adequate to maintain minimum soil moisture of 12 percent.	
Impact 6-2. Vehicle Trips Associated with Project Operations Would Result in 123.19 Pounds Per Day or 20.58 Tons Per Year of NOX Emissions (This is a proposed project and cumulative project impact)	Significant	Mitigation Measure 6-2. 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 that 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.	Significant and Unavoidable
Impact 6-7. Construction and Operational Project Truck Trips NO_x Emissions Make the Project Inconsistent with the Clean Air Plan (This is a proposed project and cumulative project impact)	Significant	Mitigation Measures 6-1a, 6-1b, and 6-2 presented above.	Significant and Unavoidable
BIOLOGICAL RESOURCES			
Impact 7-1. Potential Loss or Disturbance of Special-Status Wildlife Species (California Red-Legged Frog)	Significant	Mitigation Measure 7-1a 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 will require an Incidental Take Permit, and, if necessary, obtain the permit and implement all avoidance, minimization, and compensatory mitigation measures required by the permit. Avoidance and minimization measures shall include, but not be limited	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		to, the following adapted from the USFWS Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorizations Under 22 Nationwide Permits, for Projects that May Affect the Threatened California Red-legged Frog in Nine San Francisco Bay Area Counties, California (USFWS 2014): a. 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. Area 1, the detention basin #1, the flood storage expansion area at the compost facility, and the access road and SR 25 impact areas shall be surveyed for potential migratory and/or upland activity. b. 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. c. 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. d. 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. e. 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. f. 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 workers shall ensure their food scraps,	

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		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 construction site at the end of each working day. g. Loss of soil from run-off or erosion shall be prevented with straw bales, straw wattles, or similar means provided they do not entangle or block escape or dispersal routes of the California red-legged frog. h. 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 at the compost facility or within the impact areas along SR 25 during construction or project operation. i. 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. j. 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. k. 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. l. Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall not 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. m. Trenches or pits one foot or deeper that are going to be left unfilled for more than 48 hours shall be securely covered with boards or other material to prevent the California red-legged frog from falling into them. Mitigation Measure 7-1b Final grading plans shall include the following training requirements to be adhered to by all construction contractors. Prior to any grading or construction activity in detention basin #1, the flood storage expansion area, or within the site access and SR 25 impact areas, a qualified biologist shall conduct a training session for all construction personnel. The training shall include the following, at a minimum: a. Description of the California red-legged frog and their habitat;	

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		b. General measures that shall be implemented to conserve species as they relate to the project; c. Boundaries within which construction activities will occur; and d. Informational handouts with photographs clearly illustrating the species' appearances shall be used in the training session. All new construction personnel shall undergo this mandatory environmental awareness training. Before the start of work each day, a 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. The applicant shall submit evidence of completion of this training to the County Planning Department, prior to issuance of a grading permit.	
Impact 7-2 Potential Loss or Disturbance of Special-Status Wildlife Species (Burrowing Owl)	Significant	Mitigation Measure 7-2 To avoid/minimize impacts to burrowing owls potentially occurring on or adjacent to the compost facility or SR 25 impact areas, the applicant shall retain a qualified consulting biologist to conduct a two-visit (i.e. morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the compost facility and SR 25 impact areas no less than 14 days prior to the start of any construction or ground disturbance activities. Surveys shall be conducted according to methods described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Because burrowing owls occupy habitat year-round, seasonal no-disturbance buffers, as outlined in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012), shall be in place around occupied habitat prior to and during any ground disturbance activities. The following table includes buffer areas in meters (m) based on the time of year and level of disturbance (CDFG 2012), unless a qualified biologist approved by CDFW verifies through non-invasive measures that either: 1) birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.	Less than Significant

<table>
<tr><th>Significant Impact</th><th>Significance Level without Mitigation</th><th>Mitigation Measure(s)</th><th>Significance Level after Mitigation</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Location</th><th>Time of Year</th><th colspan="3">Buffers by Level of Disturbance (meters)</th></tr>
<tr><th></th><th></th><th>Low</th><th>Med</th><th>High</th></tr>
<tr><td>Nesting Sites</td><td>April 1 – Aug 15</td><td>200 m</td><td>500 m</td><td>500 m</td></tr>
<tr><td>Nesting Sites</td><td>Aug 16 – Oct 15</td><td>200 m</td><td>200 m</td><td>500 m</td></tr>
<tr><td>Nesting Sites</td><td>Oct 16 – Mar 31</td><td>50 m</td><td>100 m</td><td>500 m</td></tr>
</table>
If burrowing owl are found to occupy the compost facility or SR 25 impact areas and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Occupied burrows shall be replaced with artificial burrows at a ratio of one collapsed burrow to one constructed artificial burrow (1:1). Evicted burrowing owls may attempt to colonize or re-colonize an area that would be impacted, thus ongoing surveillance of the compost facility or SR 25 impact areas during project activities shall be conducted at a rate sufficient to detect burrowing owls if they return.
If surveys locate occupied burrows in or near construction areas, consultation with the CDFW shall occur to interpret survey results and develop a project-specific avoidance and minimization approach.
The applicant shall submit evidence of completion of these surveys, along with their results, to the County Planning Department, prior to issuance of a grading permit.</td><td></td></tr>
<tr><td>Impact 7-3 Potential Loss or Disturbance of Special-Status Wildlife Species (Nesting Raptors and Migratory Birds)</td><td>Significant</td><td>Mitigation Measure 7-3 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 greatest extent feasible. If this type of construction, 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 nests would be disturbed during project activities.
If project-related work is scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), or if construction activities are suspended for at least 15 days and recommence</td><td>Less than Significant</td></tr>
</table>

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		during the nesting season, a qualified biologist shall conduct 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 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 needed) shall be completed by the qualified biologist prior to initiation of construction activities. If the qualified biologist documents active nests within the compost facility, the access road and SR 25 impact areas, or nearby surrounding areas, an appropriate buffer between each nest and active 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. The applicant shall submit evidence of completion of surveys, with results, to the County Planning Department, prior to issuance of a grading permit.	
Impact 7-4 Potential Loss or Disturbance of Special-Status Wildlife Species (Western Mastiff Bat and Pallid Bat)	Significant	Mitigation Measure 7-4 Approximately 14 days prior to tree removal or construction activities in the vicinity of detention pond #1, a qualified biologist shall conduct a habitat assessment for bats and potential roosting sites in trees to be removed and in trees within 50 feet of the construction footprint. These surveys shall include a visual inspection of potential roosting features (bats need not be present) and a search for presence of guano within the project site, construction access routes, and 50 feet around these areas. Cavities, crevices, exfoliating bark, and bark fissures that could provide suitable potential nest or roost habitat for bats shall be surveyed. Assumptions can be made regarding what species is present due to observed visual characteristics along with habitat	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		use, or the bats can be identified to the species level with the use of a bat echolocation detector such as an "Anabat" unit. Potential roosting features found during the survey shall be flagged or marked. a. If no roosting sites or bats are found, a letter report confirming absence shall be prepared and no further mitigation is required. b. If bats or roosting sites are found, bats shall not be disturbed without specific notice to and consultation with CDFW. c. If bats are found roosting outside of the nursery season (May 1 through October 1), the CDFW shall be consulted prior to any eviction or other action. If avoidance or postponement is not feasible, a Bat Eviction Plan shall be submitted to CDFW for written approval prior to any tree removal or other project-related activities. A request to evict bats from a roost shall include details for excluding bats from the roost site and monitoring to ensure that all bats have exited the roost prior to the start of activity and are unable to re-enter the roost until activity is completed. Any bat eviction shall be timed to avoid lactation and young-rearing. If bats are found roosting during the nursery season, they shall be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or by monitoring the roost after the adults leave for the night to listen for bat pups. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost shall not occur during the nursery season. Therefore, if a maternal roost is present, a 50-foot buffer zone (or different size if determined in consultation with the CDFW) shall be established around the roosting site within which no construction activities including tree removal or structure disturbance shall occur until after the nursery season. The applicant shall submit evidence of completion of habitat assessment and results to the County Planning Department, prior to issuance of a grading permit.	
Impact 7-5 Loss of Potential State or Federally Protected Wetlands (Approximately 0.02-acre Wetland and Approximately 3,400 Linear Feet of Drainage Ditch)	Significant	Mitigation Measure 7-5 Prior to initiation of ground disturbance or construction activities within the new access driveway and SR 25 impact areas, the applicant shall retain a qualified biologist to determine the extent of drainage ditches and potential wetlands regulated by the USACE and RWQCB. If there is USACE jurisdiction, the applicant shall retain a qualified biologist to obtain a Clean Water Act Section 404 Nationwide Permit. If the impacts to the drainage ditches and potential wetlands do not qualify for a Nationwide Permit, the applicant shall proceed with the qualified biologist in obtaining an Individual	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		Permit from the USACE. The applicant shall then retain a qualified biologist to coordinate with the RWQCB to obtain a Clean Water Act Section 401 Water Quality Certification. 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, mitigation shall be provided as required by the regulatory permits. Mitigation would be provided through one of the following mechanisms: a. A Wetland Mitigation and Monitoring Plan shall be developed that outlines mitigation and monitoring obligations for temporary impacts to wetlands and other waters from the project. The Wetland Mitigation and Monitoring Plan would 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 404/401 permit application process. To compensate for permanent impacts, the purchase and/or dedication of land to provide suitable wetland restoration or creation shall ensure a no net loss of wetland values or functions. b. For improvements on the project site, the applicant shall comply with terms and conditions of the permits, including measures to protect and maintain water quality, restore work sites, and mitigation to offset temporary and/or permanent wetland impacts. The applicant shall be responsible for implementation of this mitigation measure 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 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.	
CULTURAL RESOURCES			
Impact 8-1 Potential for Accidental Discovery and Disturbance of Significant Historical Resources or Unique Archaeological Resources	Significant	Mitigation Measure 8-1 A qualified archaeologist shall be on site to monitor all ground-disturbing activities. The contract for this work shall be provided to the County prior to issuance of a grading permit.	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		If buried historic or prehistoric cultural resources such as chipped stone or groundstone, historic debris such as trash dumps, building foundations, old roadways, or human bone are inadvertently discovered during ground-disturbing activities, work shall stop within a 100-foot radius of the find until the qualified archaeologist can assess the significance of the find and recommend additional treatment measures appropriate to the nature of the find. The County shall be responsible for ensuring that treatment measures are implemented by the applicant in accordance with the archaeologist's recommendations.	
Impact 8-2 Potential for Accidental Discovery and Disturbance of Native American Human Remains	Significant	Mitigation Measure 8-2 If human remains are encountered during construction, the County Coroner shall be notified immediately. Section 7050.5 of the California Health and Safety Code and County Ordinance Code Section B6-18 require that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. A qualified archaeologist shall also be contacted immediately. If the Coroner determines that the remains are Native America, the Coroner shall then contact the Native American Heritage Commission (NAHC), pursuant to Section 7050.5(c) of the California Health and Safety Code. The County Coordinator of Indian Affairs shall also be contacted. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie human remains until the Coroner has determined that no investigation of the cause of death is required; and, if the remains are of Native American origin. The NAHC shall identify a Native American most likely descendant to make a recommendation with regards to appropriate treatment of human remains within 24 hours after being notified by the commission. If the NAHC fails to make a recommendation, the descendants of the deceased Native Americans shall make a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98 and County Ordinance Code Section B6-20.	Less than Significant
Impact 8-3 Potential to Directly or Indirectly Destroy A Unique Paleontological Resource or Site	Significant	Mitigation Measure 8-3 The applicant shall retain a qualified paleontologist to provide a preconstruction briefing to the supervisory personnel of the grading and excavation contractor(s) to alert them to the possibility of exposing significant paleontological resources within the property. In the event that paleontological resources are discovered during project construction,	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		construction shall halt in the immediate vicinity of the find until a qualified paleontologist is consulted to determine the significance of the find, and has recommended appropriate measures to protect the resources. Further disturbance of the resources shall not be allowed until those recommendations are approved by the County Planning Office and the recommendations for protection of the resource have been implemented.	
GREENHOUSE GAS EMISSIONS			
Impact 9-1 Proposed Project Would Generate Greenhouse Gas Emissions	Significant	Mitigation Measure 9-1 Prior to issuance of a grading permit, the project applicant shall demonstrate that a contract has been executed to purchase an amount of carbon off-sets sufficient to completely offset project GHG emissions of 3,947.84 MT CO2e per year. The project applicant shall provide evidence to the satisfaction of the County of Santa Clara Planning and Development Department Director and/or Director designee evidence that an enforceable contract for purchase of carbon off-sets has been executed through a credible carbon off-set registry such as the Climate Action Reserve, certified carbon off-set project developer, or a carbon off-set broker.	Significant and Unavoidable
Impact 9-2 Proposed Project Conflicts with the Applicable Plan to Reduce Greenhouse Gas Emissions	Significant	Mitigation measure 9-1 presented above.	Significant and Unavoidable
TRANSPORTATION			
Impact 12-1 Proposed Project Would Conflict with CEQA Guidelines Section 15064.3 by Exceeding the Applicable VMT Threshold		No mitigation is available	Significant and Unavoidable
Impact 12-2 Substantially Increase Traffic Hazards or Result in Inadequate Emergency Services During Construction Activities	Significant	Mitigation Measure 12-2 The applicant shall prepare a Construction Management Plan, subject to review and approval by Caltrans, prior to issuance of a grading permit. The plan shall be implemented during construction and include, but not be limited to, the following: a. Restrict all ingress/egress at the construction entrance to right-in and right-out turns only;	Less than Significant

Significant Impact	Significance Level without Mitigation	Mitigation Measure(s)	Significance Level after Mitigation
		b. Provide for the appropriate control measures, including barricades, warning signs, speed control devices, flaggers, and other measures to mitigate potential traffic hazards; c. Ensure coordination with emergency response providers to provide sufficient emergency response access for the surrounding area; d. Prohibit heavy vehicle traffic to and from the project site during the commute hours of 7:00-8:00 AM and 4:00-6:00 PM; e. Implement truck haul routes for construction trucks deemed acceptable by Caltrans with SR 25 and U.S Highway 101 as the assumed routes to and from the north; and f. Store construction equipment on the project site during the construction phase of the project.	

SOURCE: EMC Planning Group 2020

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3.0
Existing Setting

3.1 PROJECT LOCATION AND SITE DESCRIPTION

The existing Z-Best Composting Facility is located at 980 State Route 25 (SR 25) southeast of the City of Gilroy and northwest of the city of Hollister, in a sparsely populated part of unincorporated Santa Clara County. Figure 3-1, Location Map, presents the regional and vicinity location of the facility. 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 residence locations are discussed further in Section 6.0, Air Quality and Odor, and Section 11.0, Noise. The facility fronts on the south side of SR 25 and its entrance is immediately west of the SR 25/Bolsa Road intersection. Figure 3-2, Aerial Photograph, presents the facility, adjacent agricultural lands and other features in the immediate vicinity of the site. 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 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 Areas 1 and 2 as shown in Figure 3-3, Existing Site Operations. Area 1 is approximately 77 acres and is west of Area 2. Active compost feedstock (e.g. municipal solid waste [MSW] and green waste) sorting, processing and composting activities occur within Area 1, with about 42 acres used for active municipal solid waste and green waste composting. Ancillary support uses, including offices, parking, and other support infrastructure, including a water well, are also located within Area 1.

Area 2 is located between Area 1 and the Pajaro River, which borders Area 2 on the east. A 28-acre portion of Area 2 is used for compost storage and finishing activities. Much of the balance of Area 2 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 3-3.

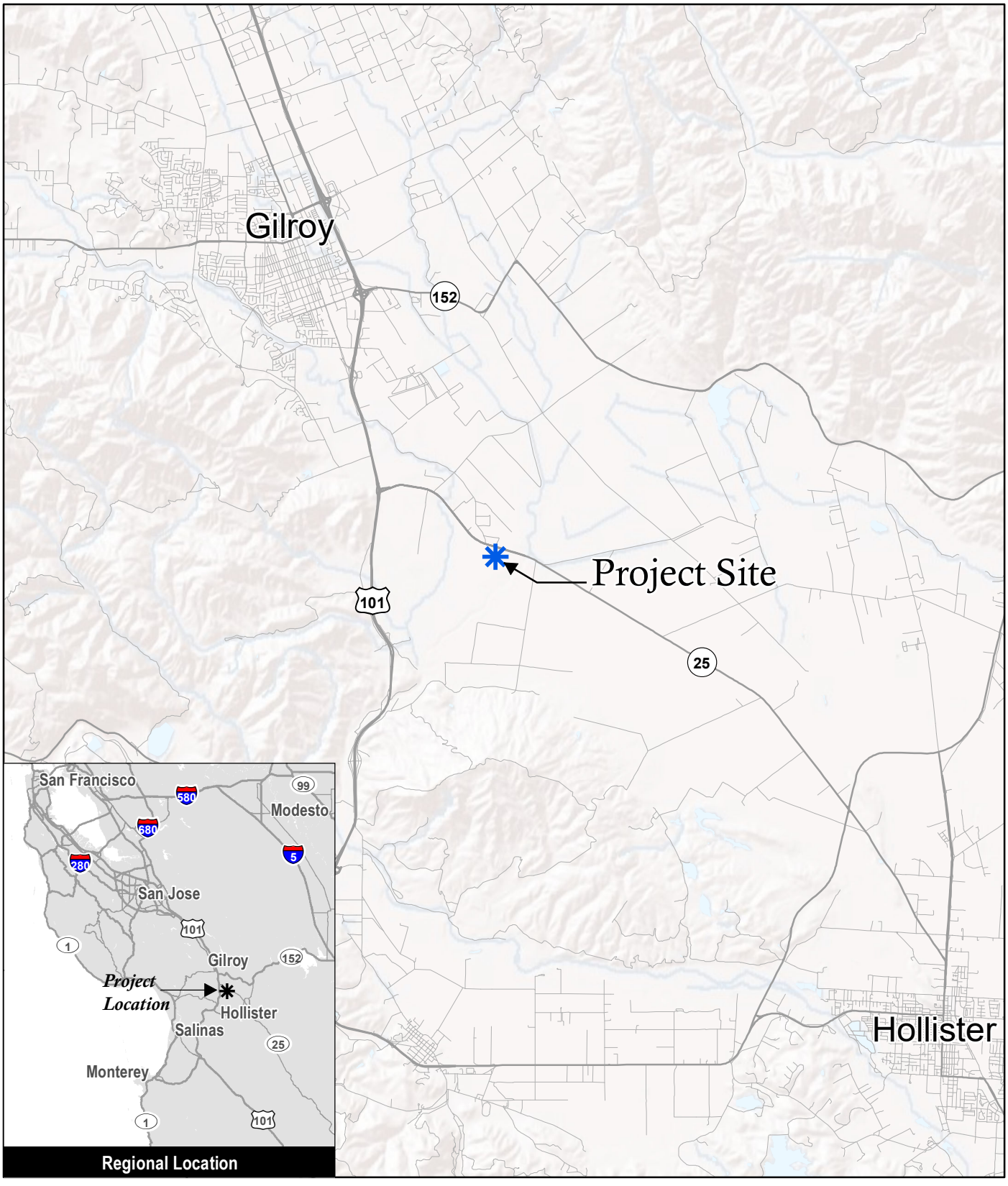
Figure 3-3 also shows the location of two storm water detention basins. Detention basin #1 receives storm water runoff from Area 1. It is located at the south end of Area 1. Storm water is conveyed from Area 1 through a series of ditches and discharged into detention basin #1. Basin 1 is constructed 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. Detention basin #2 was constructed in association with the more recent expansion of Z-Best activities into Area 2. Detention basin #2, which is located at the south end of Area 2, receives storm water from the developed portion of Area 2. Because it was constructed to comply with more recent, more stringent water quality requirements, it is constructed with an impermeable geomembrane liner.

Figure 3-4, Site Photographs, presents representative photos of existing operations. The portions of the site on which new project activities are proposed as described in Section 4.0, Project Description, 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.

Detention basin #1 is landscaped with 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. There is no wetland or riparian vegetation adjacent to the detention basin. The detention basin does not qualify as a jurisdictional feature due to the lack of vegetation and natural hydrology. No potentially jurisdictional aquatic features are present on the Z-Best site.

Non-native grassland species dominate that portion of Area 2 that is not being used for compost blending and storage. Z-Best planted a row of ornamental poplar trees along the site frontage to assist in screening operations from SR 25. The trees are approximately 25-35 feet tall. Refer to Section 7.0, Biological Resources, for more information about biological resource conditions.

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.



Source: ESRI 2018

Figure 3-1

Location Map

Z-Best Composting Facility Modifications EIR

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Source: Google Earth 2018, Santa Clara County GIS 2015

0 1,000 feet

Project Boundary

Existing Operations

Santa Clara/San Benito County Line

Figure 3-2

Aerial Photograph

Z-Best Composting Facility Modifications EIR

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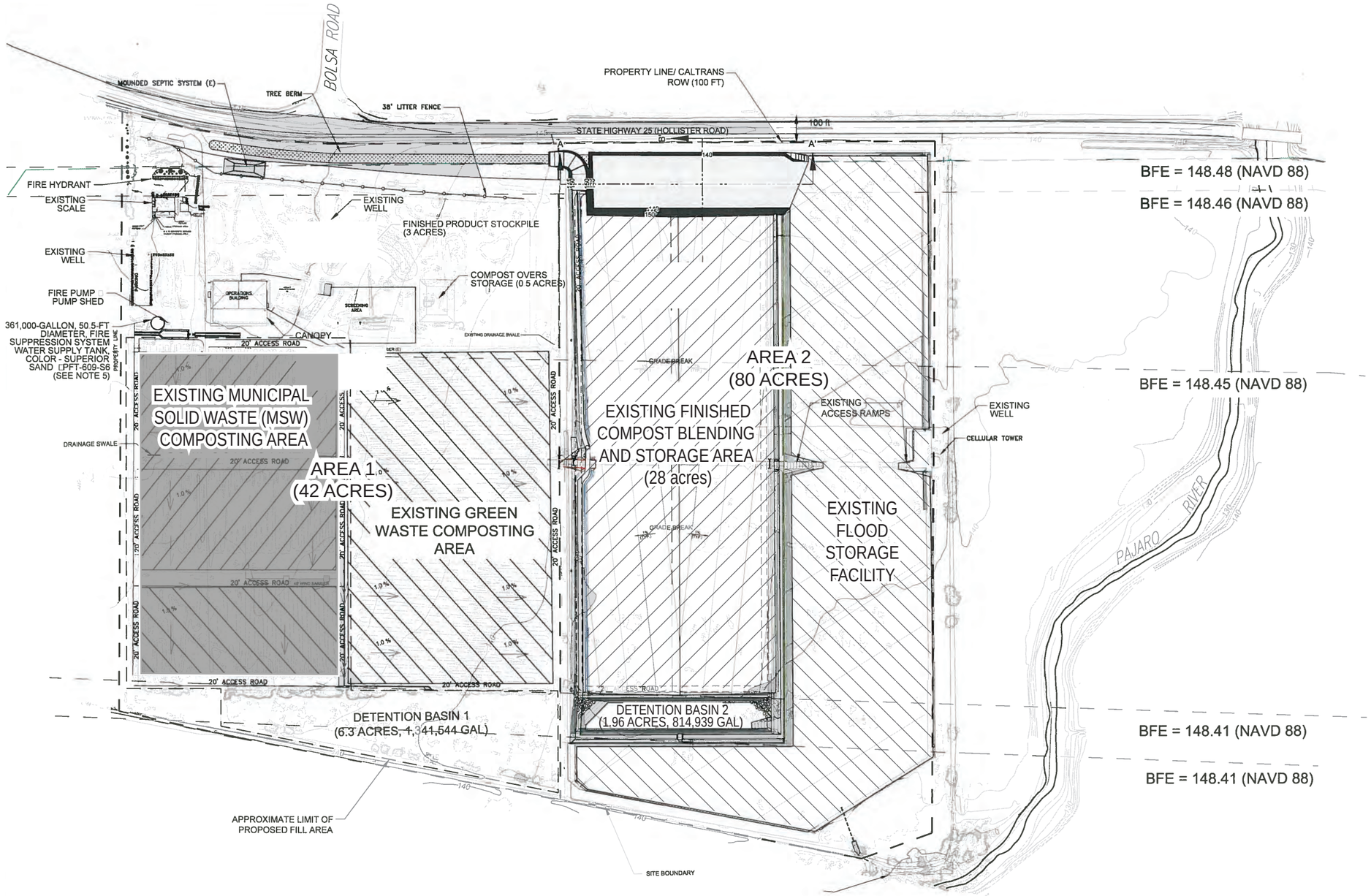

0 400 feet

Existing Composting Technologies Inc. Pad

Source: Golder 2018

Figure 3-3

Existing Site Operations

Z-Best Composting Facility Modifications EIR

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(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

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3.2 GENERAL PLAN AND ZONING

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. 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 Santa Clara County 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 polices 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 of Santa decision makers as part of determination whether or not to approve the project. The general plan policies relative 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, applicable plan for reducing greenhouse gas emission, and Groundwater Management Plan is evaluated in individual environmental topic-specific sections of this EIR.

Zoning

The Santa Clara County 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 would be subject to Architecture and Site Approval findings and substantial conformance 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
Growth & Development	
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 has accompanied 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, (c) that which causes minimum disturbance to the natural environment, slopes, and other natural features of the land.	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.
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 does not propose to balance cut and fill on site. Implementation of the proposed new composting system would require the following grading: raising the Area 1 ECS pad (minor cut/significant fill), reducing the size of existing detention basin #1 (significant fill), and excavating the proposed flood storage basin expansion (significant cut/minor fill). Overall, the proposed project would require a net import of approximately 77,650 cubic yards of soil for these purposes. An additional approximately 450 cubic yards of fill would be needed to construct the new on-site entrance access road. The environmental effects of grading, and the vehicle haul trips associated with importing soil, are evaluated as part of the project's overall construction phase effects. Construction vehicle miles traveled and safety are addressed in Section 12.0, Transportation; noise is addressed in Section 11.0, Noise, and dust is addressed in Section 6.0, Air Quality. Mitigation measures are included for those impacts that were determined to be significant.

General Plan Policy	Consistency Determination
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 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.	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.
Transportation	
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 improve safety conditions on SR 25 by better accommodating truck ingress and egress to the project site and reducing 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. Overall, the proposed improvements are considered a safety improvement relative to existing conditions.
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 greenhouse gases 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.
Resource Conservation	
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 5.0, 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.

General Plan Policy	Consistency Determination
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.
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 an existing composting facility. 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.
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 does not increase the physical footprint of existing developed uses and does not affect hillsides or stream corridors.
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.

General Plan Policy	Consistency Determination
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, which would result in improved groundwater quality relative to existing conditions. 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 pond #1. Based on the most recent 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.
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. 3. Develop comprehensive watershed management plans.	
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.
Policy C-RC 40 Long term land use stability and dependability to preserve agriculture shall be maintained and enhanced by the following general means:	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. 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

General Plan Policy	Consistency Determination
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.	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 storm water detention pond; therefore, groundwater contamination from leachate and other chemicals should decline over time.
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.
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.	
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. If such 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 8.0, 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.	

General Plan Policy	Consistency Determination
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.
Health and Safety	
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.
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.	
South County Joint Area Plan	
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 no net rise in flood elevation would occur under post-project conditions. The project also includes new storm drainage improvements for collecting and delivering storm water to the existing detention pond #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. As a result, improvements to off-site storm drainage facilities are not required.

General Plan Policy	Consistency Determination
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 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.	
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.	

SOURCE: Santa Clara County General Plan 1994, EMC Planning Group 2020

3.3 Z-BEST BACKGROUND AND CURRENT (BASELINE) CONDITIONS

Z-Best Background

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 municipal solid waste (MSW) and other material comprised of inert materials 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. The processing methods included using compressed windrows and enclosed aerated "bag" processing in addition to the elongated windrow method that had been used since operations began. The enclosed aerated bag processing system is also referred to the "CTI" system with reference to the technology provider - Compost Technologies, Inc. The CTI composting process is described below.

Site improvements included a mechanical sorting system and a 20,000-square foot processing building to handle loads that come in unprocessed by a materials recovery facility. As additions to the processing building, a 6,250 square-foot storage room and a 3,750 square-foot canopy were constructed without building permits. Z-Best has applied for building permits to abate these violations. A materials recovery facility receives commingled materials and then uses a combination of equipment and manual labor to separate and densify materials in preparation for shipment downstream to recyclers of the particular materials recovered. Hours of operation were expanded to support expanded processing capacity. In November 1999, the County Environmental Health Department issued Z-Best a full solid waste facility permit, with the California Integrated Waste Management Board (CIWMB) (now CalRecycle) concurring. Subsequent to these actions, Z-Best made other improvements that included installing compost screeners, a 33-foot-high litter control fence, a 40-foot-high wind barrier fence, and a 'Push' structure to reduce potential for dust and litter to blow off the site. A building permit was not obtained for the wind barrier fence, and a building violation was issued for correction.

Until 2012, Z-Best's operations were being conducted solely within Area 1 of the site. In 2012, the County approved a modification to the existing use permit to allow an expansion of final processing and finishing operations into the adjacent 28-acre portion of Area 2, as well as improvements to existing composting operations.

Current (Baseline) Operations

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

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, 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 Order. To meet the technical report requirement, Z-Best prepared the *Technical Report, Z-Best Composting Facility* (Golder Associates 2016). The following information is taken largely from the technical report.

Existing Composting Processes

Green Material Windrow Composting

As described in Section 4.0, Project Description, the proposed project does not include changes to Z-Best's current green waste composting operations. This process is described here for informational purposes.

Incoming green material, yard trimmings, and wood wastes are processed in Area 1 in a portable horizontal grinder within the boundary of the compost operations area or deposited directly into the windrows. These materials are separated prior to arriving at Z-Best. The material is formed into trapezoidal-shaped windrows 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, material is removed and brought to the screening area within Area 1. 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 stockpiled 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 (Golder 2016).

MSW Composting Using CTI Process

Z-Best processes MSW that is delivered to Z-Best by truck. Transfer trucks deliver the unprocessed materials into the existing processing building for sorting and grinding. Unprocessed material is unloaded using walking floor trailers near a conveyor belt where a claw excavator loads the feedstock onto the processing line. The sorting process separates recyclable materials, such as metal, cardboard, glass, and plastics, and a small percentage of non-compostable refuse, and removes other materials. MSW is processed within 48 hours to reduce odor and litter generation and to improve vermin management.

The concrete slab floor in the processing tipping area is sloped at 0.5 percent to the center of the building to allow any process liquids to be retained within the building. All wet materials are stored on this area. The floor has the capacity to store up to 8,800 gallons of liquid before the design depth is exceeded. MSW is stockpiled in the enclosed building so it is not exposed to rain or wind.

CTI System and Composted Materials Processing

The existing CTI enclosed vessel composting system aerobically decomposes processed organic MSW in an enclosed environment. Processed MSW feedstock from the tipping area is placed into a bagging machine that 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 bagger is fed from a truck or loader onto a feed table conveyor, which feeds material to the compaction unit on the bagger. The bags are located on an impermeable pad within Area 1 in the southwest corner of the project site. Bags are opened after 14 weeks. If needed, the material can remain in place and be composted aerobically with the use of the windrow turner for an additional one to four weeks.

The composted material is then moved with haul trucks to a primary screen stockpile, where it is screened within 10 to 14 days. 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. Secondary screening of these curing piles to finished product then occurs. It is this CTI process that would be replaced with the newer technology, as described in Section 4.0, Project Description.

Odor Control

Z-Best utilizes odor management and response measures as part of its operations. These measures are identified in Z-Best's *Odor Impact Minimization Plan, Z-Best Composting Facility* (Z-Best Composting, No Date). 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 pond 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.

Storm Water and Leachate Management

The CTI process activities occur within Area 1 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 unlined ditches on the southern and eastern sides of Area 1. Drainage swales at the northern and western ends 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.

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 (Golder Associates 2016).

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;

  In 2018, the baseline environmental year for the proposed project, Z-Best Composting was operating significantly below the permitted limits. The daily average during 2018 was approximately 1.060 tons.

- hours of operation for the facility are 6AM 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.

Z-Best currently has 60 employees, who work in five shifts. 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 time period from 5:00 PM to 5:00 AM (Hexagon Transportation Engineers 2020). See Section 4.3 for more information regarding current operations.

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.

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4.0
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 Product'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 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 goals and implementing legislation for increasing 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 Products) 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.

State Legislative/Regulatory Drivers for Enhanced Composting

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 greenhouse gas (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 materials sent to landfills and increasing the production of compost and mulch are strategies in the Assembly Bill (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. CalRecycle is currently developing regulations to implement SB 1383.

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 10 million tons of organics will need to be managed in 2020 and an additional 20 million tons per year in 2025. To properly manage these quantities of organics, CalRecycle has estimated 50 to 100 new facilities will be needed in California. Others have estimated as many as 200 new facilities will be needed. 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. (Golder Associates 2018).

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 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 Products 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 to 2,750 tons per day, 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;
- 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 2015 Composting General Order;
- Avoid operational traffic impacts from new employee and truck traffic by adding additional trips only outside of AM and PM peak hours;
- 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; and
- 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.

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, described in Section 3.2, Z-Best Background and Current Operations, with ECS process technology. The ECS process technology is described in detail below. Both processes use the compostable components of MSW, which primarily include food waste and paper products, as input feedstock.

Z-Best is not proposing to modify its existing green waste composting operations or green waste intake volume as part of the proposed project. It is permitted up to a sub-limit of 1,300 TPD of green waste intake. Therefore, the proposed project would have no effect on Z-Best's existing green waste processing or composting activities. However, Z-Best is requesting a use permit modification to allow it to change the location of a component of its current green waste processing activities, which is further discussed 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. The flood storage and detention basin #1 modifications are further described below and in detail in Section 10.0, Hydrology and Water Quality. New lighting is proposed to illuminate the parking lot and the portion of Area 1 proposed as a new screening area. New lighting changes are summarized below and evaluated in Section 5.0, Aesthetics. The new entrance and SR 25 improvements are also summarized below, the environmental impacts of which are evaluated in Section 12.0, Transportation.

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

ECS Composting Technology and Composting Steps

ECS process infrastructure would be installed within Area 1 of the Z-Best site within the same physical footprint (pad) as the existing CTI composting area illustrated in Figure 3-3, Existing Site Operations. Refer back to Section 3.2, Z-Best Background and Current Operations, for more information on Area 1. No change to the adjacent footprint of the existing green waste composting area is proposed. All existing above-ground CTI improvements and infrastructure would first be removed. No modification of the existing boundary of Z-Best operations within Area 1 would be required to install the ECS improvements. Figure 4-1, Proposed Site Plan, presents the proposed site plan. Figure 4-1 does not show the proposed relocated entrance. Plans for the new entrance are described and illustrated later in this project description.

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. 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 (Engineered Composting

Systems 2016). 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.

Primary Composting Step

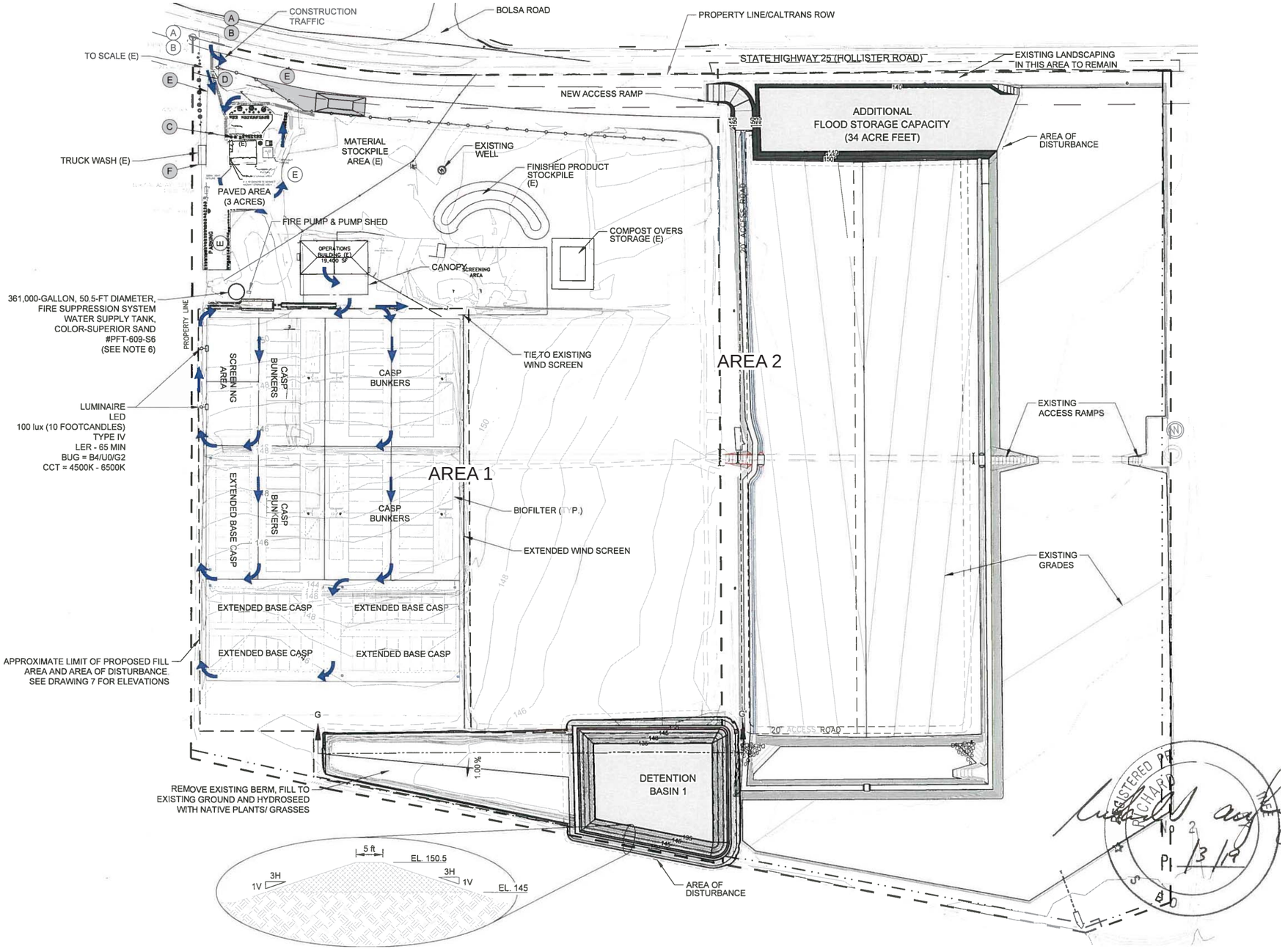
Primary composting would take place in individual concrete bunkers where static piles of MSW would be placed. The bunkers would be about 10 feet high, 100 feet long, and 30 feet wide. A total of 60 bunkers would be constructed for primary composting. The pre-processed MSW feedstock would be stacked in 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 acts as a biofilter covering. The bio-layer cover provides 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 reduces volatile organic compounds and odors commonly released during the composting process. Each bunker would contain a discrete batch of compost. The bunker design eliminates the potential of cross-contamination from adjacent composting zones.

Each pile within each 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 is comprised of groups or "zones" of bunkers connected to a single fan. This ensemble is called a "fan group". Each zone within a fan group is monitored with temperature probes, and the aeration to that zone is independently controlled to maintain optimal conditions. The fan provides suction for negatively aerating the piles.

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 facilities.

Automated dampers regulate the airflow drawn from atmosphere down through the pile. The air is then exhausted to and scrubbed in a temperature-controlled biofilter. Each biofilter is a bed of ground wood material of about four to six inches in depth. The biofilters do not need cleaning, but are replaced periodically to maintain their design depth and density and their design airflow rate and backpressure. Biofilter conditions are monitored (like the temperature/moisture conditions of the piles) by an ECS control system. The ECS control system also monitors the piles themselves to optimize air and temperature conditions consistent with best management practices (BMP). Monitoring the biofilters assures that they are identified for replacement in a timely manner (Engineered Composting Systems 2017).

An irrigation system mounted on the bunker walls provides 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. 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.



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Source: Golder 2018

Figure 4-1
Proposed Site Plan

Z-Best Composting Facility Modifications EIR

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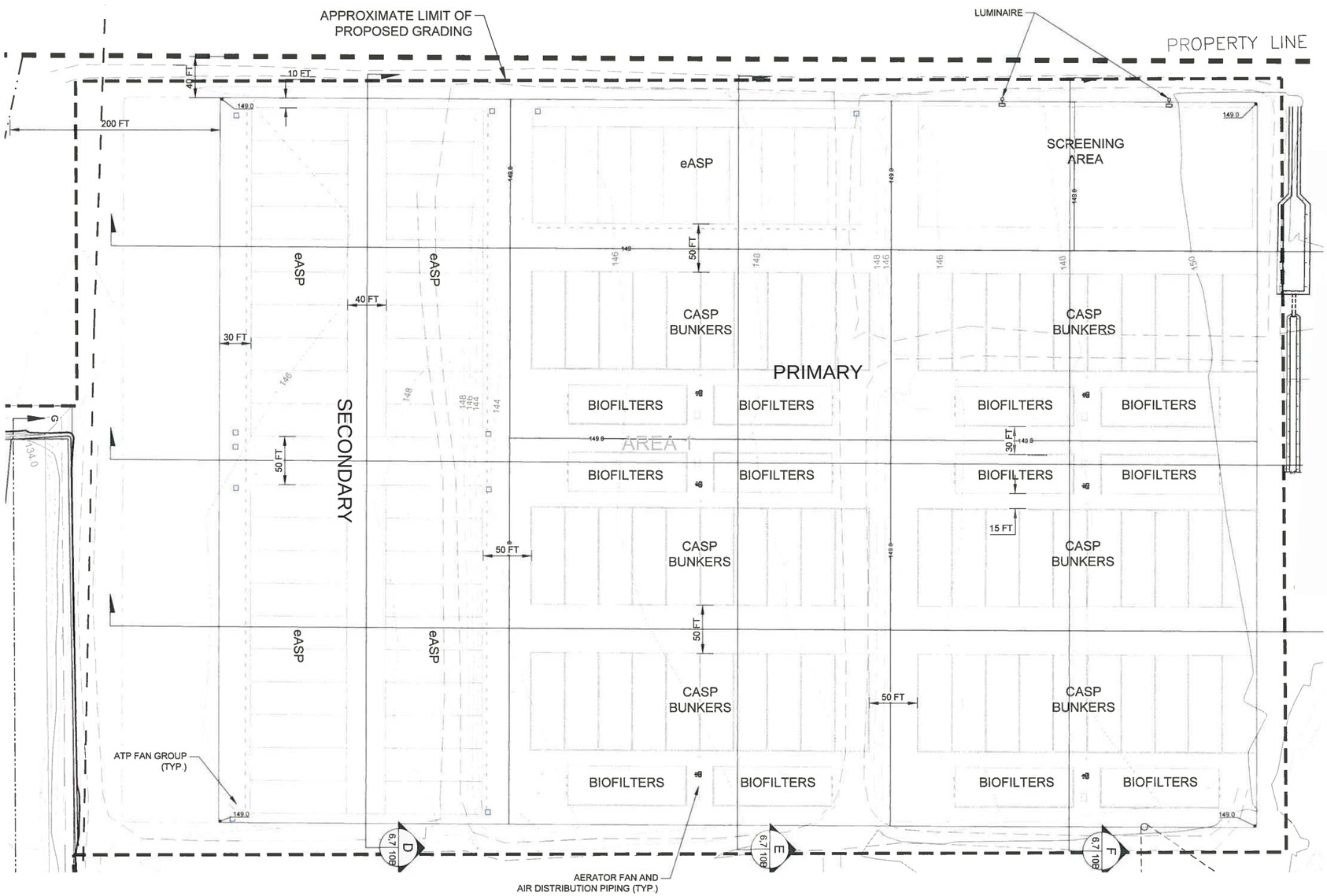

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Source: Golder 2018

Figure 4-2
Aerated Static Pile Plan
Z-Best Composting Facility Modifications EIR

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1 Illustrative CASP Bunkers

2 Illustrative CASP Bunkers

3 CASP Aeriation and Biofilter

Source: Engineered Compost Systems 2016

Figure 4-3

Representative Covered Aerated Static Pile Photographs

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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 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 40 secondary eASP concrete bunkers are proposed, each with dimensions like those for the primary CASP bunkers described above. The secondary eASP bunkers are grouped and are connected to a single fan (fan groups). Each zone within a fan group is independently monitored and controlled to maintain optimal conditions, just like in the primary composting step. Air is 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 would not be covered with an insulating bio-layer, since it would have already met all pathogen reduction requirements during the primary process. As with the primary step, the secondary pile materials are monitored. The proposed ECS design provides 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.

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 proposed ECS composting technology would also 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 operations.

Leachate from ECS Composting Process

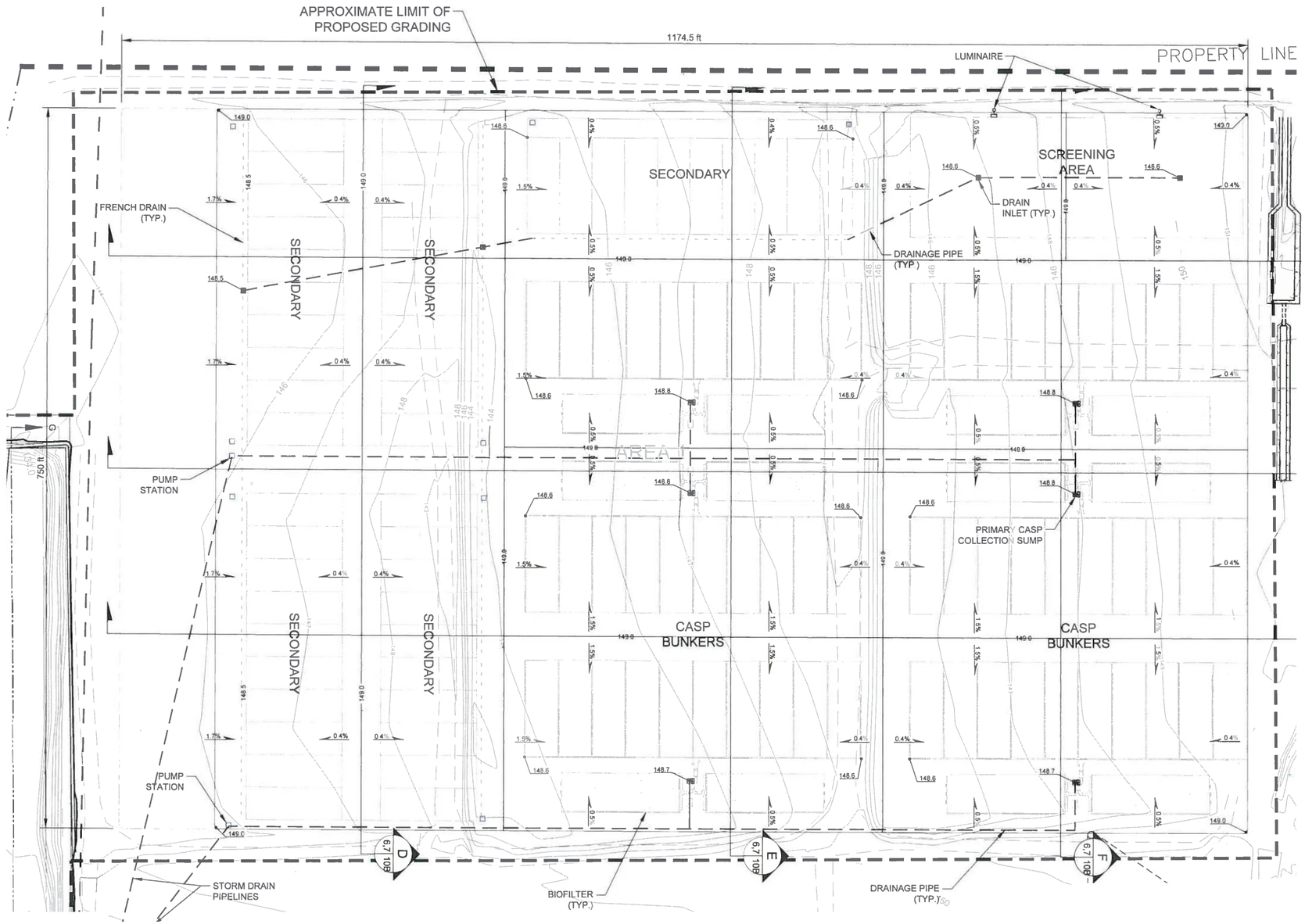
Water must be added to the MSW piles throughout the composting process to maintain optimal conditions. Both groundwater and surface water would be utilized: groundwater from an on-site well in Area 1 (refer to Figure 4-1), and storm water pumped out, recycled, and delivered to detention basin #1. Depending 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 level. 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 pumped via sump pumps through collection lines, and pumped into existing detention basin #1. The leachate would be reused 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, Grading and Drainage Plan, presents a schematic of the proposed leachate collection system and location of existing detention basin #1.

Secondary composting would take place on a positive aerated floor as previously described. In this process, a fan is 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 (Tim O'Neill and Geoff Hill, Engineered Composting Systems, email communication to Valerie Negrete, Santa Clara County, July 25, 2018).

Leachate from Storm Water

The proposed project includes an improved storm water collection system that would be installed as part of the ECS system improvements within Area 1. 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



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Source: Golder 2018

Figure 4-4
Grading and Drainage Plan
Z-Best Composting Facility Modifications EIR

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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, Grading and Drainage Plan, for the location of proposed French drains and associated pumps within Area 1.

Section 10.0, Hydrology and Water Quality, includes more detailed leachate management and storm water management information related to the project.

Odor Management

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. The proposed ECS technology includes 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. And as noted previously, as part of the composting process, MSW being composted in the CASP bunker would be covered with a biofilter material. This material serves 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 Odor.

Other On-Site Operational Changes

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. As noted, 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. Analogous to its existing permit, 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 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

	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 2019
Notes:
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. Inbound green waste feedstock is to remain at approximately 700 TPD on non-peak days. These increases, which would be on top of an existing volume of approximately 1,060 TPD (the daily average of delivered feedstock loads for all of 2018), are used to calculate truck trips based on above feedstock intake volumes as well as additional finished composting product outbound loads, and additional loads that go to a landfill. These truck trip increases are used in the evaluation of the project's environmental impacts on air quality, greenhouse gas emissions, noise, and transportation (Z-Best Composting, email message, August 13, 2020).

Additional vehicle trips associated with the addition of 32 new employees are also included in these evaluations on top of existing non-truck vehicle trips associated with the 58 existing employees and daily visits by non-employees (e.g., vendors and contractors). Daily visits by non-employees are not anticipated to change as a result of implementation of the proposed project.

Equipment Changes

With an increase in daily MSW intake, activities for initial feedstock processing would intensify. An additional loader and a new (replacement) screening plant machine would be required for this purpose. 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.

Employment

Z-Best currently employs 60 people at the project site. To accommodate the increase in MSW processing intensity and increased composting throughput enabled by the ECS process, Z-Best proposes to add up to 30 new employees, for 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 Employee Shift Schedules.

Table 4-2 Proposed Employee Shift Schedules

Shift	# Employees	Shift Schedule
Proposed Daily Operations		
1	47	5 AM to 5 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
Proposed Peak Season Operations		
1	45	5 AM to 4 PM
2	30	8 AM to 6 PM
3	15	6 PM to 4 AM

SOURCE: Hexagon Transportation Engineers 2020

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 Tables 4-1 and 4-2 above. 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). 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. Nearly all of these new trips would be limited to arriving and departing the facility during the hours of 8 PM to 4 AM.

Peak season operations would add nine 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 2020). 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.

Physical On-Site Improvements/Changes

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 1 within which ECS improvements would be installed and raised by about one foot to raise it above the 10-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.

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 also be modified. It would be reduced by about two-thirds in size, but berms around the remaining portion would be constructed to a height of about six feet above existing grade to ensure that the basin storage volume is adequate to meet Composting General Order regulations and to protect the basin from a 100-year flood, also as required in the Composting General Order. Detention basin #1 is shown on Figure 4-1 to the south side of Area 1. Figure 4-5, Detention Basin #1 Modifications, presents proposed changes to the facility. The ruderal vegetation and all of the 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.

Flood Storage Facility Expansion

Z-Best's proposal to raise the elevation of Area 1 by one foot would result in the loss of flood storage capacity given that the Z-Best site is within a 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. This area would be excavated below the existing ground surface to create an additional 34 acre-feet of flood water storage with the lowest elevation matching the bottom elevation of the existing, adjacent large flood storage area. The excavation would extend over a surface area of about 4.5 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.

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 south of the existing site entrance. Like the existing Bolsa Road approach to SR 25, the new entrance would be stop-sign controlled.

The new entrance includes an approximately 600-foot long paved drive from SR 25 that is aligned parallel to SR 25. It would tie into the existing entrance to the facility near SR 25 so that no changes to other 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. Figure 4-6, Project Entrance/Driveway and SR 25 Improvements – Areas of Impact, shows the location and footprint ("area of impact") of the new site entrance, as well as additional improvements proposed for SR 25. Non-native grassland and ruderal vegetation and approximately 10 of the ornamental poplar trees that Z-Best has planted 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 discussion of the proposed SR 25 improvements.

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.

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.

White LED lighting is proposed with a horizontal illuminance category 100 lux and vertical illuminance category of 30 lux. The photometric distribution characteristics of the lighting was selected to avoid back light "splay" outside the adjacent, western site boundary and to avoid uplighting that contributes to evening sky glow (Golder 2018).

Two new 1000-watt and one new 500-watt fixtures are proposed for the parking area. Lighting and related aesthetics issues are evaluated in Section 5.0, Aesthetics.

Ancillary Improvements

The following minor, ancillary improvements are proposed:

- On-site directional signs;
- 1,500 gallon underground septic tank and pump;
- Parking lot lighting;
- Wind screen/litter screen along the south side of Area 1; and
- New vehicle access ramp to enable improved access to existing Area 2.

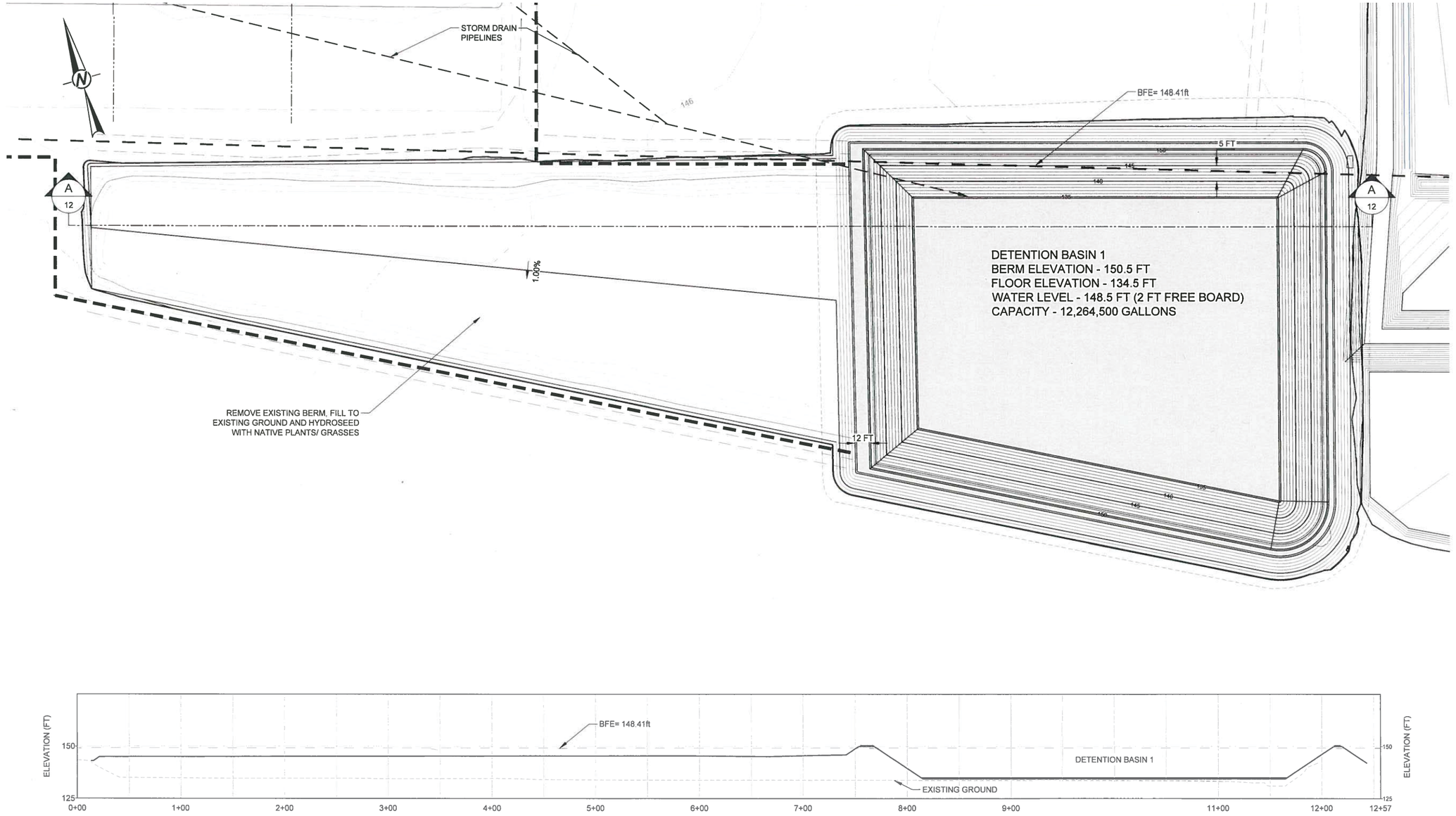
Grading

Grading would be required for the following site changes: raising the Area 1 ECS pad (minor cut/significant fill), reducing the size of existing detention basin #1 (significant fill), and excavating the proposed flood storage basin expansion (significant cut/minor fill). Overall, the proposed project would require a net import of approximately 77,650 cubic yards of soil. An additional approximately 450 cubic yards fill would be needed to construct the new on-site entrance access road. The environmental effects of grading, and the vehicle haul trips associated with importing soil, are evaluated as part of the project's overall construction phase effects.

Off-Site Improvements to SR 25

In correlation with constructing a new facility entrance on SR 25 as described above, improvements to SR 25 are proposed. Figure 4-6, Project Entrance/Driveway and SR 25 Improvements – Areas of Impact, presents an illustration of the SR 25 improvements and footprint ("area of impact"). 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 northbound SR 25 deceleration/left-turn lane is proposed to accommodate left turns into the site. A northbound acceleration lane for left turns out of the site is also proposed. In the southbound direction, a deceleration /left-turn lane for turns onto Bolsa Road is planned, as is right-turn deceleration lane for turns into the site.

To accommodate SR 25 widening, new paving would be required along an approximately 1,800-foot section of the highway along the project site frontage. A storm water drainage ditch runs along the south side of the highway. To accommodate the paving, the ditch would be filled. A low one- to two-foot-high retaining wall would be installed at the edge of paving to capture and direct storm water from the highway into a 24-inch storm water drainage pipe. The pipe would replace the conveyance function of the existing ditch. The same improvement approach would be taken for widening the north side of the highway. Improvements would occur along about a 1,600-foot segment of the highway. The existing drainage ditch on that side of the highway would likewise be filled.



Source: Golder 2018

Figure 4-5

Proposed Detention Basin #1 Modifications

Z-Best Composting Facility Modifications EIR

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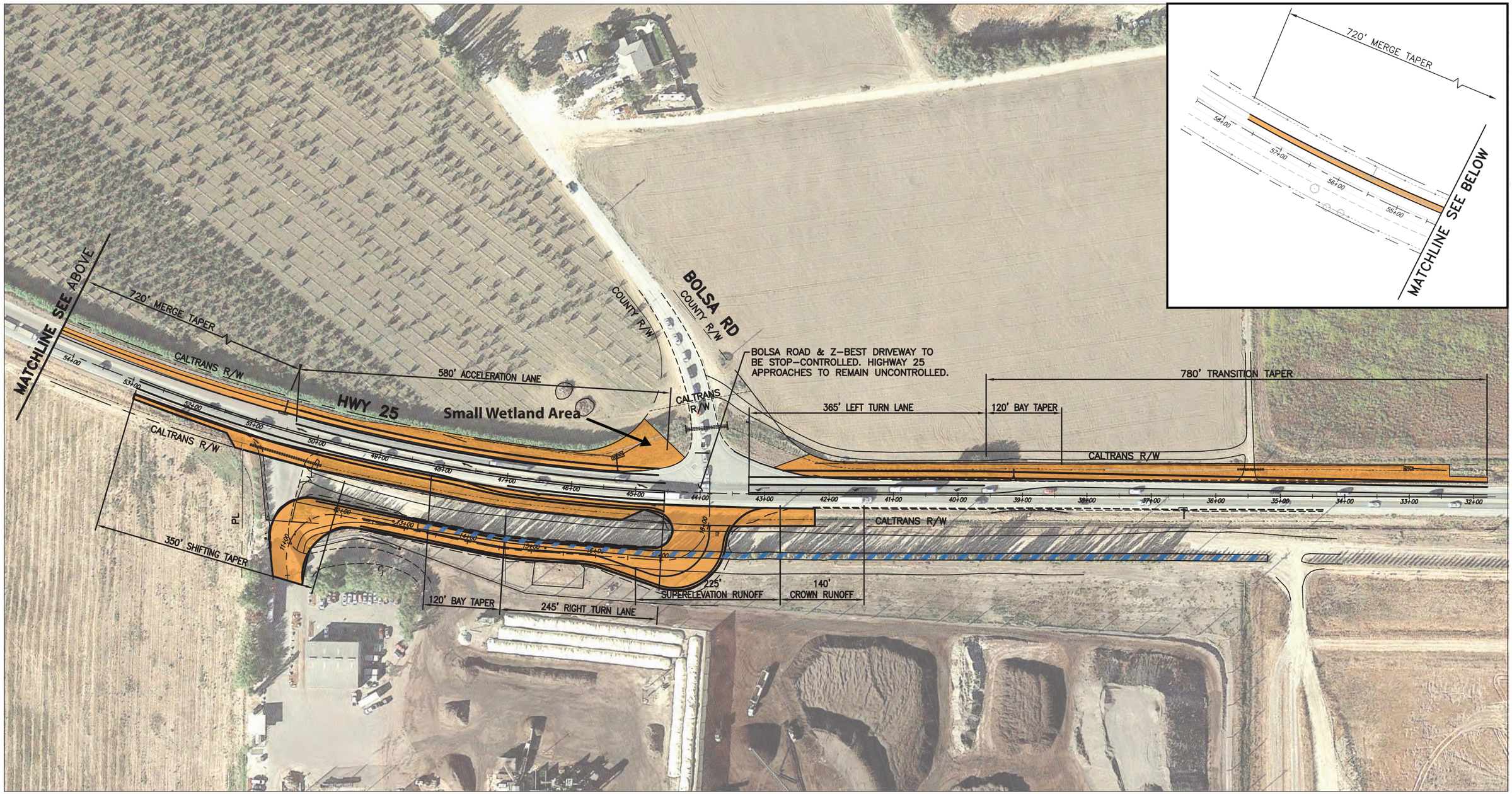

Source: ESRI 2018, Santa Clara County GIS 2015, RJA 2020

Figure 4-6

Project Entrance/Driveway and SR 25 Improvements - Areas of Impact

Z-Best Composting Facility Modification EIR

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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 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.

Change to Existing Green Waste Operation Location

As previously described, Z-Best currently receives green waste in the form of yard waste. Z-Best produces mulch from clean green wood waste. This activity is permitted only within Area 1. Z-Best is now requesting it also be allowed to conduct this activity within Area 2. Area 2 was permitted in 2012 as a location for storing finished compost products. The request would not result in a change in the existing green waste mulching process or throughput, but rather provide flexibility in where the activity can be conducted.

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.

Three construction phases are planned. Phases, along with the anticipated duration and employee/activity summary, are summarized in Table 4-3, On-Site and Off-Site Improvements Construction Information. The applicant has provided information about the types of construction equipment to be utilized. This information has been used as part of the process to model the projected volume of construction phase air emissions and greenhouse gases as described in Sections 6.0, Air Quality and Odor and 9.0, Greenhouse Gases, and to assess construction phase noise impacts as described in Section 11, Noise.

Table 4-3 On-Site and Off-Site Improvements Construction Information

Construction Phase	Duration	Activities	
1 Grading Work	3 months	Day Work (7 AM-4 PM, Mon-Sat)	Night Work (8 PM-4 AM, Mon-Sat)
		▪ 6-12 employees (grading contractor) – would commute to and from site daily to operate bulldozer, motor grader, water truck, compactor, and up to 5 scrapers ▪ Occasional soils engineer	▪ 20 trucks would haul 5 loads per night = 100 trips per shift, over 62 shifts ▪ Accompanied by 1 dozer (with operator) and 1 water truck (with operator) – assumed that grading contractor employees would commute
2 Underground and Trenching Work for Mechanical, Electrical, Drainage, Water, Concrete Footings	2 months	Day Work (7 AM-4 PM, Mon-Sat)	
		▪ 8-10 employees, including 4-5 commuters ▪ 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	Day Work (7 AM-4 PM, Mon-Sat)	
		▪ 50 concrete deliveries per day between 7AM – 4PM ▪ 20-40 commuting workers	

SOURCE: Z-Best Products 2019

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.

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 (Santa Clara County Department of Environmental Health).

Responsible Agency Actions

- CalRecycle – authorize County approval of revision to Z-Best's Solid Waste Facilities Permit 43-AA-0015;

- State Water Resources 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 – review of mitigation if burrowing owls are found to occupy areas to be disturbed; 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 Incidental Take Permit for California red-legged frog if present.

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5.0
Aesthetics

The aesthetic effects of new development can be considered a function of the degree of visual change to the visual character and quality of a development site as perceived by an observer. This section of the EIR focuses on evaluating the degree to which the proposed project has potential to adversely alter existing visual character of the project site and scenic resources in the vicinity. Visual effects related to scenic vistas, scenic highway corridors, and light and glare are also evaluated.

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 future development of the project site.

Unless otherwise noted the information in this section is derived from field analysis and observation and information obtained from a variety of sources including:

- *Technical Memorandum – CEQA Information Needs, Z-Best Composting Facility* (Golder Associates, Inc. 2018);
- *Santa Clara County General Plan, 1995-2010* (County of Santa Clara 1994);
- *Santa Clara County General Plan Final Environmental Impact Report* (County of Santa Clara 1994);
- *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).

The issue of project effects on visual resources was raised in two responses to the NOP. 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.

5.1 ENVIRONMENTAL SETTING

Vicinity Visual Setting

The project site is located along the segment of 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-industrial uses are interspersed throughout the corridor as are rural residences. The 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 and several small creeks and drainage ditches that are lined with vegetation. The location of the Pajaro River is shown on Figure 3-2.

SR 25 is the primary transportation route in this area (see Figures 3-1 and 3-2). 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 whose protection warrants consideration when evaluating effects of proposed development that would be visible from SR 25.

There are few sources of significant light or glare in the vicinity. Lighting is primarily limited to rural residences and parking areas/buildings associated with agricultural support uses in the area.

Visual Characteristics of Existing Operations and Conditions

Representative photographs of the project site showing typical visual characteristics are included in Figure 5-1, Visual Character. Figure 5-2, Views from State Route 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 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 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.

1 View looking south at covered compost stockpiles

2 View looking east towards uncovered compost stockpiles

3 View looking west towards covered compost stockpiles

Project Site

Source: Google Earth 2018
Photographs: EMC Planning Group 2019

4 View looking south towards existing detention basin

5 View looking west from eastern edge of project site

6 View of main operations building

Figure 5-1
Visual Character

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1 View of western edge of project site from SR 25

2 View looking towards main project site entrance from SR 25

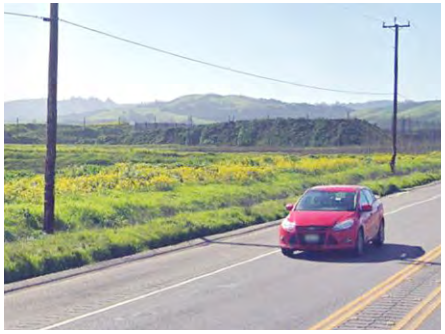
3 View of project site looking south from SR 25

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 5-2
Views from State Route 25

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Two large detention basins at the southern edge of the site constitute the remaining significant features. Detention pond #1 would be modified with the proposed project. Mature trees of up to about 40 feet in height are found along the norther margin detention pond #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 some 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, Z-Best planted a row of ornamental popular 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 pond #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 located along the site frontage with SR 25 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 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 Products n.d.).

Z-Best's litter management activities are regularly monitored by the County, acting as the Local Enforcement Agency for CalRecycle (Z-Best Products 2019). Z-Best's litter control activities reflect recommendations of the County for litter management and Z-Best litter management.

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 Uesugi Farms, located about 1,000 feet to the west of the site on SR 25. The Uesugi Farm site includes open storage and agricultural products warehousing and trucking uses that have required significant nighttime illumination. However, Uesugi Farms ceased operations in 2019 and has been recently sold to a development interest (San Jose Mercury News 2020). These 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

State

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 on 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.).

Local

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 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 pond #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.

County Zoning Ordinance/Architecture and Site Approval

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 OR STANDARDS 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:

- Have a substantial adverse effect on a scenic vista;
- Substantially degrade the existing visual character or quality of public views of the site and its surroundings; and/or
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Issues or Potential Impacts not Discussed Further

- Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

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 within a state scenic highway. No further discussion of this issue is necessary.

5.4 Analysis, Impacts, and Mitigation Measures

Approach to the Environmental Analysis

This section 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, 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.

Effects on a Scenic Vista

IMPACT 5-1	The Proposed Project would not have an Adverse Effect on a Scenic Vista	No Impact

Visibility of Z-Best Composting Facility Modifications

The proposed project's aesthetics effects are based on the visual characteristic, locations, and visibility of proposed modifications as compared to the existing setting. Table 5-1, Visual Characteristics of Project Modifications, summarizes the visual characteristics of each component of the proposed project improvements. The point of reference is from SR 25, which is the primary location in the immediate project area from which public views of the site and surrounding area are available. Representative views from the highway are shown in Figure 5-2. Information in Table 5-1 is intended to provide context for the following impact discussions for each threshold of significance.

Table 5-1 Visual Characteristics of Project Modifications

Proposed Modification	Location	Features	Visibility from SR 25
CASP and eASP Bunkers	Light grey colored concrete bunkers replace white CTI bags in northwest part of site with closest point about 750' from SR 25	Each proposed bunker is 100' long, 30' wide, 10' high Each existing CTI bag is about 300' long, 20' wide, 6' high	Westbound SR 25 views to the bunkers blocked by buildings, compost mounds, landscaping and other on-site obstructions Open views of the edge of the bunker array from eastbound SR 25 starting approximately 900' to the west of the site on the highway from where bunkers are approximately 1,400 feet away
Detention Basin #1 Modifications	Southwest portion of site	Existing at-grade basin to be reduced in area, with new perimeter berms raised about 6' above existing grade. Existing trees along perimeter to be removed	Westbound SR 25 views blocked by buildings, compost mounds, landscaping within the site Eastbound SR 25 views would be blocked by higher profile CASP and eASP bunkers in the foreground and by existing on-site buildings/facilities
Flood Storage Facility Expansion	Northeastern portion of site along SR 25	Portion of existing Area 2 deck and existing at-grade area to be excavated below grade to same depth as existing adjacent flood storage area. No major noticeable visual change in existing landforms	No new above grade improvements – minimal visibility in either direction on SR 25 other than from points near/adjacent to the proposed expansion area
New Site Entrance and SR 25 widening	Entrance opposite Bolsa Road, widening along both sides of SR 25 along project site frontage	Minor grading, new asphalt surfaces,1' – 2' high retaining wall above grade at widened SR 25 edge of pavement. Removal of about 10 planted poplar trees along the site frontage with SR 25	Widened asphalt along project site frontage with SR 25 and at new entrance, visibility of low retaining wall at SR 25 edge of pavement
New Lighting at Proposed Screening Area	Approximately 40' from western project site boundary, minimum of approximately 900' from SR 25	Two LED fixtures mounted on 20' poles to illuminate the approximately 1.5-acre screening area. Designed to avoid backlighting of adjacent property to the west and to avoid uplighting that contributes to sky glow	Lighting fixtures pointed eastward into the screening area, designed to avoid splay outside western property line, partially to fully blocked from westbound SR 25 by buildings and other site features. Visible from, but no direct lighting glare for travel in SR 25 eastbound direction given minimum 900-foot distance from highway

SOURCE: EMC Planning Group 2020

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 tone of development within the site that could detract from views towards and over the site.

CASP and eASP Bunker Visual Effects

The proposed CASP and 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 ECS bunkers would do the same.

Views to the bunkers would be entirely blocked from view from the westbound 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 5-2 for a representative view towards the MSW composting from westbound SR 25.

The bunkers placed along the western boundary of the site would be visible from the eastbound 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 5-2 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 will not directly affect existing scenic views of agricultural lands because it does not result in loss or conversion of agricultural land.

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

Detention Pond #1 Berm Effects

The proposed new six-foot high earthen berms around the perimeter of modified detention pond #1 would not block, interrupt or distract from scenic views. Views of the detention pond #1 area are available from westbound 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 eastbound direction, the berms would likely be screened from view by the taller 10-foot high CASP and eASP bunkers. In short, the change in berm height would not affect scenic views.

Effects of Tree Removal

Trees would be removed at the perimeter of detention pond #1. These taller trees along the northern margin of the pond are up to about 40 feet in height and are visible from both westbound and eastbound 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.

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 will 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.

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 and the berms around the proposed modified detention basin #1 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 pond #1 would incrementally detract from existing scenic views of the site, but 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.

Visual Character and Quality Effects

IMPACT 5-2	The Proposed Project Could Degrade the Existing Visual Character or Quality of the Site and Its Surroundings	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. There are no stationary views of the site from the highway.

Change Due to Proposed ECS CASP and eASP Bunker Characteristics

As noted in the Impact 5-1 discussion and summarized in Table 5-1, the visual changes associated with replacing the CTI bags with ECS bunkers result from the additional four-foot height of the bunkers relative to CTI bags. CTI bags are approximately six feet tall and proposed ECS bunkers are 10 feet tall.

In the westbound 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 eastbound 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 5-1 discussion above, the more muted greyish toned bunkers may be less of a visual distraction to scenic views of and over the site than is the bright white tone of the existing CTI bags. Please refer to Figure 4-2, 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.

Detention Pond #1 Berm Effects

The proposed new six-foot high earthen berms around the perimeter of detention pond #1 would not degrade the existing visual character. Views of detention pond #1 area are available from westbound 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 eastbound 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.

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 5-1 above and to Section 4.0, Project Description, for more information on the characteristics of these improvements. As described under Impact 5-1, 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 will 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 5-2 for representative views of the degree to the popular 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 will not substantially degrade existing visual character.

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 Products 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 Products 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 liter 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. The following mitigation measure would reduce this potentially significant impact to a less-than-significant level.

Mitigation Measure

5-2 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. Prior to the County LEA's approval of a revised Solid Waste Facilities Permit, Z-Best shall submit an updated 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:

a. Regular inspections of the project site frontage to identify and clean up any litter that may be generated by on-site operations or trucks hauling materials to or from the site.

b. Increased frequency of current clean-up activities, such as trash removal from the litter fence and 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 will continue to conduct regular monitoring of Z-Best litter management activities to ensure the updated litter management plan is implemented.

Implementation of this mitigation measure 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.

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 existing aesthetics effects of Z-Best operations.

Regarding officially designated gateways, 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 south of the Pajaro River within San Benito County as eligible for scenic highway designation.

Due to its location, the project site could be considered to be within a portion of an undesignated visual gateway to both counties. As previously discussed in this Section 5.4, with the exception of potential visual impacts associated with litter, the proposed project would not otherwise adversely affect visual resources within the SR 25 corridor. The potential visual impacts related to litter are mitigated to less-than significant with implementation of mitigation measure 5-2.

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 is 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 5-1 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 or at a visual gateway to San Benito County would be less than significant with mitigation.

Proposed New Lighting and Effect on Nighttime Views

IMPACT 5-3	The Proposed Project Would Introduce New Sources of Light with the Potential to Adversely Affect Nighttime 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.

New Lighting Location

Two new lighting fixtures are proposed to illuminate the approximately 60,000 square-foot portion of Area 1 planned as a new screening area. The screening area would be located along the western project boundary as shown on Figure 4-1, Proposed Site Plan. The two light fixtures are shown on the same figure at the western edge of the screening area and labeled "Luminaire LED". The associated label data represents photometric rating information. The nearest light fixture would be approximately 900 feet from SR 25.

Lighting Characteristics

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 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 (Golder 2018). 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.).

The western edge of the screening area is approximately 40 feet from the western property line. The fixtures would be placed on a 20-foot pole. Based on this height, 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 (Golder 2018). 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, and the fact that only two new fixtures are proposed, 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 will 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 will 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.

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6.0
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:

- *California Environmental Quality Act 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);
- *Health Risk Assessment for Increased Truck Traffic* (Illingworth and Rodkin 2020);
- *Air Dispersion Modelling Report Z-Best Composting Facility Current & Proposed Expansion Gilroy, California, USA* (Englobe 2019);
- *Review of Odor Modeling* (Yorke Engineering 2019); and
- *Toxic Air Contaminant Emissions Evaluation for Proposed Capacity Expansion of the Z-Best Composting Facility* (Yorke Engineering 2020).

The Bay Area Air Quality Management District (BAAQMD), the City of Hollister, and two individuals, Kevin Conant and Anna Montes, submitted NOP responses that address air quality/odors. The 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. Kevin Conant and Anna Montes raised concerns about odors. The NOP and comment letters are included in Appendix A.

6.1 ENVIRONMENTAL SETTING

Regional Climate and Topography

The project site is located in Santa Clara County, within the boundaries of the San Francisco Bay Area Air Basin ("air basin"). 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.

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

Table 6-1 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 nitrogen oxides (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.
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 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.

If project-generated concentrations of reactive organic gases and/or nitrogen oxides exceed the applicable thresholds of significance, concentrations of ground-level ozone resulting from these pollutants could result in adverse human health impacts.

Reactive Organic Gases (ROGs)

Reactive organic gases (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 California Air Resources Board (CARB) or the United States Environmental Protection Agency (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 precursor organic compounds (POCs) by the BAAQMD. ROGs can react in the atmosphere with nitrogen oxides to make ground-level ozone, a criteria air pollutant described above. POCs are also emitted during the municipal solid waste (MSW) composting process. A subset of MSW-generated POCs are considered to be toxic air contaminants (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 nitrogen oxides. Nitrogen dioxide is used as the indicator for the larger group of nitrogen oxides, which also include nitrous acid and nitric acid. Nitrogen oxides are a major contributor to ozone formation. Nitrogen oxides 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 2017). 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.

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 readily adsorbed on 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 precursor organic compounds (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.

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 reactive organic gases, nitrogen oxides, diesel particulate matter, suspended particulate matter, and carbon monoxide. Emissions of reactive organic gases, nitrogen oxides, diesel particulate matter, and carbon monoxide are generated primarily by the operation of gas and diesel-powered motor vehicles, asphalt paving activities, and the application of architectural coatings. Suspended particulate matter emissions are generated primarily by wind erosion of exposed graded surfaces.

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.

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.

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 located approximately two and three-quarter miles to the City of Gilroy and eight miles from the City of Hollister, in a sparsely populated area in rural Santa Clara County. However, commenters have noted that odors from the facility can be detected in these urban areas. Given their locations closer to the facility, the nearest residential sensitive receptors are also exposed to odors from the facility. In the last five years, the County of Santa Clara LEA has not received any odor complaints about Z-Best's operations (Jaji Murage, email message, June 1, 2020).

6.2 REGULATORY SETTING

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 2017). 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 6-2, 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 6-2 Typical Non-road Engine Emissions Standards[1]

Engine Tier and Year Introduced	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)	--[2]	--[2]	--[2]	0.22	0.15	0.15
Tier 3 (2006)	--[2]	--[2]	--[2]	-- †[2]	-- †[2]	-- †[2]
Tier 4 (2014)	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. Tier 1 standards for NOX remained in effect.
3. † - Not adopted, engines must meet Tier 2 PM standard.

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 National Ambient Air Quality Standards 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 the most prevalent pollutants, which include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter, and fine particulate matter. Table 6-3, Federal and State Ambient Air Quality Standards, lists state and federal ambient air quality standards for common air pollutants.

Table 6-3 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
	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				
Hydrogen Sulfide	1 Hour	0.03	42				
Vinyl Chloride[10]	24 Hour	0.01	26				

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 98th 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 99th 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 as '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.

National Emissions Standards for Hazardous Air Pollutants are emissions standards set by the EPA for an air pollutant not covered by National Ambient Air Quality Standards 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.

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 6-3, 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, 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 horse power of 2,500 or less, and a medium fleet has total horsepower of between 2,500 and 5,000. 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). 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.

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. By 2023, the Truck and Bus Regulation is anticipated to achieve a statewide reduction of 37 percent in NO_x emissions (California Air Resources Board 2014).

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 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.

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 is called out individually, as it 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 pollutants 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 6-4, 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. When thresholds are exceeded at regional monitoring stations on consecutive accounts, an attainment plan must be prepared that outlines how an BAAQMD will achieve compliance. Generally, these plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods. 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 6-4 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 greenhouse gases 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.

6.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of air quality 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:

- 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;
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people; or
- Conflict with or obstruct implementation of the air quality management plan.

BAAQMD Significance Threshold Criteria

Criteria Air Pollutant Thresholds

Thresholds for construction-related and operational-related criteria air pollutants are presented in Table 6-5, Thresholds of Significance for Criteria Air Pollutants.

Table 6-5 Thresholds of Significance for Criteria Air Pollutants and Precursors[1]

Criteria Air Pollutants and Precursors	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lb/day)	Average Daily Emissions (lb/day)	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.

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 $\mu g/m^3$ 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, a quantitative threshold of four odor units per cubic meter of air (OU/m^3) was used as the level at which odor reaches a nuisance level.

Clean Air Plan Consistency

The BAAQMD May 2017 *California Environmental Quality Act Air Quality Guidelines* ("BAAQMD's CEQA Air Quality Guidelines") specify Clean Air Plan consistency methods for plan-level evaluation only. Guidance for project-level analysis focuses on attainment of criteria air pollutant emissions thresholds and health risk standards. The proposed project could be considered to be consistent with the Clean Air Plan if emissions are within the project-level thresholds presented above.

6.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Approach to the Environmental Analysis

This section 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 EIR consultant team include a haul truck TAC report prepared by Illingworth & Rodkin and an MSW composting TAC emissions report prepared by Yorke Engineering. Both are included in Appendix B. The applicant provided an odor emissions analysis for the project prepared by Englobe, which was peer reviewed by Yorke Engineering. The applicant also provided an analysis of criteria air emissions and GHG emissions from construction activities and from on-road mobile source haul trucks that was prepared by SCS Engineers. The SCS report was reviewed by EMC Planning Group. These reports and peer review letters are also included in Appendix B. The information and data from the reports are used as a basis for determining impact significance and for mitigation measures described below.

Criteria Pollutant Emissions

Construction Emissions

IMPACT 6-1	Construction NO_X Emissions Will Exceed the BAAQMD Thresholds and Degrade Air Quality	Significant and Unavoidable

The *Emissions from Proposed Changes to Z-best Facility in Gilroy, California* (hereinafter "emissions report") 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. Construction of the proposed project would occur in three phases. Construction equipment to be used would include, but is not limited to, bulldozers, graders, water trucks, compactors, scrapers, and concrete mixers. The duration and equipment count for each phase are shown in Table 2 of the emissions report. See also 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.

SCS modeled the project's construction emissions using the California Emissions Estimator Model (CalEEMod). Unmitigated summer and winter construction criteria air pollutant emissions are summarized in Table 6-6, Unmitigated Construction Criteria Air Pollutant Emissions. As can be seen, both summer and winter unmitigated construction NO_x emissions exceed the BAAQMD NO_x threshold of 54 pounds per day.

Table 6-6 Unmitigated Construction Criteria Air Pollutant Emissions[1,2]

Emissions	ROG	NO_X	Exhaust PM_{10}	Exhaust $PM_{2.5}$
Summer	8.44	110.65	3.63	3.34
Winter	8.47	111.22	3.63	3.35
BAAQMD Thresholds	*54*	*54*	*82*	*54*
Exceeds Thresholds?	*No*	*Yes*	*No*	*No*

SOURCE: SCS Engineers 2019
NOTES:
1 Results may vary due to rounding.
2 Expressed in pounds per day.

As shown in Table 6-6, these construction activities would result in NO_x emissions that exceed the BAAQMD's thresholds of significance, resulting in a significant air quality impact.

SCS also used CalEEMod to model the project's construction emissions with the inclusion of a mitigation measure involving watering exposed areas and unpaved roads. This mitigation would reduce the annual construction-related NO_X emissions by 3.37 percent. It would also reduce the project's construction-related fugitive PM_{10} and $PM_{2.5}$ emissions; however, the BAAQMD PM_{10} and $PM_{2.5}$ construction thresholds apply only to emissions from vehicle exhaust, not fugitive emissions.

The BAAQMD recommends that all projects, where construction-related emissions would exceed the applicable thresholds of significance, implement the Additional Construction Mitigation Measures listed in Table 8-3 of the CEQA Air Quality Guidelines. The four measures in Table 8-3 that reduce NO_X emissions during construction are incorporated into mitigation measures below.

Mitigation Measure

6-1a Prior to issuance of a grading permit, the project applicant shall develop a plan demonstrating that off-road equipment (more than 50 horsepower) to be used during construction (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_X reduction compared to the most recent California Air Resources Board fleet average. Acceptable options for reducing emissions include the use of newer model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filers, and/or other options as such become available. The plan shall be subject to review and approval by the County Planning Department.

6-1b 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:

a. Minimizing the idling time of diesel-powered construction equipment and haul trucks to two minutes;

b. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO_X;

c. Requiring all contractors use equipment that meets California Air Resources Board's most recent certification standard for off-road heavy-duty diesel engines; and

d. Watering all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) at a frequency adequate to maintain minimum soil moisture of 12 percent.

Implementation of these mitigation measures would reduce NO_X emissions during construction. However, there is no feasible way to quantify all of the emissions reductions from these mitigation measures, and as a result there is no assurance that these mitigation measures would reduce NO_X emissions below the 54 pounds per day threshold. Therefore, the impact would be significant and unavoidable.

Operational Emissions

IMPACT 6-2	Vehicle Trips Associated with Project Operations Would Result in 123.19 Pounds Per Day or 20.58 Tons Per Year of NO_X Emissions	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 emissions report prepared by SCS Engineers. 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 uses vehicle miles traveled as an input, from which the model derives emissions based on vehicle class types and emissions factors applied to the 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). The Hexagon report is included in Appendix G.

Existing operations generate approximately 10,438 daily 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 represents worst-case daily emissions volumes.

Table 6-7, Unmitigated Operational Criterial 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 6-7 were derived the sum of the "Trucks (peak day)" and the "non-truck" values under the "Post-Project" heading in Table 5 of the 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 are 6.93 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.

As seen in Table 6-7, the proposed project would result in operational NO_X emissions that exceed the BAAQMD thresholds. 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.

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. As on-road truck fleets are replaced/upgraded to meet the provisions of the Truck and Bus Regulation, the NO_X emissions associated with truck fleets that serve project operations could incrementally decline over time. However, it is expected that the project NO_x emissions would nevertheless exceed the daily and annual thresholds.

As shown in Table 6-7, 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 123.19 pounds per day of NO_x emissions (that exceed the BAAQMD daily threshold of 54 pounds per day. The 20.58 tons per year of NO_X emissions would also exceed the annual threshold of 10 tons per year. This is a significant environmental impact.

Table 6-7 Unmitigated Operational Criteria Air Pollutant Emissions

Emissions	ROG	NO_x	PM_{10}	$PM_{2.5}$
Existing Conditions				
Average Daily Emissions[1]	2.70	74.49	1.55	1.48
Post-Project Peak Day Conditions				
Average Daily Emissions[1]	7.05	197.68	4.11	3.93
Net Increase with Peak Day Project Conditions				
Average Daily Emissions[1,2]	4.35	123.19	2.56	2.45
Comparison of Net Project Increase to BAAQMD Thresholds				
BAAQMD Daily Thresholds	*54*	*54*	*82*	*54*
Exceeds Daily Thresholds?	*No*	*Yes*	*No*	*No*
Annual Emissions[1,3,4]	0.79	22.48	0.47	0.45
BAAQMD Annual Thresholds	*10*	*10*	*15*	*10*
Exceeds Annual Thresholds?	*No*	*Yes*	*No*	*No*

SOURCE: SCS Engineers 2019
NOTES:
1. Results may vary due to rounding.
2. Expressed in pounds per day.
3. Expressed in tons per year.
4. Conversion factor is 1 pound per day equals 0.1825 tons per year.

The on-road truck fleet is regulated on a state level by CARB, with its Truck and Bus Regulation being a primary tool to reduce related emissions, including NO_x. Since the applicant has no control over the on-road truck fleet when it's operating off site, the applicant cannot directly mitigate the impacts of the emissions increase. However, the applicant does have control over how on-road vehicles are operated once on the project site. The following mitigation measure is within the applicant's control, but will only partially mitigate the impact because the vast majority of NO_x emissions are from on-road (off-site) truck operations.

Mitigation Measure

6-2 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 that 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.

Limited options are available to the applicant to mitigate project-level operational NO_x emissions. Mitigation Measure 6-2 would reduce NO_x emissions by a limited amount by

reducing the amount of time that truck engines are in use on site; however, the vast majority of NO_x emissions would be generated by off-site, on-road truck trips. Because Mitigation 6-2 would not reduce the impact to below the BAAQMD's NO_x emission threshold of 54 pounds per day This impact would be significant and unavoidable.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Exposure of Sensitive Receptors to Carbon Monoxide

IMPACT 6-3	Vehicle Trips Associated with the Project Would Expose Sensitive Receptors to Carbon Monoxide	Less than Significant

According to the CEQA Air Quality Guidelines, 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 LOS F since new trips would occur outside the peak traffic hours when LOS is evaluated (Hexagon Transportation Consultants 2020);

- According to the California Department of Transportation, in 2017, the maximum daily traffic volume at the intersection of SR 25 and U.S. Highway 101 was 29,500. The project would add a total of 378 daily trips to the roadway network (Hexagon Transportation Consultants 2020, Table 4). The majority of these trips would be distributed to the west towards the SR 25/U.S. Highway 101 interchange where traffic congestions issues are well recognized. The daily traffic volume at the SR 25 and U.S. Highway 101 interchange including project traffic would total 29,878. 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, while the proposed project will generate carbon monoxide emissions, the proposed project would result in a less-than-significant impact with respect to exposure to carbon monoxide concentrations.

Community/Sensitive Receptor Exposure to Toxic Air Contaminants

IMPACT 6-4	Truck Trips Associated with the Project Would Expose Sensitive Receptors to 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 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.

Truck Traffic Generated TACs

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.

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 is to the east of the project site. It is residence #7 as shown in Figure 1 of the health risk assessment. It represents the receptor with the maximum increased cancer risk (or Maximally Exposed Individual) caused by project truck traffic. Risk at all of the other receptors would be lower. Exposure at the noted residence is a worst-case indicator of diesel health risk.

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 Maximally Exposed Individual. Table 6-8, Project Traffic Health Risk Impacts at the Maximally Exposed Individual, reports the community risk impacts of project truck traffic at the residence. Table 6-8 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. These risks would be lower at all other sensitive residential receptors along SR 25.

Table 6-8 Project Traffic Health Risk Impacts at the Maximally Exposed Individual

Source	Lifetime Cancer Risk (per million)	Maximum Annual	
		$PM_{2.5}$ (µg/m^3)	Hazard Index
SR 25 Segment – west			
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

Conclusion

The primary potential health risks for nearby sensitive receptors would be caused by heavy-duty diesel trucks associated with the proposed project. A health risk assessment was conducted to assess risks associated with the increase in truck trips along the SR 25 corridor. 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.

Community/Sensitive Receptor Exposure to Toxic Air Contaminants

IMPACT 6-5	The Proposed ECS Composting Process Change Would Reduce Toxic Air Contaminants from Composting by up to 95 Percent	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 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 decomposition of MSW.

Composting Process Generated TACs

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.

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 be determined to 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.

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 U.S. Environmental Protection Agency regulations, these same compounds are referred to as volatile organic compounds (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 under more ammonia is produced in the decomposition process under anaerobic conditions (absence of air circulating through the compost).

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 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 compositing.

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. 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 using 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. Again, recall that the terms VOC and POC are equivalent. 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. 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.

TAC Emissions from Existing CTI MSW Composting

To first 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. Since Z-Best processes incoming waste within 24 hours, the emission factor was used simply as 0.2 lb/ton. 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. 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 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 6-9, Existing and Post-Project Conditions TAC Emissions, under the column heading "Existing Conditions (700 TPD/CTI Process)".

Table 6-9 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.
2. Values taken from Table 2, TAC Composting Emissions, on p. 5 of Attachment 1 of the TAC evaluation report in Appendix B.

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

As a Responsible Agency, the BAAQMD provided comments on the NOP for the proposed project. The comments are included in Appendix A. 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). The SCS letter is on file with the County. 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 will

also be tipped directly into the CASP bunkers, which results 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. 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 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 6-9.

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 6-9 under the column heading "Total Post-Project (1,575 TPD/ECS Process)."

As shown in the "Net Change" column in Table 6-9, 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. The substantial beneficial impact of the proposed project from reducing TAC emissions relative to existing baseline conditions using older CTI composting technology indicates that the ECS technology is superior to the CTI technology from a composting TAC emissions perspective.

Conclusion

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

Result in Other Emissions (Including Odors) Adversely Affecting a Substantial Number of People

IMPACT 6-6	Reduction in Odor Generation	Less Than Significant

On behalf of Z-Best Composting (the project applicant), 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). The air dispersion report was peer reviewed by Yorke Engineering, a subconsultant to the County's consultant 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.

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, as is being requested. Odor emission rates for the current CTI composting technology were derived from 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 commonly difficult to obtain existing emissions factors to estimate odor characteristics of new sources that are highly specific to the new source. Finding specific reference for odor emission rates from existing literature is challenging given that odor units are not currently universally used. Using emissions rates from similar facility types, as was done in this circumstance, is common professional practice.

Green waste windrows and other emissions sources at the project site were not part of the air dispersion report because impacts from those sources would remain unchanged with the proposed change in composting technology and MSW throughput.

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. 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 U.S. 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 6-1 through 6-4. Figure 6-1, 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 6-2, 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 6-3, 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 6-4, 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.

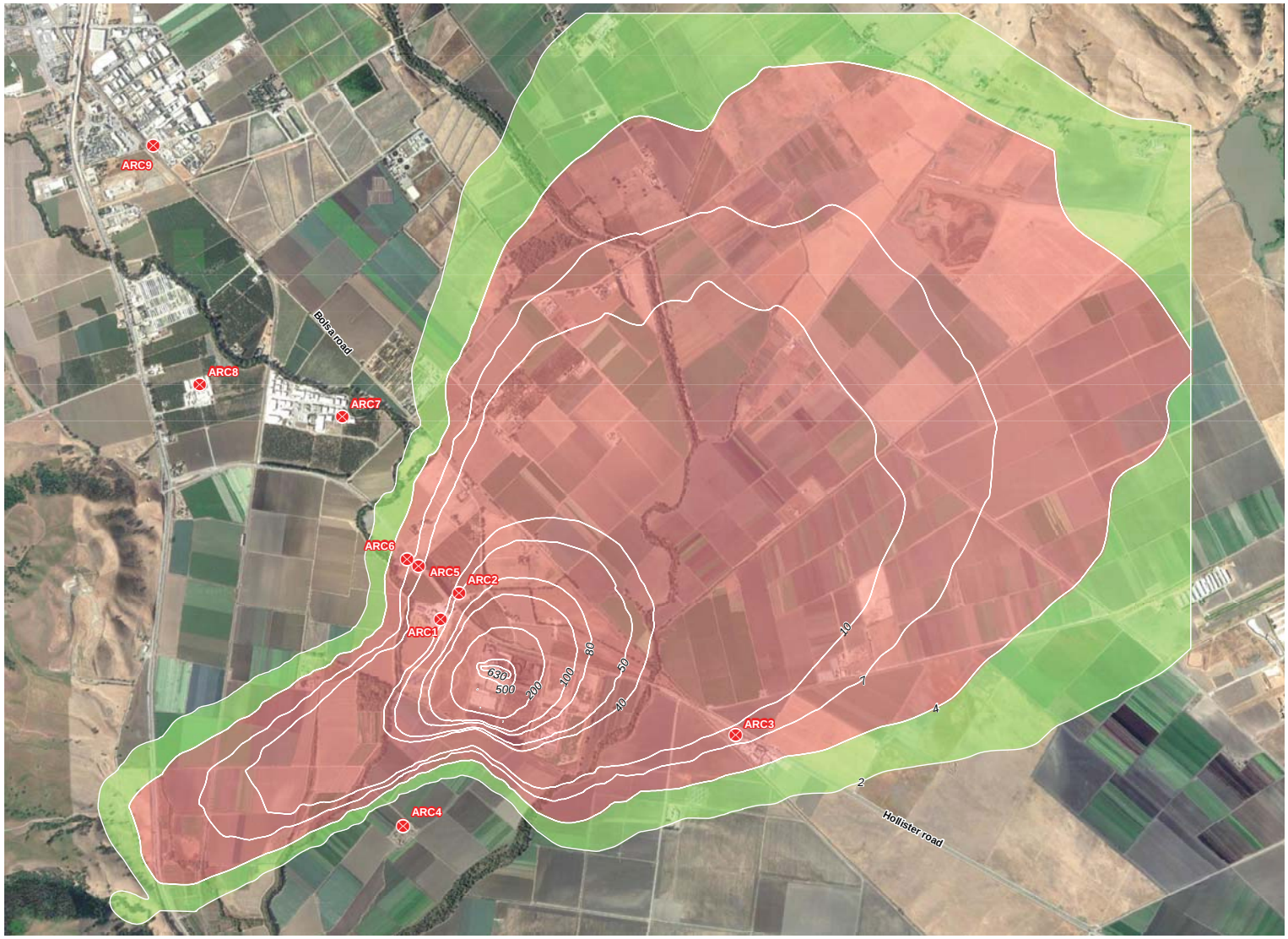
Conclusion

The proposed ECS MSW composting technology facilitates more complete aerobic decomposition of MSW feedstock that does the existing CTI technology. With the change in technology, odor emissions under post-project conditions will decline relative to existing conditions.

Consistency with Clean Air Plan

IMPACT 6-7	Construction and Operational Project Truck Trips NO_x Emissions Make the Project Inconsistent with the Clean Air Plan	Significant and Unavoidable

New on-road truck trips generated during construction and project operations would result in NO_x emissions that exceed BAAQMD thresholds as described in Impacts 6-1a, 6-1b and 6-2 above. NO_x emissions during construction would remain significant and unavoidable even with implementation of Mitigation Measures 6-1 and 6-2. Similarly, NO_x emissions during operations would remain significant and unavoidable even with implementation of Mitigation Measure 6-2 as presented above. Therefore, the proposed project is inconsistent with the Clean Air Plan with regards to reducing concentrations of NO_x within the air basin.



0 0.75 miles

Concentration Contour (> 4 ou/m³)
Concentration Contour (≤ 4 ou/m³)
ARC1 Discrete Receptor

Source: Englobe 2019

Figure 6-1

Maximum 98 Percentile Odor Concentration in Current CTI Technology

Z-Best Composting Facility Modifications EIR

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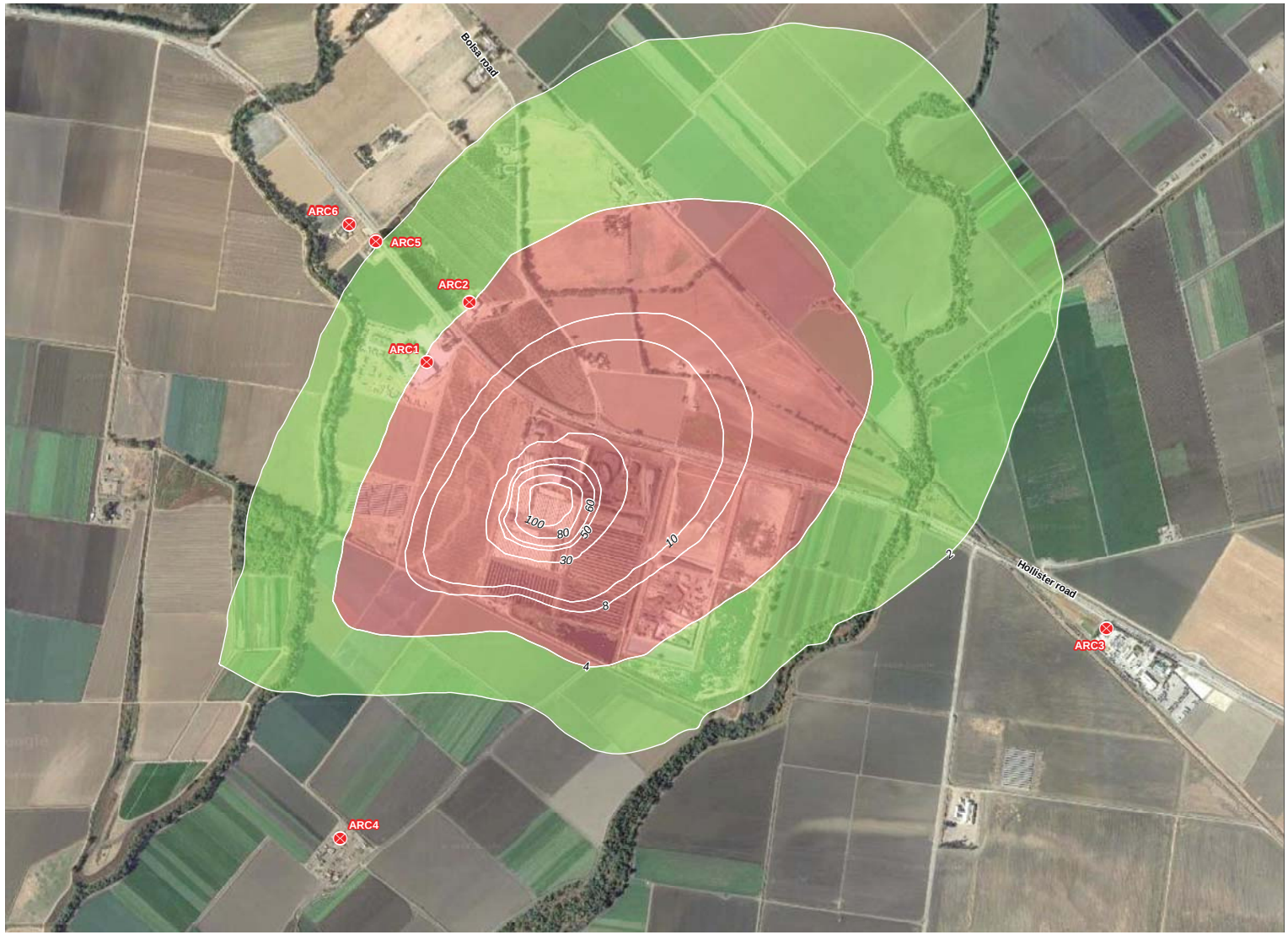

0 0.3 miles

Concentration Contour (> 4 ou/m³)
Concentration Contour (≤ 4 ou/m³)
ARC1 Discrete Receptor

Source: Englobe 2019

Figure 6-2

Maximum Averaging Percentile Odor Concentration in Current CTI Technology

Z-Best Composting Facility Modifications EIR

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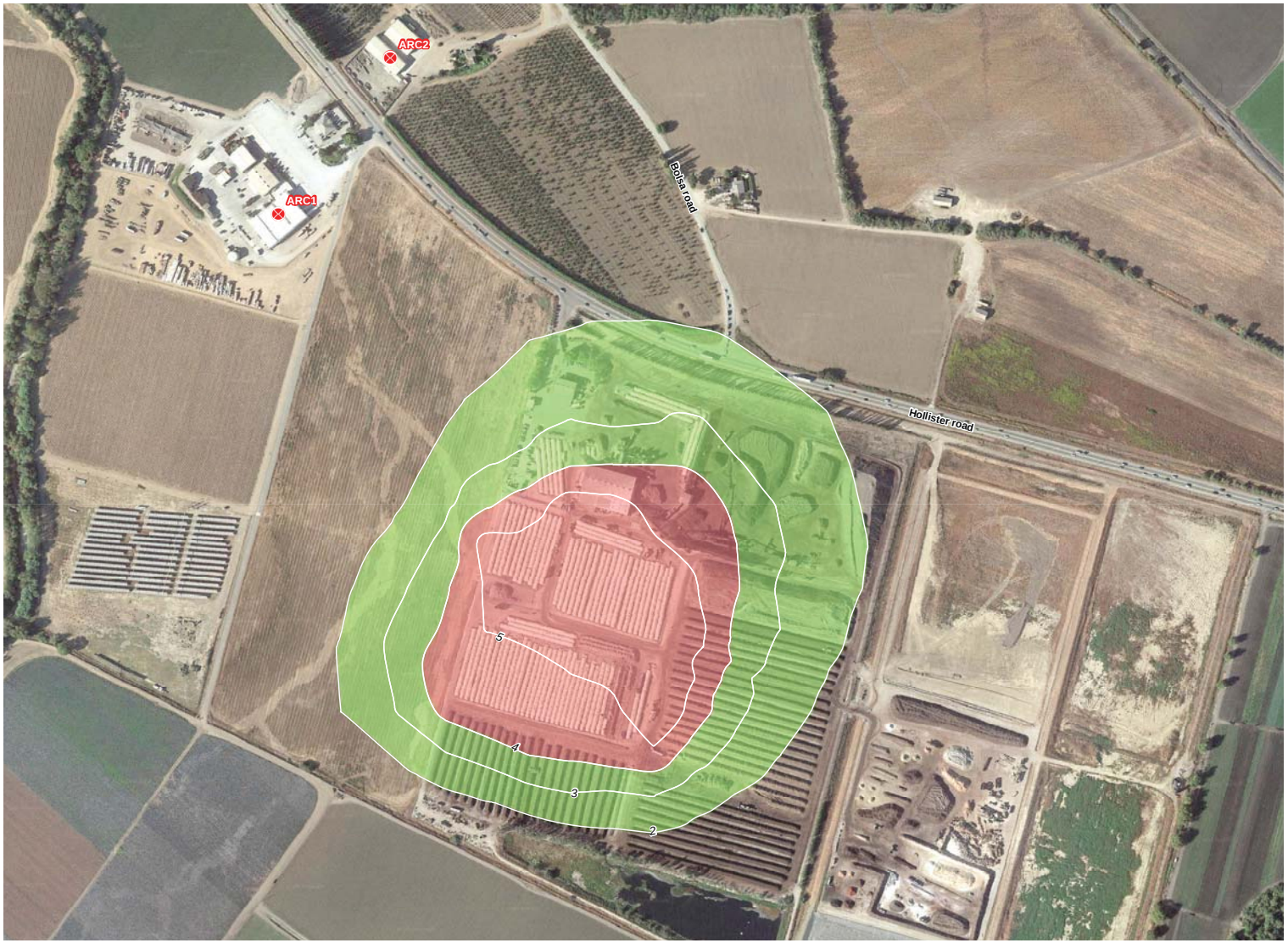

0 630 feet

Concentration Contour (> 4 ou/m³)
Concentration Contour (≤ 4 ou/m³)
ARC1 Discrete Receptor

Source: Englobe 2019

Figure 6-3

Maximum 98 Percentile Odor Concentration in Proposed ECS Technology

Z-Best Composting Facility Modifications EIR

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0 775 feet

Concentration Contour (≤ 4 ou/m³)

ARC1 Discrete Receptor

Source: Englobe 2019

Figure 6-4

Maximum Averaging Percentile Odor Concentration in Proposed ECS Technology

Z-Best Composting Facility Modifications EIR

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7.0
Biological Resources

This section addresses existing biological resources within the compost facility and the impact areas along 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 the County of Santa Clara.

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). Report is included in Appendix C;
- *Memorandum: Z-Best Composting Facility Modification: Verification of Absence of Sensitive Species and Habitat covered by the SCVHP* (WRA 2017). Report is included in Appendix C;
- *Biological Report for Site Access Change at the Z-Best Composting Facility: 980 State Route 25, County of Santa Clara* (EMC Planning Group 2020). Report is included in Appendix C;
- California Natural Diversity Database (California Department of Fish and Wildlife 2019);
- Inventory of Rare and Endangered Plants (California Native Plant Society 2019);
- Endangered Species Program (U.S. Fish and Wildlife Service 2019); and
- National Wetlands Inventory (U.S. Fish and Wildlife Service 2017b).

There were no NOP comments regarding biological resources.

7.1 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 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.

Because the composting facility 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:

1. Compost Facility. The area where operation of the facility has resulted in the presence of little or no biological resources. 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.

2. 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 7-1, Habitat Map: Survey Area 1.

3. Survey Area 2. The three separate impact areas as shown on Figure 4-6, Project Entrance/Driveway and SR 25 Improvements-Areas of Impact, and Figure 7-2, 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 and the EMC Planning Group reconnaissance survey results for Survey Area 2 are included in Appendix C.

Existing Conditions

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 2019).

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.

Survey Area 1

Survey Area 1 was surveyed on February 5, 2019 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 7-1, 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. At the time of the survey there was no wetland or riparian vegetation identifiable in or adjacent to the detention basin. 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.

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.

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 4-6. Figure 7-2, Habitat Map: Survey Area 2, shows the general survey boundaries and habitat features present.

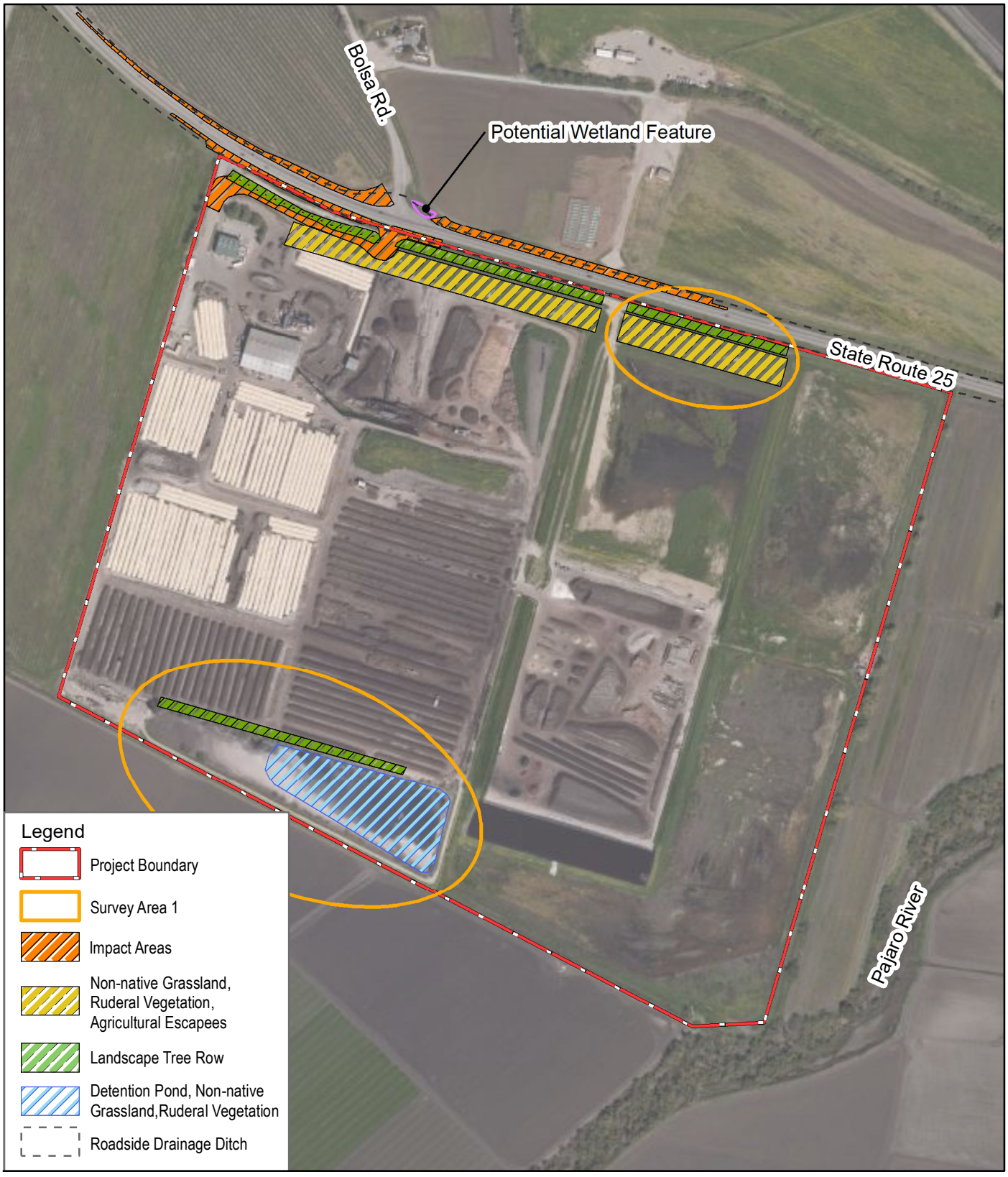
The proposed new access driveway parallel to and south of SR 25 is planned within a heavily disturbed area containing a compacted gravel road used by vehicles that is bordered by a row of ornamental popular trees Z-Best has planted as a visual screen along the site frontage with SR 25, as shown in Figure 7-2. 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.

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.

Special-Status Species

Special-status species in this report are those listed as endangered, threatened, or rare, or as candidates for listing by the USFWS or 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, 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.



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

0 650 feet

Figure 7-1

Habitat Map: Survey Area 1

Z-Best Composting Facility Modifications EIR

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

0 500 feet

Figure 7-2

Habitat Map: Survey Area 2

Z-Best Composting Facility Modifications EIR

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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 2019). Figure 7-3, California Natural Diversity Database Map, presents the locations of the documented occurrences. 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)]. Records of occurrence for special-status plants were reviewed for those same USGS quadrangles in the CNPS *Inventory of Rare and Endangered Plants* (CNPS 2019). A USFWS *Endangered Species Program* threatened and endangered species list was also generated for the project site and surrounding areas (USFWS 2019).

Table 7-1, Special-Status Plants Potentially Occurring in the Vicinity, and Table 7-2, 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.

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 7-1, 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 in the Impacts and Mitigation Measures section.

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 7-2, 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 the Impacts and Mitigation Measures section.

7.2 REGULATORY SETTING

Federal Plans and Regulations

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.

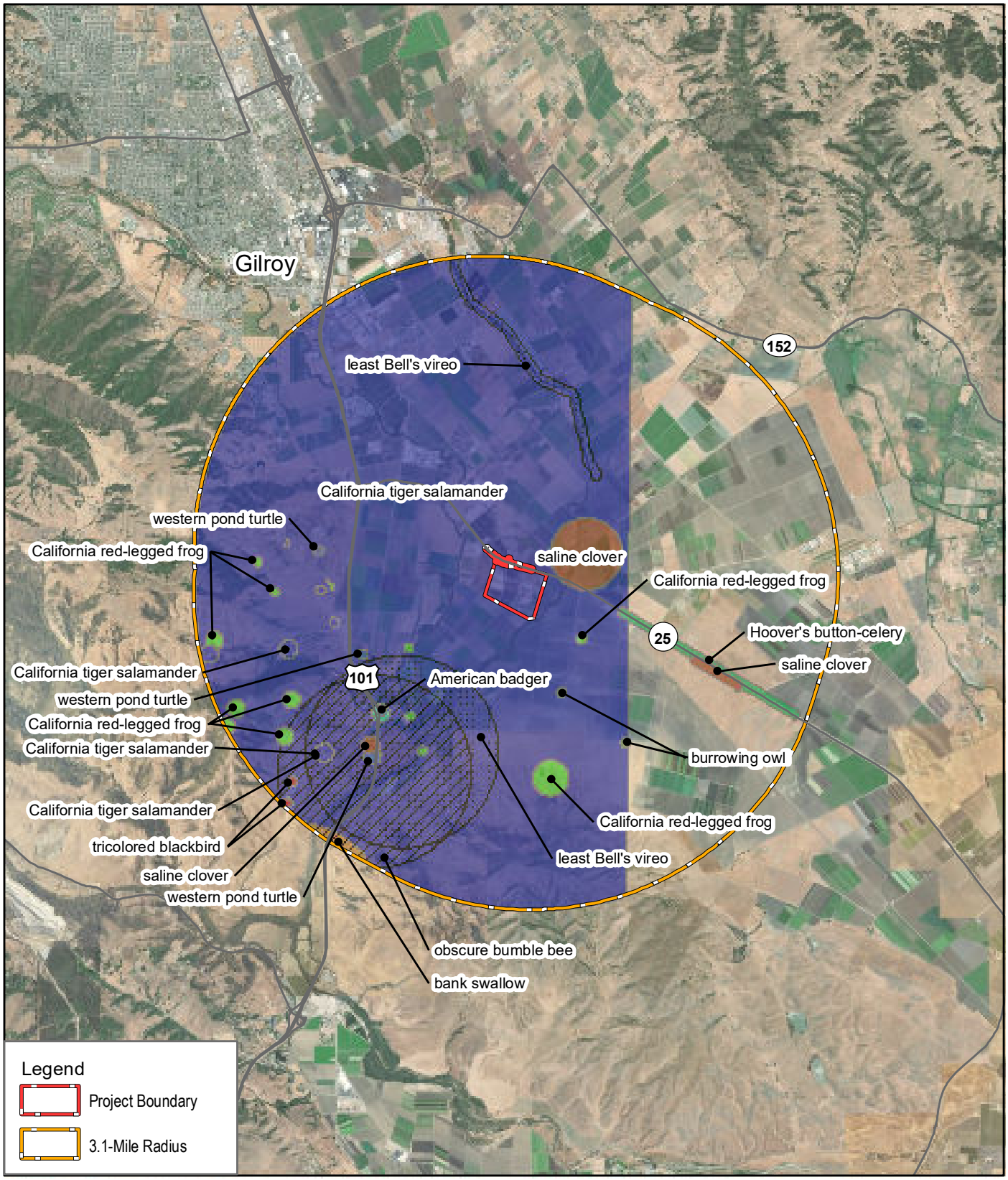
Migratory Bird Treaty Act

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.

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 2006 *Interim 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.



Source: ESRI 2018, Santa Clara County GIS 2015, California Department of Fish and Wildlife 2020

0 1.4 miles

Figure 7-3

California Natural Diversity Database Map

Z-Best Composting Facility Modifications EIR

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Table 7-1 Special-Status Wildlife Species with Potential to Occur in the Vicinity

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur
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.
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 found at the compost facility or Survey Areas.
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.
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.
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.
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.	Unlikely. Species may utilize drainage ditches and the adjacent Pajaro River as migratory corridors.

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur
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.
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.
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.
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.
Foothill yellow-legged frog (*Rana boylii*)	FC-/SC-/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.
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.
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.

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur
Monterey roach (*Lavinia symmetricus subditus*)	--/SSC	Found in small streams and are particularly adapted to life in intermittent watercourses.	No expected. No suitable habitat found at the compost facility or Survey Areas.
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.
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.	Unlikely. Species may utilize trees adjacent to drainage basin #1.
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.
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.
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.
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.
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.

Species	Status (Federal/ State/Other)	Habitat Description	Potential to Occur
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.
Tricolored blackbird (*Agelaius tricolor*)	SC-/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.
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.	Unlikely. Species may utilize trees adjacent to drainage basin #1.
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.
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.
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.
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. No suitable habitat found at the compost facility or Survey Areas.

SOURCES: CDFW 2019, EMC Planning Group 2019
NOTE: ***Listing Status Codes:***

Federal (USFWS)
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.
SC - Candidate for listing under the California Endangered Species Act.
FP- Fully protected

Table 7-2 Special-Status Plant Species with Potential to Occur in the Vicinity

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur
Alkali milk-vetch *(Astragalus tener* var. *tener)*	--/--/1B.2	Alkaline sites in playas, valley and foothill grassland (on adobe clay), and vernal pools; elevation 1-60m.	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 180-800m.	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 80-355m.	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 35-1000m.	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 2-930m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Chaparral harebell *(Campanula exigua)*	--/--/1B.2	Chaparral (rocky, usually serpentine); elevation 275-1250m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Congdon's tarplant *(Centromadia parryi* spp. *congdonii)*	--/--/1B.1	Valley and foothill grassland (alkaline); elevation 1-230m. 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 30-275m.	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 3-410m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur
Hall's bush-mallow *(Malacothamnus hallii)*	--/--/1B.2	Chaparral and coastal scrub, with some populations on serpentine; elevation 10-550m.	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 45-215m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Hoover's button-celery *(Eryngium aristulatum* var. *hooveri)*	--/--/1B.1	Vernal pools. Alkaline depressions, roadside ditches, and other wet places near the coast; elevation 5-45m.	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 225-1060m.	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 150-1700m.	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 10-200m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Kings Mountain manzanita *(Arctostaphylos regismontana)*	--/--/1B.2	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Prefers granitic or sandstone outcrops; elevation 305-730m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Legenere *(Legenere limosa)*	--/--/1B.1	In beds of vernal pools; elevation 1-880m.	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 30-860m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Metcalf Canyon jewel-flower *(Streptanthus albidus* ssp. *albidus)*	FE/--/1B.1	Valley and foothill grassland. Endemic to Santa Clara County. Relatively open areas in dry grassy meadows on serpentine soils/serpentine balds; elevation 45-245m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur
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 3-450m.	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 120-730m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Mt. Hamilton fountain thistle *(Cirsium fontinale* var. *campylon)*	--/--/1B.2	Serpentine seeps in chaparral, cismontane woodland, and valley and foothill grassland; elevation 100-890m.	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 30-760m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Pine rose *(Rosa pinetorum)*	--/--/1B.2	Closed-cone coniferous forest; elevation 2-300m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
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 20-900m.	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 300-975m.	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 15-700m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Robust spineflower *(Chorizanthe robusta* var. *robusta)*	FE/--/1B.1	Sandy or gravelly openings in cismontane woodland, coastal dunes, and coastal scrub; prefers sandy terraces and bluffs or loose sand; elevation 3-300m.	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 0-300m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

Species	Status (Federal/ State/CNPS)	Suitable Habitat Description	Potential to Occur
San Francisco popcornflower *(Plagiobothrys diffusus)*	--/SE/1B.1	Valley and foothill grassland, and coastal prairie. Occurs on grassy slopes with marine influence; elevation 60-485m.	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 1-320m.	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 80-335m.	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 400-1100m.	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 10-220m.	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 0-215m.	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 120-485m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
Two-fork clover *(Trifolium amoenum)*	FE/--/1B.1	Coastal bluff scrub, and valley and foothill grassland; sometimes serpentinite; elevation 5-415m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.
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 100-1200m.	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 10-510m.	Not expected. No suitable habitat found at the compost facility or Survey Areas.

SOURCES: CDFW 2019, CNPS 2019, EMC Planning Group 2019

Listing Status Codes:

Federal (USFWS)
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.
SC - Candidate for listing under the California Endangered Species Act.

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).

State Plans and Regulations

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.

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.

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.

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.

Local Plans and Regulations

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 (HCP) and a natural community conservation plan (NCCP), 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 will receive incidental take authorization through the Endangered Species Act and NCCP 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" (Email message from Kim Rook to Valerie Negrete, May 24, 2017).

7.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of biological resources 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:

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

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

Issues or Potential Impacts not Discussed Further

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.

Special Wildlife Status-Species

California Tiger Salamander

California tiger salamander is a federally and state-listed threatened species. The compost facility and the Survey Areas are not located within federally designated critical habitat for this species. The California tiger salamander is dependent on small shallow bodies of water for breeding. It can be found in grasslands, most frequently within 400 feet of breeding pools or ponds where California ground squirrels are prevalent and active. California tiger salamanders will occupy the burrows of the ground squirrels during summer and fall months, emerging to move toward breeding sites when the rainy season commences. They typically disperse to burrows and other hiding places in oak woodlands and grasslands within a quarter mile or less by early summer; however, some may disperse up to 3.1 miles (5.0 kilometers) from a pond.

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 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 2020). 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. Due to the lack of breeding habitat present, the distance from the nearest known observations, and the lack of suitable upland habitat, California tiger salamander is not expected to occur within the compost facility or Survey Areas. Due to lack of habitat to support California tiger salamander, no impacts to this species are anticipated as a result of the proposed project.

American Badger

American badger is a California Species of Special Concern. It is an uncommon, permanent resident found throughout most of the state, except in the northern North Coast area. Typical habitats include drier open stages of most shrub, forest, and herbaceous habitats with friable soils suitable for burrows. Prey species include fossorial rodents such as rats, mice, chipmunks, ground squirrels, and pocket gophers. Badger diet shifts seasonally depending on the availability of prey and may also include reptiles, insects, earthworms, eggs, birds, and carrion. Mixed oak woodland, coastal scrub, and grassland habitats provide cover, drier soils for burrowing, and prey resources for this species. 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. Due to lack of habitat to support American badger, no impacts to this species are anticipated as a result of the proposed project.

Western Pond Turtle

Western pond turtle is a California Species of Special Concern. Western pond turtles are omnivorous. They eat a variety of aquatic plants and various aquatic invertebrates, fish, and frogs. Areas that provide basking opportunities are necessary, such as logs or rocks located within a pond, to allow the turtle to flee back to the water when necessary. Western pond turtles will reproduce in sandy stream banks but have been known to construct nests in soft soil a short distance from a water source. Most often, these turtles are associated with permanent ponds, streams, lakes, or irrigation ditches. They are generally active during the day with a restrictive range close to a water source (Morey 2000). 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 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. Due to lack of habitat to support western pond turtle, no impacts to this species are anticipated as a result of the proposed project.

Least Bell's Vireo

Least Bell's vireo is a federally and state-listed endangered species. The compost facility and the Survey Areas are not located within federally designated critical habitat for this species. Least Bell's vireo lives in dense riparian shrub habitat near flowing water but can live near watercourses in desert regions that are dry and bordered by mesquite and arrow-weed plants. Nesting occurs in riparian vegetation, especially willows, wild rose, and other dense vegetation. Most populations of least Bell's vireo are in the counties south of Santa Barbara County, but a nesting pair was observed near Gilroy in Santa Clara County in 1997.

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. For these reasons, no impacts to this species are anticipated as a result of the proposed project.

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.

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.

Habitat Conservation Plan

Though 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.

7.4 Analysis, Impacts, and Mitigation Measures

Analysis and Impact Methodology

This evaluation 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 the County of Santa Clara. See the beginning of this EIR section for a list of relevant documents used in this analysis.

California Red-legged Frog

IMPACT 7-1	Potential 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 the CNDDB map in Figure 7-3 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 1.2 miles to the southwest (2017) and southeast (1997). In addition, occurrences of California red-legged frog have been documented downstream in both Carnadero Creek and the Pajaro River (CNDDB 2019).

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 drainage basin #1 and the flood storage expansion area. The facility is also nearly devoid of potential upland habitat; the only suitable upland habitat for California red-legged frog is in the extreme southeastern corner, adjacent to the Pajaro River riparian corridor (WRA 2014). The lack of suitable breeding habitat within the facility boundary was confirmed during the site reconnaissance surveys conducted in 2019 (EMC Planning Group 2020).

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. However, because these ditches are regularly maintained to reduce vegetation and have loose soils and steep banks, it is likely that dispersing individuals would be unable to climb out and would be forced to continue along the bottom of the ditches until reaching an outlet, desiccate, or are predated (WRA 2104). 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.

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. However, as discussed above, Survey Area 2 is located between Carnadero Creek and the Pajaro River and the drainage ditches along both sides of SR 25 may be used during dispersal activities.

Conclusion

The project site does not contain breeding habitat for the California red-legged frog. 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 the following mitigation measures would reduce the potential impact to a less-than-significant level.

Mitigation Measures

7-1a 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 will require an Incidental Take Permit, and, if necessary, obtain the permit and implement all avoidance, minimization, and compensatory mitigation measures required by the permit. Avoidance and minimization measures shall include, but not be limited to, the following adapted from the *USFWS Programmatic Biological Opinion for Issuance of Permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including Authorizations Under 22 Nationwide Permits, for Projects that May Affect the Threatened California Red-legged Frog in Nine San Francisco Bay Area Counties, California* (USFWS 2014):

a. 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. Area 1, the detention basin #1, the flood storage expansion area at the compost facility, and the access road and SR 25 impact areas shall be surveyed for potential migratory and/or upland activity.

b. 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.

c. 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.

d. 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.

e. 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.

f. 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 workers 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 construction site at the end of each working day.

g. Loss of soil from run-off or erosion shall be prevented with straw bales, straw wattles, or similar means provided they do not entangle or block escape or dispersal routes of the California red-legged frog.

h. 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.

i. 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.

j. 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.

k. 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.

l. Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall not 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.

m. Trenches or pits one foot or deeper that are going to be left unfilled for more than 48 hours shall be securely covered with boards or other material to prevent the California red-legged frog from falling into them.

7-1b Final grading plans shall include the following training requirements to be adhered to by all construction contractors. Prior to any grading or construction activity in detention basin #1, the flood storage expansion area, or within the site access and SR 25 impact areas, a qualified biologist shall conduct a training session for all construction personnel. The training shall include the following, at a minimum:

a. Description of the California red-legged frog and their habitat;

b. General measures that shall be implemented to conserve species as they relate to the project;

c. Boundaries within which construction activities will occur; and

d. Informational handouts with photographs clearly illustrating the species' appearances shall be used in the training session.

All new construction personnel shall undergo this mandatory environmental awareness training. 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.

The applicant shall submit evidence of completion of this training to the County Planning Department, prior to issuance of a grading permit.

Implementation of these mitigation measures would reduce the impact to California red-legged frog, should they utilize the project site for dispersal activities, to less than significant by determining the need for an incidental take permit, 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 individuals in the event one or more are present before or during construction. Therefore, this impact is less than significant with mitigation incorporated.

Burrowing Owl

IMPACT 7-2	Potential Loss or Disturbance of Special-Status Wildlife Species (Burrowing Owl)	Less than Significant with Mitigation

Western burrowing owl is a California Species of Special Concern. Burrowing owls live and breed in burrows in the ground, especially in abandoned ground squirrel burrows. Optimal habitat conditions include large open, dry, and nearly level grasslands or prairies with short to moderate vegetation height and cover, areas of bare ground, and populations of burrowing mammals. Areas with active colonies of California ground squirrels or human-made structures such as culverts that could be utilized for nesting provide suitable nesting habitat.

The nearest observation of burrowing owl was recorded in 2007, approximately 1.5 miles to the south of the compost facility and the 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. However, this species is highly mobile and may move into the compost facility or Survey Areas at any time; therefore, the potential for burrowing owl to occur within the compost facility or Survey Areas cannot be excluded.

Conclusion

If burrowing owl is present on or adjacent to the compost facility or Survey Areas, construction activities could result in the loss or disturbance of individual animals. This would be a significant adverse environmental impact. Implementation of the following mitigation measure would reduce the potential impact to a less-than-significant level.

Mitigation Measure

7-2 To avoid/minimize impacts to burrowing owls potentially occurring on or adjacent to the compost facility or SR 25 impact areas, the applicant shall retain a qualified consulting biologist to conduct a two-visit (i.e. morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the compost facility and SR 25 impact areas no less than 14 days prior to the start of any construction or ground disturbance activities. Surveys shall be conducted according to methods described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).

Because burrowing owls occupy habitat year-round, seasonal no-disturbance buffers, as outlined in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012), shall be

in place around occupied habitat prior to and during any ground disturbance activities. The following table includes buffer areas in meters (m) based on the time of year and level of disturbance (CDFG 2012), unless a qualified biologist approved by CDFW verifies through non-invasive measures that either: 1) birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Appropriate Buffers by Level of Disturbance		
		Low	Med	High
Nesting Sites	April 1 – Aug 15	200 meters (m)	500 m	500 m
Nesting Sites	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting Sites	Oct 16 – Mar 31	50 m	100 m	500 m

If burrowing owl are found to occupy the compost facility or SR 25 impact areas and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Occupied burrows shall be replaced with artificial burrows at a ratio of one collapsed burrow to one constructed artificial burrow (1:1). Evicted burrowing owls may attempt to colonize or re-colonize an area that would be impacted, thus ongoing surveillance of the compost facility or SR 25 impact areas during project activities shall be conducted at a rate sufficient to detect burrowing owls if they return.

If surveys locate occupied burrows in or near construction areas, consultation with the CDFW shall occur to interpret survey results and develop a project-specific avoidance and minimization approach.

The applicant shall submit evidence of completion of these surveys, along with their results, to the County Planning Department, prior to issuance of a grading permit.

Implementation of this mitigation measure would reduce the potential impact by requiring pre-construction surveys for burrowing owl, and consultation with the CDFW to protect individual burrowing owls if they are present on or adjacent to the compost facility or SR 25 impact areas. Therefore, this impact is less than significant with mitigation incorporated.

Nesting Raptors and Migratory Birds

IMPACT 7-3	Potential 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.

Many bird species are migratory and fall under the protection of the Migratory Bird Treaty Act, protections for birds of prey, and/or are considered Fully Protected Species. Several avian species were observed within the Survey Areas during the field surveys, including crows (*Corvus brachyrhynchos*) and seagulls (*Larus pacificus*). Protected nesting birds, including 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.

Conclusion

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. This would be a significant adverse environmental impact. Implementation of the following mitigation measure would reduce the potential impact to a less-than significant level.

Mitigation Measure

7-3 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 greatest extent feasible. If this type of construction, 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 nests would be disturbed during project activities.

If project-related work is scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), or if construction activities

are suspended for at least 15 days and recommence during the nesting season, a qualified biologist shall conduct 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 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 needed) shall be completed by the qualified biologist prior to initiation of construction activities.

If the qualified biologist documents active nests within the compost facility, the access road and SR 25 impact areas, or nearby surrounding areas, an appropriate buffer between each nest and active 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.

The applicant shall submit evidence of completion of surveys, with results, to the County Planning Department, prior to issuance of a grading permit.

Implementation of this mitigation measure would reduce the impact to a less than significant level by requiring pre-construction surveys for nesting birds, and avoidance of any active nest(s) if present. Therefore, this impact is less than significant with mitigation incorporated.

Western Mastiff Bat and Pallid Bat

IMPACT 7-4	Potential 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 the loss of individual animals. This would be a significant environmental impact. Implementation of the following mitigation measure would reduce the potential impact to a less-than-significant level.

Mitigation Measure

7.4 Approximately 14 days prior to tree removal or construction activities in the vicinity of detention pond #1, a qualified biologist shall conduct a habitat assessment for bats and potential roosting sites in trees to be removed and in trees within 50 feet of the construction footprint. These surveys shall include a visual inspection of potential roosting features (bats need not be present) and a search for presence of guano within the project site, construction access routes, and 50 feet around these areas. Cavities, crevices, exfoliating bark, and bark fissures that could provide suitable potential nest or roost habitat for bats shall be surveyed. Assumptions can be made regarding what species is present due to observed visual characteristics along with habitat use, or the bats can be identified to the species level with the use of a bat echolocation detector such as an "Anabat" unit. Potential roosting features found during the survey shall be flagged or marked.

a. If no roosting sites or bats are found, a letter report confirming absence shall be prepared and no further mitigation is required.

b. If bats or roosting sites are found, bats shall not be disturbed without specific notice to and consultation with CDFW.

c. If bats are found roosting outside of the nursery season (May 1 through October 1), the CDFW shall be consulted prior to any eviction or other action. If avoidance or postponement is not feasible, a Bat Eviction Plan shall be submitted to CDFW for written approval prior to any tree removal or other project-related activities. A request to evict bats from a roost shall include details for excluding bats from the roost site and monitoring to ensure that all

bats have exited the roost prior to the start of activity and are unable to re-enter the roost until activity is completed. Any bat eviction shall be timed to avoid lactation and young-rearing. If bats are found roosting during the nursery season, they shall be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or by monitoring the roost after the adults leave for the night to listen for bat pups. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost shall not occur during the nursery season. Therefore, if a maternal roost is present, a 50-foot buffer zone (or different size if determined in consultation with the CDFW) shall be established around the roosting site within which no construction activities including tree removal or structure disturbance shall occur until after the nursery season.

The applicant shall submit evidence of completion of habitat assessment and results to the County Planning Department, prior to issuance of a grading permit.

Implementation of this mitigation measure would reduce the potential impact to less than significant by requiring pre-construction surveys for bat roosting activity, and 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 is less than significant with mitigation incorporated.

Wetlands

IMPACT 7-5	Loss of Potential State or Federally Protected Wetlands (Approximately 0.02-acre Wetland and Approximately 3,400 Linear Feet of Drainage Ditch)	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 drainage 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 is unlikely to be considered jurisdictional by any resource agency.

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.

Conclusion

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 for construction of the new access driveway and widening of SR 25. Impacts to jurisdictional wetlands and waterways are considered significant adverse impacts. Implementation of the following mitigation measure would reduce the impact to a less-than-significant level.

Mitigation Measure

7-5 Prior to initiation of ground disturbance or construction activities within the new access driveway and SR 25 impact areas, the applicant shall retain a qualified biologist to determine the extent of drainage ditches and potential wetlands regulated by the USACE and RWQCB. If there is USACE jurisdiction, the applicant shall retain a qualified biologist to obtain a Clean Water Act Section 404 Nationwide Permit. If the impacts to the drainage ditches and potential wetlands do not qualify for a Nationwide Permit, the applicant shall proceed with the qualified biologist in obtaining an Individual Permit from the USACE. The applicant shall then retain a qualified biologist to coordinate with the RWQCB to obtain a Clean Water Act Section 401 Water Quality Certification.

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, mitigation shall be provided as required by the regulatory permits. Mitigation would be provided through one of the following mechanisms:

a. A Wetland Mitigation and Monitoring Plan shall be developed that outlines mitigation and monitoring obligations for temporary impacts to wetlands and other waters from the project. The Wetland Mitigation and Monitoring Plan would 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 404/401 permit application process.

b. To compensate for permanent impacts, the purchase and/or dedication of land to provide suitable wetland restoration or creation shall ensure a no net loss of wetland values or functions. For improvements on the project site, the applicant shall comply with terms and conditions of the permits, including measures to protect and maintain water quality, restore work sites, and mitigation to offset temporary and/or permanent wetland impacts. The applicant shall be responsible for implementation of this mitigation measure 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 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 this mitigation measure shall ensure that impacts to potentially jurisdictional wetlands and waterways are mitigated by requiring a wetland assessment/jurisdictional determination and associated permitting. With implementation of this mitigation measure, construction of the new driveway and improvements along SR 25 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 is less than significant with mitigation incorporated.

8.0
Cultural Resources

This section addresses known cultural resources on or near the project site; the federal, state, and regional/local regulatory framework pertaining to cultural resources; and potential impacts to 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 survey conducted by an EMC Planning Group archaeologist (February 5, 2019 and on February 6, 2020).

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);
- *Cultural Resources Investigation for the Z-Best Composting Facility Improvements Project, Santa Clara County, CA* (Jones & Stokes 2006);
- *Initial Study/Mitigated Negative Declaration Z-Best Composting Facility Expansion Project* (Jones & Stokes 2006a); and
- *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).

The California Native 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.

8.1 Environmental Setting

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. The first reconnaissance survey area ("survey area 1") included 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. Please refer to Section 4.3, Project Description, for more information on these improvements.

The second reconnaissance survey was conducted in response to a change in the project description wherein three additional improvements were proposed. Survey area 2 included three separate impact areas as shown on Figure 4-6, Project Entrance/Driveway and SR 25 Improvements - Areas of Impact. 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. Please also refer to Section 4.3, Project Description for more information on these proposed improvements.

The cultural resources surveys were limited to the areas noted above because other changes included in the proposed project would take place in locations that have 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 survey areas have potential to contain cultural resources that could be adversely affected during construction activities and thus warrant detailed analysis.

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 (UTM) 10S 631639 easting, 4090014 northing. Surrounding the facility is agricultural land, State Route 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.

Survey Area 1

Survey area 1 includes the area containing existing detention basin #1, as proposed modifications to detention basin #1 would be made. Survey Area 1 also includes the approximately one-acre area adjacent to SR 25 in which an expansion of the existing Z-Best flood storage facility is planned. The detention pond #1 area has been substantially disturbed by prior construction activities associated with the detention basin. However, as part of the proposed project, construction activities could occur that could disturb subsurface soils (e.g. grading to remove part of the basin) in this area. The detention basin #1 area contains planted trees, non-native grasses, and ruderal vegetation.

The area within the proposed flood storage facility expansion footprint surface 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.

Survey Area 2

The proposed new driveway alignment is within a very disturbed area containing a gravel road. The surface has been modified through grading and vegetation management. There are no known subsurface improvements within the alignment area. There is a planted row of poplar trees bordering the alignment on the north and ruderal vegetation throughout. 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.

Archaeological Survey Results

The results of the pedestrian surveys of survey areas 1 and 2 are summarized below to provide context for potential impacts on cultural resources.

Survey Area 1 Results

The archaeological survey was conducted 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. No cultural resources were identified in Survey Area 1.

Survey Area 2 Results

The archaeological survey was conducted in two- to three-meter meandering transects. 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 access/entrance impact area or the drainage ditch impact areas or in areas immediately adjacent to them.

Past Cultural Studies Results

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 2006). 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 State Route 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 Z-Best 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 NWIC database search of April 19, 2017 conducted in association with the Albion investigation reported that there were two recorded prehistoric sites, a habitation site and prehistoric isolates site, adjacent to that study area, and in 1992, a human burial associated with these sites was within a quarter mile of the that site. Regarding the potential flood storage facility site, NWIC recommended "a qualified professional assess the status of the resources as they relate to the currently proposed project and provide project-specific recommendations." It was also stated that buried cultural resources, including burials, could be found in conjunction with the settlement areas and; therefore, it was recommended that "a qualified archaeologist conduct further archival and field study to identify cultural resources". Although this area north of SR 25 is no longer part of the project, the findings are still appropriate for the proposed project.

Paleontological Setting

There have been significant vertebrate and invertebrate fossils documented throughout California, including Santa Clara County. The potential of a particular site to contain fossils depends upon the geologic age and type of rocks underlying the site. Most fossils can be found in sedimentary rocks such as sandstone or limestone that are created from soil composed of sand, silt, and clay, some volcanic rocks, and various low-grade metamorphic rocks. The potential for finding paleontological resources depends on the location, known deposits, and depth of appropriate rock formations. The U.C. Museum of Paleontology's (UCMP 2020) resource mapper indicates that there are 191 recorded paleontological resources within Santa Clara County, however, the location of these is not provided. According to the Geologic Map of California (California Department of Conservation 2010), the project site is underlain by Quaternary alluvium, lake, playa, and terrace deposits, unconsolidated and semi-consolidated. The soils on the project site are Campbell silty clay, Clear Lake clay, Pacheco clay loam, and Sunnyvale silty clay. These alluvium soils could potentially indicate underlying igneous, metamorphic or sedimentary rock at a depth sufficient to contain fossil materials.

8.2 REGULATORY SETTING

Federal Regulations-National Park Service

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 U.S.C. Chapter 3021-National Register of Historic Places, 54 U.S.C. 302101 (National Park Service 2018).

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).

State Laws, Regulations, and Statutes

California Environmental Quality Act (CEQA) Archaeological Resources (California Public Resources Code § 21083.2)

The lead agency shall determine whether the project may have a significant effect on archaeological resources. If the lead agency determines that the project may have a significant effect on unique archaeological resources, the environmental impact report shall address the issue of those resources. 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).

State Historical Resources Commission (California Public Resources Code § 5020)

Under California Public Resources Code 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 (SHPO) (California Public Resources Code § 5020.6)

In consultation with the State Historical Resource Commission, the SHPO 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 Public Resources Code § 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).

Native American Heritage Commission (California Public Resources Code § 5097.9)

The 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).

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).

Local Regulations and Ordinances

Santa Clara County Historical Heritage Commission

The Board of Supervisors created the 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, the Commission meets the third Thursday of each month at 6:30 PM (County of Santa Clara 2019).

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).

8.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of cultural resources 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:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Directly or indirectly destroy a unique paleontological resource or site.

8.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Analysis and Impact 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.

Historical Resources and Unique Archaeological Resources

IMPACT 8-1	Potential for Accidental Discovery and Disturbance of Significant 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 these the recorded resources, there is always the possibility that historical resources, unique archaeological resources, or Native American remains 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, unique archaeological resources, or Native American remains. This would be considered a significant environmental impact. The following mitigation measure would reduce this potential, significant impact to a less-than-significant level.

Mitigation Measure

8-1 A qualified archaeologist shall be on site to monitor all ground-disturbing activities. The contract for this work shall be provided to the County prior to issuance of a grading permit.

If buried historic or prehistoric cultural resources such as chipped stone or groundstone, historic debris such as trash dumps, building foundations, old roadways, or human bone are inadvertently discovered during ground-disturbing activities, work shall stop within a 100-foot radius of the find until the qualified archaeologist can assess the significance of the find and recommend additional treatment measures appropriate to the nature of the find. The County shall be responsible for ensuring that treatment measures are implemented by the applicant in accordance with the archaeologist's recommendations.

Implementation of this mitigation measure would reduce the potential for inadvertent disturbance or damage to significant historical resources and/or unique archaeological resources within the project site by halting operations in the event of a discovery and require that appropriate treatment measures are implemented, which would ensure that the proposed project results in a less-than-significant impact to these resources. The potential impact would be less than significant with mitigation.

Native American Human Remains

IMPACT 8-2	Potential for Accidental Discovery and Disturbance of Native American Human Remains	Less than Significant with Mitigation

Due to a record from 1992 of a human burial within a quarter mile of the Z-Best facility, unrecorded Native American burials may underlie areas within survey area 1 and 2 that would be disturbed by construction activities. Disturbance of burials would be a significant environmental impact. The following mitigation measure would reduce the impact to a less-than-significant level.

Mitigation Measure

8-2 If human remains are encountered during construction, the County Coroner shall be notified immediately. Section 7050.5 of the California Health and Safety Code and County Ordinance Code Section B6-18 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. A qualified archaeologist shall also be contacted immediately. If the Coroner determines that the remains are Native America, the Coroner shall then contact the Native American Heritage Commission (NAHC), pursuant to Section 7050.5(c) of the California Health and Safety Code.

The County Coordinator of Indian Affairs (Director of Planning and Development or designee) shall also be contacted. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie human remains until the Coroner has determined that no investigation of the cause of death is required; and, if the remains are of Native American origin.

The NAHC shall identify a Native American most likely descendant to make a recommendation with regards to appropriate treatment of human remains within 24 hours after being notified by the commission.

If the NAHC fails to make a recommendation, the descendants of the deceased Native Americans shall make a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98 and County Ordinance Code Section B6-20.

According to the California Health and Safety Code, six or more human burials at one location constitutes a cemetery (Sec. 8100), and disturbance of Native American cemeteries is a felony (Sec. 7052).

Implementation of this mitigation measure would reduce the potential impact to Native American remains to less than significant by halting operations in the event of a discovery and assessing the find in accordance with Section 7050.5 of the California Health and Safety Code and Section 21083.2 of the California Environmental Quality Act. Therefore, this potential impact would be less-than-significant with mitigation.

Unique Paleontological Resources

IMPACT 8-3	Potential to Directly or Indirectly Destroy A Unique Paleontological Resource or Site	Less than Significant with Mitigation

There are no known paleontological resources located on the project site. Construction activities would include removal of existing vegetation, site preparation (e.g., excavation and grading), construction of new improvements. Given that the project site is located adjacent to a geologic unit that, in other areas of the county, has contained fossils, there is a potential to discover unknown paleontological resources during construction. This would be a potentially significant impact. Implementation of the following mitigation measure would reduce potential impacts associated with the discovery of unknown unique paleontological resources to a less-than-significant level.

Mitigation Measure

8-3 The applicant shall retain a qualified paleontologist to provide a preconstruction briefing to the supervisory personnel of the grading and excavation contractor(s) to alert them to the possibility of exposing significant paleontological resources within the property. In the event that paleontological resources are discovered during project construction, construction shall halt in the immediate vicinity of the find until a qualified paleontologist is consulted to determine the significance of the find and has recommended appropriate measures to protect the resource. Further disturbance of the resource shall not be allowed until those recommendations are approved by the County Planning Office and the recommendations for protection of the resource have been implemented.

Implementation of this mitigation measure would reduce the potential for inadvertent disturbance or damage to unique paleontological resources within the project site by halting operations in the event of a discovery, determining whether the find is significant, and if so, require measures to protect the resource. This mitigation would ensure that the proposed project results in a less-than-significant impact to paleontological resources. The potential impact would be less than significant with mitigation.

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9.0
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 volume of greenhouse gas (GHG) emissions that would be generated by the proposed project, and GHG emissions impacts in light of a threshold of significance.

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.

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);
- *California Environmental Quality Act 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
- Estimated Power Use Comparison: ECS Primary CASP & Secondary ASP versus CTI Bags (Engineered Compost Systems 2019).

The Bay Area Air Quality Management District (BAAQMD) provided comments on the NOP for the project in a letter dated November 15, 2018. The BAAQMD requested an estimate of construction-related GHGs, and an estimate of on-road and off-road mobile sources of GHGs. The NOP and comment letters are included in Appendix A.

9.1 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.

Climate Change Science

Scientists worldwide agree that global warming is happening, and that human activity causes it (Union of Concerned Scientists 2018). 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.

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.

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.

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 (NASA 2020). 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 2019a).

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 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 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 2019b). 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 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.

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.

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 21.7 inches of rainfall per year. That number is forecast to increase to about 24.2 inches by the end of the century (Cal-Adapt 2019c).

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.

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.

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 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).

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.

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.

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.

Greenhouse Gas Types

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, methane, nitrous oxide, and chlorofluorocarbons.

The contribution of these GHGs to global warming based on the U.S. inventory of GHGs in 2017 (United States Environmental Protection Agency 2019) is summarized in Table 9-1, Greenhouse Gas Types and Their Contribution to Global Warming.

Table 9-1 Greenhouse Gas Types and Their Contribution to Global Warming

Greenhouse Gas	Percent of all Greenhouse Gas	Typical Sources
Carbon Dioxide	81.6 percent	Combustion of fuels, solid waste, wood
Methane (CH_4)	10.2 percent	Fuel production/combustion, livestock, decay of organic materials
Nitrous Oxide (N_2O)	5.6 percent	Combustion of fuels, solid waste, agricultural/industrial processes
Chlorofluorocarbons (CFCs)	2.6 percent	Industrial processes

SOURCE: United States Environmental Protection Agency 2019
NOTE: Percentages reflect weighting for global warming potential

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. 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 9-2, Greenhouse Gas Global Warming Potentials presents a summary of the global warming potential of various GHGs.

Table 9-2 Greenhouse Gas 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 (+/- 3)	21
Nitrous Oxide N_2O	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC Tetrafluoromethane CF_4	50,000	6,500
PFC Hexafluoroethane C_2F_6	10,000	9,200
Sulfur Hexafluoride SF_6	3,200	23,900

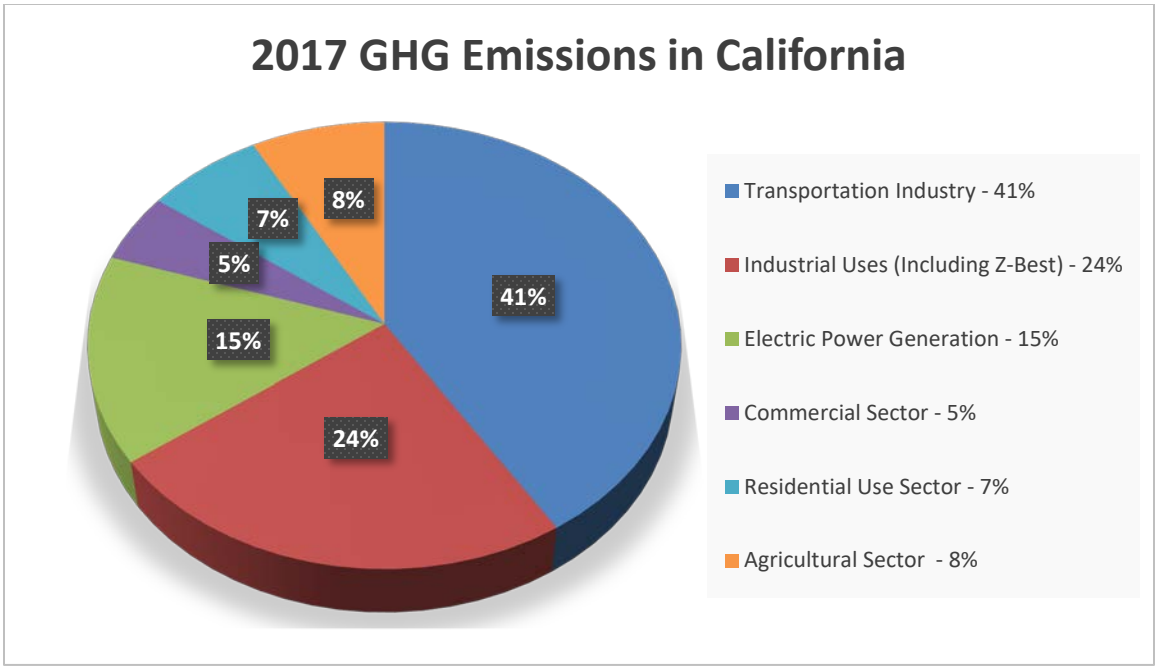
SOURCE: United Nations Framework Convention on Climate Change 2019

Methane has a global warming potential of 21 times that of carbon dioxide, and nitrous oxide has a global warming potential of 310 times that of CO_2. The families of chlorofluorocarbons, 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.

Inventories of Greenhouse Gases

California GHG Emissions Inventory

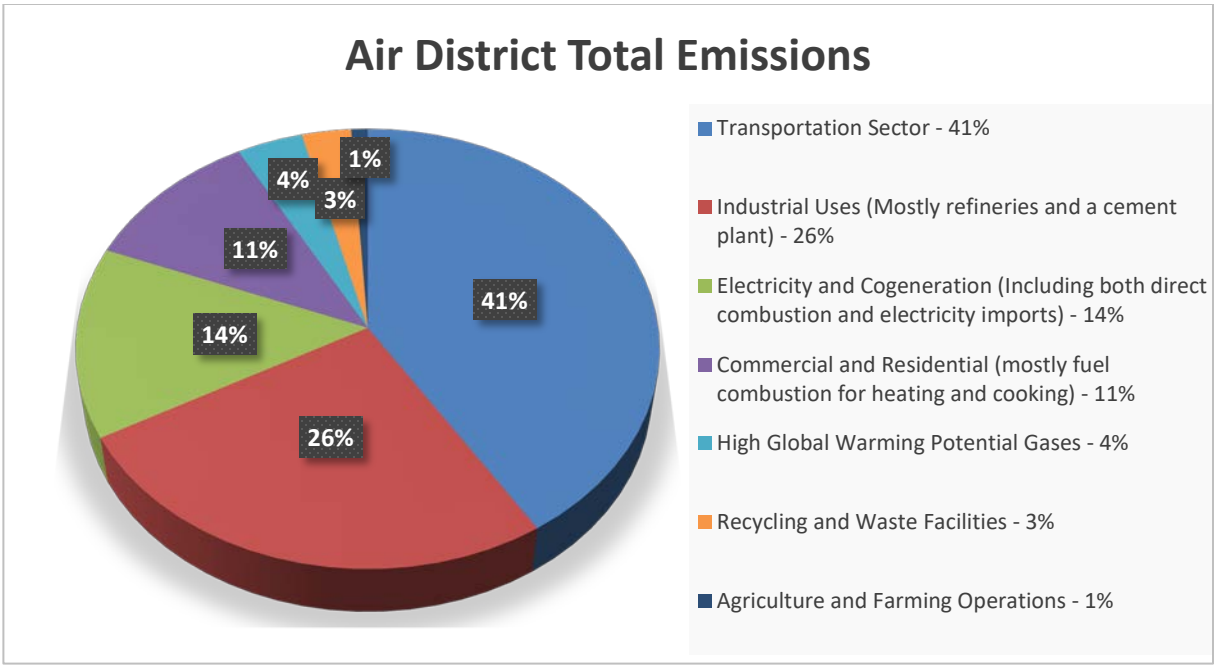
Based on the California Air Resources Board's most recent state GHG inventory, California generated approximately 424.1 million net metric tons (MMT) of CO_2e in 2017 (California Air Resources Board 2019). In 2017, the sources of GHG emissions in California and their contribution is presented in the following image.



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 the following image.



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.

9.2 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.

Federal

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.

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 California Air Resources Board (CARB), the EPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

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.

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 mile 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 2020, these standards were rolled back by the federal government. However, the change is expected to face legal challenges so the final disposition of the rollback is not certain.

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 March 28, 2017, President Trump signed the Energy Independence Executive Order that directs the Environmental Protection Agency to begin rolling back or eliminating the Clean Power Plan, including its provision requiring power plants to curb greenhouse gas emissions. As of June 1, 2020, the executive order was still being litigated.

State

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.

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 greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by the year 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the 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, the Governor directed several state agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued another Executive Order, B-30-15, which created a "new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing greenhouse gas 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 greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

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 Legislature 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 SB32, 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 greenhouse gases 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 greenhouse gas 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, half 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.

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.

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 greenhouse gas (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.

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 2013, the San Francisco Bay Metropolitan Transportation Commission and the Association of Bay Area Governments jointly approved Plan Bay Area, which includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan. Plan Bay Area includes a target of reducing GHGs to seven percent below 2005 emissions levels by 2020, and 15 percent below 2005 levels by 2035.

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. CARB proposes to implement the following GHG reduction strategies to meet the 2030 target:

- SB 350 - achieve 50 percent Renewables Portfolio Standard by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity by 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks;
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in greenhouse gas emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink. As of May 29, 2020, this plan is in a January 2019 draft form.

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 May 2018, the California Energy Commission adopted the 2019 BEES. The 2019 BEES went into effect on January 1, 2020. Residential and non-residential buildings permitted after January 1, 2020 are required to comply with the 2019 BEES. The 2019 BEES are structured to achieve the state's goal that all new low-rise residential buildings (single-family and multi-family homes) be zero net energy.

Non-residential buildings that conform to the 2019 BEES will use about 30 percent less energy compared to the 2016 BEES, mainly due to lighting upgrades (California Energy Commission 2018).

California Green Building Standards Code

The purpose of the California Green Building Standards 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 impact 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 California Green Building Standards, which were most recently updated in July 2019, instituted mandatory and voluntary environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and state-owned buildings, as well as schools and hospitals.

The mandatory standards require the following:

- Water conserving plumbing fixtures and fittings for indoor water use;
- 65 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low pollutant-emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- Tier I: on-site renewable energy generation, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, 90 percent resilient flooring systems, electric vehicle charging spaces, thermal insulation, and cool/solar reflective roof; and
- Tier II: on-site renewable energy generation, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 25 percent cement reduction, 100 percent resilient flooring systems, electric vehicle charging spaces, thermal insulation, and cool/solar reflective roof.

Regional/Local

Association of Bay Area Governments and Metropolitan Transportation Commission - Plan Bay Area

Plan Bay Area: Strategy for a Sustainable Region (Association of Bay Area Governments and Metropolitan Transportation Commission 2013) sets forth a strategy for developing the Bay Area's transportation infrastructure. *Plan Bay Area 2040: Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area 2017-2040* ("Plan Bay Area 2040") (Association of Bay Area Governments and Metropolitan Transportation Commission 2017) is the strategic update to *Plan Bay Area: Strategy for a Sustainable Region*, and it builds on earlier work to develop an efficient transportation network, provide more housing choices and grow in a financially and environmentally responsible way.

Plan Bay Area 2040 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 2040; and provide adequate housing by requiring the region to house 100 percent

of its projected population growth by income level. Plan Bay Area 2040 integrates land use strategies by establishing priority development areas, and identifying how the Bay Area can accommodate residential growth through 2040.

Bay Area Air Quality Management District Guidance

The BAAQMD is charged with managing air quality and greenhouse gas emissions within its boundaries. Regional guidance on GHG emissions is provided in the *2017 Bay Area Air Quality Management District CEQA Air Quality Guidelines* and *2017 Clean Air Plan: Spare the Air, Cool the Climate*. None of these guidance documents serve as a qualified climate action plan that could be used for evaluating the proposed project's GHG impacts.

CEQA Air Quality Guidelines

The BAAQMD has published comprehensive guidance on evaluating, determining significance of, and mitigating GHG impacts of projects and plans. The guidance is contained in the CEQA Air Quality Guidelines (Bay Area Air Quality Management District 2017b). The guidelines identify three thresholds of significance options for operational-related GHG emissions for land use development projects: 1) compliance with a qualified GHG reduction strategy; 2) annual emissions less than 1,100 metric tons per year (MT/year) of CO_2e; or 3) emissions below 4.6 MT CO_2e/service population/year (residents + employees). However, the thresholds are based on AB 32 GHG emission reduction goals for the year 2020. The BAAQMD thresholds do not address GHG emissions reduction needed after 2020 to keep statewide emissions on a path toward meeting the 2030 SB 32 emissions reduction target. Currently, the BAAQMD is in the process of updating its CEQA Guidelines, which will include thresholds of significance that can be used by lead agencies to determine significance with respect to the 2030 statewide GHG emissions target. However, the updated guidelines have not yet been adopted.

The 2017 BAAQMD CEQA Guidance (p. 4-5) states that biogenic CO_2 emissions should not be included in the quantification of GHG emissions for a project. Biogenic CO_2 emissions result from materials that are derived from living cells, as opposed to CO_2 emissions derived from fossil fuels, limestone and other materials that have been transformed by geological processes. Biogenic CO_2 contains carbon that is present in organic materials that include, but are not limited to, wood, paper, vegetable oils, animal fat, and food, animal and yard waste.

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 greenhouse gas 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.

9.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of GHG 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:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The County of Santa Clara has not adopted a Climate Action Plan or other qualified GHG reduction strategy. Therefore, the County relies on available guidance from the BAAQMD for conducting GHG analyses. The discussion below describes the threshold of significance for the proposed project.

Project Threshold of Significance

As presented earlier, the BAAQMD CEQA Air Quality Guidelines identify three thresholds of significance options for operational-related GHG emissions for land use development projects: 1) compliance with a qualified GHG reduction strategy; 2) annual emissions less than 1,100 metric tons per year (MT/year) of CO2e; or 3) emissions below 4.6 MT CO2e/service population/year (residents + employees). The first threshold is not applicable because, as noted above, the County has not adopted a qualified GHG reduction strategy. The third threshold of significance, which is based on service population, was primarily

developed by the BAAQMD for residential, office, or mixed-use projects in urban infill locations. The proposed project is an industrial use with a limited service population, and it is located in a rural unincorporated area. Therefore, this significance threshold does not apply. The second significance threshold, the annual emissions threshold of 1,100 metric tons per year (MT/year) of CO2e, would be applicable to this project. However, BAAQMD has not updated this mass emissions threshold to be consistent with the recently adopted SB 32 target of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030. The SB 32 emissions reduction target is applicable because the proposed improvements are not anticipated to be constructed and operational until after 2020. In the absence of an updated mass emissions threshold consistent with the targets established by SB 32, the County considers any net increase in GHG emissions to be potentially significant.

9.4 Analysis, Impacts, and Mitigation Measures

Analysis and Impact 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. 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 2020) as an input to its modeling. On-site operational emissions from electricity demand were calculated by EMC Planning Group.

The composting process can emit GHGs such as methane. However, composting of MSW more than offsets the greater methane emissions that would occur if these wastes were disposed of in landfills. As discussed in the Regulatory Setting, the 2017 BAAQMD CEQA Guidance (p. 4-5) states that biogenic CO_2 emissions should not be included in the quantification of GHG emissions for a project. In addition, a note in Table 4-2 (Guidance for Estimating a Project's Operations GHG Emissions) of the BAAQMD guidelines states that biogenic CO_2 emissions should not be included in the quantification of GHG emissions for a project. Therefore, emissions related to the upgrade of the composting system from CTS to ECS technology are not included in this GHG evaluation.

Project GHG Emissions Inventory

IMPACT 9-1	Proposed Project Would Generate Greenhouse Gas Emissions	Significant and Unavoidable

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 and applicable regulatory requirements. Because the resulting net emissions exceed the threshold of significance, mitigation is identified to reduce emissions to below the threshold of significance, which is any net increase in GHG emissions. GHG emissions sources and reductions are summarized below and included in a table that follows the emissions inventory discussion.

Construction GHG Emissions Volume

Table 3, Construction Emissions, of the *Emissions from Proposed Changes to Z-Best Facility in Gilroy, California* report (hereinafter "emissions report") prepared by SCS Engineers includes an estimate that construction-related GHG emissions total 747.37 MT CO_2e. SCS utilized the California Emissions Estimator Model to estimate construction emissions using construction equipment types and construction phase durations as inputs to the model. Construction information can be found in Table 4-3, On-Site and Off-Site Improvements Construction Information. EMC Planning Group reviewed the emissions report and found it to have been prepared consistent with accepted methodologies and standards. The emissions report is included in Appendix B. The BAAQMD recommends amortizing the construction GHG emissions over a 30-year time period to yield an annual emissions volume. The 30-year annual amortized emissions equal 24.91 MT CO_2e per year. The annual amortized volume is added to the annual operational emissions volume (described below) with the sum equal to the project's total annual emissions volume.

Unmitigated Operational GHG Emissions Volume

GHG Emissions from On-Road Sources

Table 5 of the emissions report includes an estimate of GHG emissions from on-road vehicles (employee vehicles and hauling trucks) under existing conditions and under peak day operations conditions. SCS utilized the Emissions Factor Model (EMFAC) for estimating emissions. As noted previously, SCS utilized vehicle miles traveled information provided by Hexagon Transportation Consultant as an input to the EMFAC model, which translates vehicle miles traveled into criteria air pollutant and GHG emission created by combusting vehicle fuel.

Under existing conditions, an estimated 24,700 pounds per day of GHG emissions are generated from on-road vehicles (1,870 pounds per day for non-truck vehicles and 22,821 for trucks as shown in Table 4 of the SCS emissions report). This equates to 4,090 MT CO_2e per year using a conversion factor of one MT = 2,204 pounds.

Peak day GHG emissions are the sum of the employee emissions (2,478 pounds per day) plus truck (peak day) emissions (60,711 pounds per day) lines under the Post-Project heading in Table 5 of the emissions report. Total peak day emissions equal 63,189 pounds per day (23,063,985 pounds per year), or 10,462 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 peak day operations conditions, or 6,372MT CO_2e per year.

GHG Emissions from Change in Energy Demand

As discussed above, GHG emissions that might occur from the composting process itself were not included in the evaluation per guidance from the BAAQMD. Therefore, the only on-site operational emissions source evaluated was 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. Engineered Compost Systems provided a comparison of the power use by the existing CTI technology and the proposed ECS technology. This information is included in Appendix D. This information is used to quantify the change in emissions.

Existing CTI process power consumption is estimated to be 461 MWh per year. Information obtained from the utility provider, Pacific Gas and Electric, was used to estimate GHG emissions produced per unit of energy consumed. Per Pacific Gas and Electric's *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*, 0.131 MT CO_2e would be produced for each MWh of electricity generated by the utility in 2020. Applying this factor to the existing electricity demand yields a GHG emissions volume of approximately 60.39 MT CO_2e per year. Power consumption for the proposed ECS technology is estimated at 6,100 MWh per year. Applying 0.131 MT CO_2e per MWh of electricity factor yields a GHG emissions volume of approximately 799.10 MT CO_2e per year. The net emissions attributable to the proposed project are the difference between the CTI and ECS volumes, or an increase of 738.71 MT CO_2e per year.

Summary of Project GHG Emissions

Table 9-3, Project Greenhouse Gas Emissions Summary, presents the project-based GHG emissions. Table 9-3 includes regulatory emissions reductions that are discussed and quantified in the next section.

The GHG emissions of the proposed project would be a significant impact, and therefore feasible mitigation measures are required.

The methodology applied to determine project emissions does not account for the GHG reductions from the proposed project. The first reduction results from diverting additional MSW from landfills.

Table 9-3 Project Greenhouse Emissions Summary

Emission Source	Annual GHG Emissions-MT CO_2e
Amortized Construction	24.91
Net On-Road Emissions	6,372.00
Net Non-Mobile On-Site Emissions	738.71
Regulatory Reductions	<3,187.78>
Net Annual GHG Emissions	3,947.84
Threshold of Significance	0
Project Emissions Exceed Threshold?	Yes

SOURCE: EMC Planning Group 2020
NOTES: <Brackets> indicate deductions.

The proposed project would enable Z-Best to compost up to 875 tons per day more MSW than is possible under existing conditions. That increment of waste would likely be disposed of in a landfill. In a landfill, organic waste decomposes anaerobically, resulting in the formation of methane. Methane has a global warming potential of 21 times that of carbon dioxide. If a landfill does not utilize a landfill (methane) gas capture system, methane may escape to the atmosphere. Therefore, the proposed project may help to avoid GHG emissions that might otherwise contribute to global warming.

The second GHG reduction would result from the use of a composting technology that produces a lower volume of GHG emissions per ton of feedstock than the current CTI technology. As discussed in Section 4.0, Project Description, the proposed ECS composting process would facilitate more complete aerobic decomposition of compost feedstock than does the existing CTI composting process. As a result, the ECS process would generate less methane per unit of compost produced. Methane is a powerful GHG gas. Consequently, the proposed ECS technology would produce a significantly lower volume of GHG emissions than the existing CTI technology per unit of compost produced.

Because it is not feasible to accurately quantify GHG reductions from diverting MSW from landfills and avoiding GHG (methane) emissions through more complete compost aeration, these benefits are not factored into the project GHG emissions inventory. These potential GHG emissions reductions are discussed for informational purposes only.

Regulatory Emissions Reductions

GHG emissions reductions will result statewide from the state's implementation of legislation and regulations summarized in the Regulatory Setting section above. These reductions are beyond the control of the applicant, but future GHG emissions from operation of the proposed project would be reduced as a result of their implementation.

Applicable legislation and regulations, the GHG sectors to which they are applicable, and the percentage reduction in GHG emissions that can be taken from the relevant sector are identified in Table 9-4, Legislative and Regulatory Emissions Reductions.

Table 9-4 Legislative and Regulatory Emissions Reductions

Legislation/Regulation	Emissions Sector	Percent Reduction
Renewable Portfolio Standards	Energy/Water	60 percent in 2030[1]
Advanced Clean Cars	Mobile	34 percent by 2025[2]
Low Carbon Fuel Standards	Mobile	18 percent by 2030[3]

SOURCE: SB 100, Advanced Clean Cars Program, and 2017 Scoping Plan.
NOTES:
1. With the signing of SB 100 on September 10, 2018, the state's target for procuring energy from renewable sources increased to 60 percent in 2030.
2. The fleet of vehicles to be used by the proposed project would likely be comprised of cars/light duty trucks and haul trucks. The Advanced Clean Cars program applies to cars and light trucks only. Therefore, the 34 percent Advanced Clean Cars reduction is applicable only to the car and light truck emissions volumes.
3. The 2017 Scoping Plan requires carbon intensity of transportation fuels to be reduced by at least 18 percent by 2030.

Table 9-5, Annual Greenhouse Gas Emissions Reductions from Legislative and Regulatory Actions, shows reductions that accrue when the legislative and regulatory reductions shown in Table 9-5 are applied to the on-road and on-site GHG emissions from the project. The emissions reductions shown in Table 9-5 are included in the summary of project emissions included in Table 9-3.

Table 9-5 Annual Greenhouse Gas Emissions Reductions from Legislative and Regulatory Actions

Legislation/Regulation	Emissions Sector	Percent Reduction	Operational Emissions[1]	Reduction Volume[1]
Renewable Portfolio Standard	Energy	60 percent in 2030	738.71[2]	443.23
Advanced Clean Cars	Mobile	34 percent by 2025	599[3]	203.66
Low Carbon Fuel Standards	Mobile	18 percent by 2030	14,116.06[4]	2,540.89
Total GHG Emissions Reduction Volume				3,187.78

SOURCE: SCS Engineers 2019, Engineered Compost Systems 2019, EMC Planning Group 2020
NOTES:
1. Expressed in MT CO2e per year.
2. Net increase in electricity emissions from switching to ECS from CTI technology.
3. Net increase in passenger and light truck mobile source emissions.
4. Net increase in total mobile source emissions.

Impact Conclusion

The proposed project would generate GHG emissions directly from mobile sources (employee vehicles and truck trips) and indirectly from consumption of electricity produced off-site from fossil fuels. Based on Table 9-3, GHG emissions would total 3,947.84 MT CO_2e per year. As BAAQMD has not updated its mass emissions threshold be consistent with current statewide reduction targets, the County has determined that any net increase in GHG emissions from a project are potentially significant, and mitigation is required.

Emission Source	Annual GHG Emissions-MT CO_2e
Amortized Construction	24.91
Net On-Road Emissions	6,372.00
Net Non-Mobile On-Site Emissions	738.71
Regulatory Reductions	<3,187.78>
Net Annual GHG Emissions	3,947.84
Threshold of Significance	0
Project Emissions Exceed Threshold?	Yes

Potential Mitigation Measures

The following three potentially feasible mitigation measures could offset the project's annual GHG emissions. The first is to implement on-site GHG reduction measures. Given that on-road truck travel is the dominant source of emissions and that the state regulates significant aspects of on-road vehicles that result in GHG emissions (e.g. fuel type/carbon content, fuel efficiency, etc.), the applicant has no discretion for reducing associated mobile source emissions. Issues related to applicant capacity to reduce employee vehicle miles traveled, which could result in reduced GHG emissions, are discussed in Section 12.0, Transportation.

The applicant does have control over on-site energy consumption. However, feasible on-site reduction measures are likely to be limited to those that reduce energy use associated with the ECS system, if possible, or provide for renewable energy generation (e.g. solar voltaic systems) to replace grid-supplied electricity. The applicant has not proposed renewable generation on the project site, and all of the project site is already used for composting operations or storm water detention.

A second type of mitigation is to participate in valid off-site GHG emissions reduction projects or programs, preferably being implemented within the air basin. Representative program types may include energy efficiency retrofit programs or engine replacement/retrofit programs managed by the BAAQMD or other entities. Collaboration with such agencies might also be possible to identify new opportunities to fund GHG reduction measures or programs, the GHG reductions from which would need to be verified

by the participating agency. The County has not identified specific local or regional programs that are currently available; therefore, this type of mitigation is currently not feasible. However, such programs may become available during the life of the project.

A third type of mitigation is to purchase carbon off-sets that are certified through a recognized source such as the Climate Action Reserve. Carbon off-sets are a commodity created by classes of projects that reduce GHG emissions that otherwise would contribute to global warming. Examples include, but are not limited to, renewable energy production, carbon sequestration, carbon capture, etc. The carbon reductions created by such projects can be verified through a third-party organization such as the Climate Action Registry based on established emissions reduction protocols. The reductions created can then be made available for purchase by third parties, such as project developers whose projects are demonstrated through the CEQA process to increase GHG emissions. A project developer may purchase the emission reductions to off-set the balance of the emission volumes created by the subject project that exceed the threshold of significance so that the project impact is reduced to less than significant. At an applicant's discretion, additional emission reductions can be purchased that reduce project emissions to zero, such that the project may be found to have no GHG impact. In either case, evidence of an executed off-set purchase contract is required prior to the County issuing a grading permit.

Because no feasible, quantifiable on-site reduction measures or off-site reduction programs have been identified, mitigation measure 9-1 includes only the third mitigation option summarized above for reducing GHG emissions to below the threshold of significance. Implementation of the following mitigation measure would reduce the significant impact to a less-than-significant level.

Mitigation Measure

9-1 Prior to issuance of a grading permit, the project applicant shall demonstrate that a contract has been executed to purchase an amount of carbon off-sets sufficient to completely offset project GHG emissions of 3,947.84 MT CO_2e per year. The project applicant shall provide evidence to the satisfaction of the County of Santa Clara Planning and Development Department Director and/or Director designee evidence that an enforceable contract for purchase of carbon off-sets has been executed through a credible carbon off-set registry such as the Climate Action Reserve, certified carbon off-set project developer, or a carbon off-set broker.

Implementation of mitigation measure 9-1 would reduce GHG emissions from the proposed project, and this would be verified through the County's review and verification of a contract for purchase of carbon off-sets. However, given uncertainty over whether GHG reductions through current offset programs are reliable and verifiable, it cannot be guaranteed that project emissions would be completely offset by implementation of mitigation measure 9-1. Therefore, the impact would remain significant and unavoidable.

GHG Reduction Plans

IMPACT 9-2	Proposed Project Conflicts with the Applicable Plan to Reduce Greenhouse Gas Emissions	Significant and Unavoidable

As discussed in the Regulatory Setting section above, to date, neither the County of Santa Clara, nor any regional agency has prepared a qualified climate action plan or a GHG reduction plan that is applicable to the proposed project. Absent other local or regional plans for reducing GHGs, state legislative guidance included in SB 32 is considered to be the plan for reducing GHGs that is applicable to the proposed project.

As previously noted, because the BAAQMD mass emissions threshold has not been updated to address SB 32, the applicable threshold of significance for the proposed project is any increase in GHG emissions. Mitigation measure 9-1 has been identified to offset project emissions. However, given uncertainty over whether GHG reductions through current offset programs are reliable and verifiable, it cannot be guaranteed that project emissions would be completely offset. Therefore, the proposed project could impede attainment of the SB 32 statewide emissions reduction goal for 2030 even with implementation of mitigation measure 9-1. Therefore, this impact would be significant and unavoidable.

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10.0
Hydrology and Water Quality

The proposed project would modify hydrologic conditions within a portion of the site, with the result that significant impacts on hydrology and water quality could occur. This section of the EIR describes how the proposed project would modify existing conditions and describes features of the project designed to accommodate those changes. Because composting operations have the potential to degrade water quality, they are specifically regulated by the State Water Quality Control Board. The regulations include standards for how such facilities, including Z-Best, are required to operate to minimize their potential to impact water quality. Required compliance with the standards is the fundamental mechanism by which potential water quality impacts of the project are reduced.

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

- *Technical Report Z-Best Composting Facility* (Golder Associates, Inc., July 2016; revised October 2016);
- State Water Resources Control Board. 2015. *General Waste Discharge Requirements for Composting Operations - Order No. WQ 2015-0121-DWQ*;
- *Floodplain Impact Analysis for Z-Best Compost Facility Expansion near Gilroy*, (Schaaf & Wheeler 2017);
- *No Net Fill/No Rise Certification* (Schaaf & Wheeler 2018); and
- *Peer Review of Select Hydrology and Water Quality Technical Analyses* (Tetra Tech 2020)

Several technical inputs from the applicant were utilized in assessing hydrology and flood hazard impacts of the proposed project. Key information from those inputs were peer reviewed by Tetra Tech (2020) to verify the accuracy and validity of the applicant's inputs. Tetra Tech's peer review, as well as the two floodplain effects technical reports from Schaaf & Wheeler are included in Appendix E.

One NOP comment addressed a hydrology issue. Jason Retterer, an attorney representing landowners who use adjacent land for agricultural production, raised concerns about project effects on adjacent land from potential contribution of pathogens to groundwater.

10.1 ENVIRONMENTAL SETTING

Existing Composting Operations Storm Water System Improvements/Management

The dominant sources of groundwater and/or surface water quality degradation related to composting operations are from leachate generated during composting operations and storm conveyance of that leachate to groundwater via percolation and/or surface waters via storm water runoff. The proposed project includes installing new storm water collection, conveyance and detention facilities and replacing the existing method of composting municipal solid waste (MSW). Both factors are significant in evaluating potential water quality impacts of the project.

Area 1 and Detention Basin #1

Drainage conditions within Area 1 are a direct result of site modifications and facility improvements constructed to ensure that Z-Best's operations conformed to State Water Quality Control Board (SWRCB) requirements in effect at the time those improvements were made. Z-Best is currently regulated by the County under the existing facility use permit, by General Waste Discharge Requirements for Composting Operations contained in Order No. WQ 2015-0121-DWQ ("Composting General Order"), adopted on August 4, 2015 by the State Water Quality Control Board, and by SWFP No. 43-AA-0015, issued by the Santa Clara County Department of Environmental Health, acting as the local enforcement agency (LEA). The Composting General Order sets standards for the construction, operation, and maintenance of composting facilities to protect surface water and groundwater.

Existing CTI composting operations within Area 1 are conducted on an earth pad that has been engineered to reduce its permeability consistent with Composting General Order requirements. The purpose is to minimize potential for storm water from percolating to groundwater. Storm water that runs off from Area 1 encounters leachate produced in the CTI composting process. Leachate is high in biochemical oxygen demand (BOD), an indicator of water quality degradation associated with high concentrations of organic matter and nutrients. Avoiding its percolation to groundwater or conveyance to surface water is important for avoiding water quality impacts. Storm water runoff is collected in a series of surface ditches. The ditches are also engineered to minimize potential for storm water to percolate into the soil and ultimately to groundwater. 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 designed to contain storm water runoff from Area 1 during a 100-year, 24-hour storm event, consistent with the SWQCB regulations that were in place at the time it was constructed. The bottom and sides of the basin are engineered to reduce their permeability and potential that leachate delivered to the basin can percolate to and degrade groundwater quality. The basin is managed to maintain a minimum of two feet of freeboard

and the outlet pipe is capped to prevent releases. Under RWQCB requirements, Z-Best is not permitted to discharge storm water to any receiving water body. 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 has been no discharge of storm water from the Z-Best site in more than 10 years. Detention basin #1 is dredged each year to remove sediment. The sediment is organic matter. Sediment removed from the basins is introduced into new windrows and composted (Golder Associates 2016).

Surface Water Quality

Storm water runoff 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.

The project site is located within the Pajaro River basin. 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 our 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 and may degrade irrigation water quality for sensitive crops. Nutrient pollution can also result in a cascade of 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 Regional Water Quality Control Board 2016).

Pajaro River water quality is also impaired due to a range of other pollutants including boron, chlordane, chloride, dieldrin, e. coli, fecal coliform, low dissolved oxygen and nutrients. Agriculture is the primary source of many of these pollutants (Pajaro River Watershed Integrated Regional Water Management Program 2014).

Flood Hazard Conditions

Portions of the Pajaro River watershed are flood-prone. Most areas with flood potential are located on the main valley floor and in the baylands. Urban development creates new impervious surfaces that result in increased storm water runoff, thereby increasing the potential for flooding. The most extensive flooding problems occur in south county. The Santa Clara Valley Water District (SCVWD) 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. 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 hazard Zone A. Zone A depicts areas where the base flood elevation has not been determined but have a one-percent annual chance of flooding. Areas within Zone A are subject to the County's flood management regulations as described in the Regulatory Setting section below.

A significant portion of Area 2 located outside the finished compost storage area shown on Figure 3-3, Existing Site Operations, is dedicated to flood water storage. 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.

10.2 REGULATORY SETTING

Federal

Federal Emergency Management Agency Flood Insurance Program

The Federal Emergency Management Agency (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.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 established the State Water Quality Control Board and the nine Regional Water Quality Control Boards. The SWRCB and the

nine Regional Water Quality Control Boards (RWQCB) are responsible for assuring implementation and compliance with the provisions of the Clean Water Act and the Porter-Cologne Water Quality Control Act. The regional boards set water quality standards, issue waste discharge requirements, determine compliance with those requirements, and take enforcement action. The RWQCBs also administer the National Pollutant Discharge Elimination System (NPDES) permit program for storm water and construction site runoff. The NPDES program 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 Regional Water Quality Control Board - Central Coast (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 Clean Water 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.

Composting General Order and Related Hydrology Water Quality Requirements

The existing Z-Best facility is required to comply with Clean Water Act requirements as promulgated by the SWQCB. The existing facility had most recently been operating under the SWQCB's General Permit for Storm Water Discharges Associated with Industrial Activities, Order No. CAS00001. However, in 2015, the SWQCB adopted the General Waste Discharge Requirements for Composting Operations, Order WQ 2015-0121-DWQ (Composting General Order), which is specific to regulating water quality associated with activities of composting operations (California State Water Quality Control Board 2015). The Composting General Order is a NPDES General Permit adopted in compliance with Section 402 of the Federal Clean Water Act. Prior to the Composting General Order, composting facilities were either not regulated by the RWQCBs or 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 a 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 (design, operations, and maintenance of storm water control systems, including 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 general information, such as 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 compliance schedule. The compliance schedule, which applies to existing facilities, sets out 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 RWQCB in August 2016. The technical report was revised based on RWQCB review comments and resubmitted in October 2016 (Golder Associates 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 being evaluated in this EIR,
Z-Best would be required to prepare an updated technical report which demonstrates how Z-Best is complying with the Composting General Order.

As stated in Finding 33 of the Composting General Order, compliance with design specifications and associated performance requirements included in the Composting General Order is determined to be protective of water quality. Provided the proposed project complies with the performance criteria and requirements in the Composting General Order, it would be considered to have a less-than-significant impact on water quality.

Regional/Local

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 Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. The Regional Board implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally delegated National Pollutant Discharge Elimination System (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 Regional Water Quality Control Board 2019).

Santa Clara County – NPDES Permit Requirements

Dischargers in the portion of South Santa Clara County that drains to the Pajaro River-Monterey Bay watershed, which includes the Z-Best facility site, as well as the cities of Gilroy and Morgan Hill, are traditionally permitted under the State's Phase II Small MS4 General Permit ("Phase II Permit"). This permit and the requirements of Permittees included under the permit are intended to implement 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 conditions is provided below.

Construction Water Quality Control Requirements

Construction phase storm water quality is managed by implementing a storm water pollution prevention plan (SWPPP) that must be prepared by individual project developers and reviewed by the County for conformity with required content and measures. The plan commonly includes erosion and sediment 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.

Post-Construction Water Quality Control Requirements

The Central Coast Post-Construction Requirements per Provision E.12.k of the Phase II Permit apply to the proposed project. These requirements are triggered under several different circumstances, one of which is when a road project creates more than 2,500 square feet of new impervious surface in the process of constructing a new roadway on a previously undeveloped land. As noted in the project description in Section 4.0, the applicant is

proposing to construct improvements to SR 25 and a new entrance to the facility. These improvements would create significantly more than 2,500 square feet of new impervious surface. These activities trigger the need for Z-Best to comply with the post-construction water quality control requirements. While Z-Best would also replace existing impervious surface on which the existing CTI process occurs and proposed ECS process would occur, water quality measures required through the Composting General Order regulations described above apply to that change.

Projects subject to post-construction requirements, such as Z-Best, must implement water quality controls that are permanent features of a new development 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 by preparing a storm water control plan. That plan is subject to review and approval of the County. Such measures are to be integrated into the design of the project such that they become part of the project description (County of Santa Clara 2015).

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 operations to reduce surface water quality impacts. A project applicant must submit an application for a grading permit. The primary purpose of the application is for the applicant to define measures that would be taken during the construction process to minimize potential erosion of exposed soils and slopes during rainfall events. Sediment carried in storm water from construction sites has potential to degrade water quality in surface into which such storm water is ultimately conveyed.

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. The Santa Clara Valley Water District (SCVWD), 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 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.

The proposed project has potential to affect water quality within the Pajaro River and to affect flood hazards related to the Pajaro River. Thus, it is important that strategies contained in the Plan related to water quality and flooding are considered and implemented as part of the proposed project. The Plan strategies most directly related to the proposed project include: pollution prevention, urban runoff management, sediment management, land use planning and flood risk management.

Santa Clara County Flood Management Ordinance

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 regulations implement FEMA flood insurance program requirements. 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 Flood 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.

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. One of the key requirements is that placing earth or other fill within the floodplain to enable construction of improvements at an elevation above the flood level, is not permitted if it raises the base flood elevation. Doing so may otherwise increase flood hazards by increasing the height of flood waters relative to the pre-fill condition. If a rise in base flood elevation would occur, additional flood storage capacity must be provided in an amount to avoid raising the based flood elevation.

10.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of hydrology and water quality 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:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off site;
    - 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
    - Impede or redirect flood flows.
- In a flood hazard zone, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan.

CEQA Checklist questions regarding the use of groundwater are addressed in Section 13.0, Water.

10.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Analysis Methodology

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.

The applicant's studies were peer reviewed by Tetra Tech, under contract to EMC Planning Group. The associated applicant studies and peer review are found in Appendix E. The Composting General Order is the applicable water quality control regulatory framework to which composting projects must comply. Project consistency with the regulations is evaluated. The regulation is described in the Regulatory Setting section.

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 applicant's plans for the improvements and on review of applicable water quality regulations included in NPDES requirements contained in the Permit for Discharges of Storm Water Associated with Construction Activities and in regulatory requirements in Provision E.12.k of the Phase II Small MS4 General Permit that apply in south Santa Clara County. Both regulations are described in the Regulatory Setting section.

Analysis of 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. The Z-Best site is within a 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 two floodplain studies prepared by the applicant, which were peer reviewed by Tetra Tech under contract to EMC Planning Group.

Analysis of Storm Water Runoff Increase Associated with SR 25 and New Site Access Improvements

The proposed circulation improvements would result in an increase in impervious surfaces with the result that storm water runoff would increase. The effects of this change are evaluated based on review of the applicant's plans for these improvements and on the post-construction water quality control requirements contained in the County's Central Coast Post-Construction Requirements per Provision E.12.k of its Phase II Small MS4 General Permit, which includes hydromodification performance standards.

Water Quality Control Plan Consistency Analysis

The *Water Quality Control Plan for the Central Coastal Basin* (Central Coast Regional Water Quality Control Board 2019) is the applicable water quality control plan. The Basin Plan was reviewed to identify provisions to which land development projects must conform to be consistent with the Basin Plan. Requirements of the project that would assure conformance to the Basin Plan are then discussed.

Surface and Groundwater Quality-Composting Operations

IMPACT 10-1	The Proposed Composting Operations Would Not Violate Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Groundwater Quality	Less than Significant

Change in Composting 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 the potential for proposed operations to produce contaminated composting process water and contaminated storm water runoff, then addresses the design aspects of the project that demonstrate its compliance with applicable performance standards in the Composting General Order.

Change in Storm Water Runoff Quality

Leachate Characteristics and Quantity

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 (6-8). These conditions facilitate efficient bio-oxidation of organic compounds and conversion of nitrogen and phosphorous 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 significantly 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).

Regarding the contribution of rainfall to leachate generation, in the CTI process, leachate produced from rain events runs off the impermeable plastic bags and into the existing storm water collection system. However, the surfaces under and around the CTI bags include 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 ECS system, several factors (drying/heating time, fan aeration, rainfall absorption, and shorter compost retention times) 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 would produce a lower volume of water collected as leachate during a rain event relative to the existing CTI process (Engineered Compost Systems, Email Communication with Valerie Negrete, Santa Clara County Planning Department, July 25, 2018).

As described below, the leachate water produced by the ECS system would continue to be collected and delivered to detention basin #1 as is the case with leachate water from the CTI process. The leachate water, as well as storm water, is a valuable resource to be captured and reused to maintain desired moisture levels during the composting process. The issue of water demand and supply for the proposed project is discussed in detail in Section 13.0, Water Supply.

ECS System Leachate Collection Features

The ECS system design is substantially more sophisticated in terms of leachate control and collection than is 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 best management practice 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 be 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 (Engineered Compost Systems, Email Communication with Valerie Negrete, Santa Clara County Planning Department, July 25, 2018).

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 not violating water quality standards, waste discharge requirements or otherwise degrading groundwater quality.

ECS System Pad Design – Storm Water Control for Water Quality Protection

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, and on which new ECS system improvements would be placed, by one foot to raise it above the base flood elevation. This is to limit the potential that the pad could be flooded during a design storm, 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 (Golder 2018). Refer back 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 – Water Quality Management

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 a 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.

The proposed storm water conveyance system improvements planned to convey runoff from the improved ECS pad to detention basin #1 were found to be adequate (Tetra Tech 2020). 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 over the raised basin berm.

Proposed Storm Water Detention Basin Improvements

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 that basin is not part of, and requires no modifications related to, the current proposed project.

Regarding detention basin design, the Composting General Order performance standards that now apply to Z-Best trigger the need for Z-Best to modify the design of detention basin #1 to meet more stringent water quality protection requirements. One of the key performance standards requires that a detention basin be capable of containing storm water from a more frequent, intense design storm (25-year, 24-hour storm) than existing detention basin #1 was designed to handle. The purpose is to prevent the detention pond from being inundated by flood water with the resultant release of retained storm water that is high in BOD.

To increase the capacity of the basin, Z-Best is planning to reduce the area of the basin, but then raise the height of the berm around the basin to provide the added capacity. Refer back to Figure 4-5, Detention Basin #1 Modifications, which shows these proposed changes to the facility. The new capacity standard further reduces the potential that a detention basin is overtopped during a flood event to avoid contaminated storm water/leachate polluting flood waters. The balance of the existing detention basin #1 area that would no longer be used for detention would be regraded and seeded with native vegetation; it would no longer be an active component of Z-Best's operations. The proposed holding capacity of the basin has been reviewed to ascertain whether it is sufficient to contain the volume of storm water that would be generated during the design storm. The volume is adequate (Tetra Tech 2020).

The Composting General Order also includes a performance standard regarding limiting infiltration of detained storm water to groundwater to protect groundwater quality. This standard can be met by using a pond liner that meets conductivity specifications. To meet the more stringent water quality requirements, Z-Best proposes to modify detention basin #1 to include a liner. The liner system would be similar to the liner installed in existing detention basin #2. Detention basin #2 was constructed with a liner system consisting of a 60-millimeter, high density polyethylene geomembrane underlain by a geosynthetic clay liner. That system meets the Composting General Order conductivity specifications (Golder 2018). The effect of lining the basin would have a beneficial effect on groundwater quality relative to existing conditions where existing detention basin #1 does not have a synthetic liner that meets the more stringent, current Composting General Order conductivity specifications.

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. 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.

In summary, water quality impacts of the proposed project would be less than significant for several reasons: 1) the proposed ECS system would provide improved leachate management relative to the existing CTI system; 2) proposed changes to the MSW composting pad would result in improved control of storm water; 3) detention pond #1 would be lined to reduce potential for ground water contamination from detained storm water that could contain leachate; and 4) all proposed composting process and site improvements must be designed to meet Composting General Order water quality performance standards. Therefore, the proposed project would have a less-than-significant impact regarding violating water quality standards, waste discharge requirements or degrading groundwater quality. No mitigation measures are required.

Surface and Groundwater Quality-Roadway Improvements

IMPACT 10-2	The Proposed SR 25 And Z-Best Entrance Improvements Would Not Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Groundwater Quality	Less than Significant

As described in the Off-Site Improvements subsection of Section 4.3, Project Description, Z-Best proposes to widen SR 25 along the project site frontage and to construct a new access road into the site that would replace the existing entrance. That description and Figure 4-6, Project Entrance/Driveway and SR 25 Improvements - Areas of Impact, show 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 impact 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.

Construction Phase

Soil disturbance associated with site preparation, grading and construction activities; delivery, handling and storage of construction materials and wastes; refueling; and parked construction equipment can result in spills of oil, grease, or related pollutants. Improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery also are potential sources of water pollution associated with construction activities. These activities have potential to cause water quality degradation if eroded soil or other pollutants are carried by storm water to surface water such as existing drainage channels along both sides of SR 25 that drain to the Pajaro River. Construction-phase water quality degradation

can damage aquatic ecosystem health, and deposition of sediment within surface water and surface water conveyance facilities can adversely modify their function while causing additional erosion that exacerbates water quality degradation. Construction of the SR 25/access road improvements would involve many, if not all, of these activities.

The applicant would be required to comply with the NPDES requirements as reflected in the Permit for Discharges of Storm Water Associated with Construction Activities described in the Regulatory section. This would involve preparing a storm water pollution prevention plan prior to beginning construction and implementing the SWPPP during construction. During construction, the applicant must also comply with the County's Grading Ordinance and its associated performance standards for preventing soil erosion and sedimentation. As a result, water quality impacts from construction-phase activities would be less than significant.

Post-Construction Phase

The proposed 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 though exposed soil back to 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.

Nevertheless, violation of the NPDES permit conditions contained Provision E.12.k of the Phase II Small MS4 General Permit that apply in south Santa Clara County could occur if water quality protection and hydromodification protection measures are not incorporated into the design of the SR 25 and new access road improvements. The post-construction design measures and the process for incorporating them into the project design are described

in the Regulatory Setting section above. Types of post-construction controls include low impact development (LID), water quality treatment, runoff retention and peak runoff management. An applicant must demonstrate how a project would comply with the requirements by preparing a storm water control plan. That plan is subject to review and approval of the County. This process and implementation of the required water quality control measures would ensure that water quality impacts from the SR 25 and process access improvements are less than significant.

Increase in Flood Hazard from Loss of Flood Storage Capacity

IMPACT 10-3	The Proposed ECS Improvements Would Not Alter the Existing Drainage Pattern within Area 1 in a Manner that Would Impede or Redirect Flood Flows	No Impact

As described in the Environmental Setting section above, the Z-Best facility is located within flood hazard zone "A" as defined by FEMA. Prior to installing the proposed ECS improvements, the existing pad on which the CTI composting process is conducted would be raised by one foot above the based flood elevation. Placing fill within a designated flood hazard area has potential to exacerbate existing flood hazard conditions by raising the base flood elevation.

To evaluate existing flood hazard conditions and to determine how impacts from placing fill within a flood hazard zone can be mitigated, two flood hazard analyses were conducted by the applicant. The first of these was the *Floodplain Impact Analysis for Z-Best Compost Facility Expansion near Gilroy* (Schaaf & Wheeler 2017). The second was the *No Net Fill/No Rise Certification* (Schaaf & Wheeler 2018), which was a supplement to the first analysis. Both reports, along with a peer review of the reports by Tetra Tech, are included in Appendix E

The proposed project includes an expansion of the existing flood storage area to compensate for the loss of flood storage that would result from raising the ECS pad above the base flood elevation. Refer back to Figure 4-1, Proposed Site Plan, for the location and dimensions of the proposed expansion area. It is located adjacent SR 25 at the north end of Area 2 of the Z-Best facility.

Schaaf & Wheeler determined the 100-year base flood elevation for the site to be 148.5 feet. Schaaf & Wheeler then prepared a hydraulic impact analysis assuming a final ECS pad elevation of 149 feet. The analysis shows that approximately 29-acre feet of flood storage capacity was necessary to offset the loss of flood storage capacity associated with the fill for raising the ECS compost pad. To provide a factor of safety, the proposed flood storage capacity was increased to 34-acre feet. Therefore, the proposed project would result in no net increase in flood elevation and no flood hazard impact would occur.

Flood Hazards from Surface Runoff Associated with SR 25 and New Site Access Improvements

IMPACT 10-4	The Proposed SR 25 And Z-Best Entrance Improvements Would Generate an Increase in Storm Water Runoff	Less than Significant

The proposed SR 25 and new entrance improvements would create new areas of impervious surfaces, that in turn would generate new sources of storm water runoff. Significant impacts from localized flooding could occur if the storm water runoff is not managed to reduce that potential.

The post-construction water quality control requirements contained in the County's Central Coast Post-Construction Requirements per Provision E.12.k of its Phase II Small MS4 General Permit include hydromodification performance standards. That is, qualifying projects, of which the proposed project is one, must implement storm water control measures that limit post-development runoff volume and rate of discharge to pre-development levels. As a result, relative to existing conditions, storm water from the new impervious surfaces would not increase the potential for localized flooding, as no change in flood hazard conditions would occur. Because the improvements would take place within a Caltrans ROW, Caltrans would review the roadway improvement plans and specifications as part of its Encroachment Permit process. Caltrans would ensure that the improvements comply with the post-construction performance standards. Therefore, the impact would be less than significant and no mitigation would be required.

Risk of Release of Pollutants Due to Detention Pond #1 Inundation

IMPACT 10-5	The Proposed Project Location within a Flood Hazard Zone Results in Risk of Release of Pollutants due to Flood Inundation	Less than Significant

Potential inundation of detention pond #1 during a flood event is the critical source of releasing pollutants to flood waters during a flood event. As described in the discussion under Impact 10-1 above, the Composting General Order performance standards that now apply to Z-Best trigger the need for Z-Best to modify the design of detention basin #1 to meet more stringent water quality protection requirements. One of the key performance standards requires that the detention basin be capable of containing storm water from a more frequent, intense design storm (25-year, 24-hour storm) than existing detention basin #1 was designed to handle. The purpose is to substantially reduce the potential that the detention pond would be inundated by flood water, with associated release of retained storm water containing leachate high in BOD to flood waters. Compliance with the Composting General Order would be assured by the LEA and State Water Quality Control Board. Therefore, this impact would be less than significant.

Consistency with Water Quality Control Plan

IMPACT 10-6	The Proposed Project is Consistent with the Water Quality Control Plan for the Central Coast Basin	No Impact

The proposed project has potential to adversely affect water quality in the Pajaro River. The Pajaro River is an impaired water body as defined by the RWQCB pursuant to the Clean Water Act and measures must be taken to protect/reduce its degradation.

The project site is located within the jurisdiction of the Central Coast Regional Water Quality Control Board, which implements the *Water Quality Control Plan for the Central Coastal Basin* (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 Regional Water Quality Control Board implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally delegated NPDES permits for discharges to surface water.

As previously described, the MSW composting component of the project must be designed and operated consistent with requirements contained in the Composting General Order. The Composting General Order is a Waste Discharge Requirement. Therefore, the composting component of the project would not conflict with the Basin Plan.

The construction and post-construction operations associated with proposed SR 25 and new site entrance improvements must implement water quality protection measures consistent with the County's NPDES requirements. Consequently, these components of the proposed project would not conflict with the Basin Plan.

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11.0
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 derived from a variety of sources including:

- *Santa Clara County General Plan, 1995-2010* (County of Santa Clara 1994);
- County of Santa Clara Ordinance Code, Title B- Regulations, Division B11, Environmental Health, Chapter VIII, Control of Noise and Vibrations;
- *Traffic Noise Analysis, Z-Best Products Facility Modification, Santa Clara County, California* (WJV Acoustics, Inc. December 3, 2019);
- *Noise Assessment Study for the Proposed Z-Best Products Food Waste Static Aeration Composting Facility Modification, 980 State Route 25, Santa Clara County* (Edward L. Pack Associates, Inc. Revised July 2019);
- *Noise Study Peer Review, Z-Best Products Facility Modification, Santa Clara County, California* (WJV Acoustics, Inc. August 2018); and
- *Response to the Peer Review Comments by WJV Acoustics, Noise Assessment Study for the Proposed Z-Best Products Food Waste State Aeration Composting Facility Modifications, Santa Clara County* (Edward L. Pack Associates, Inc. July 2019).

Information in this section of the EIR is taken primarily from the 2019 *Noise Assessment Study for the Proposed Z-Best Products Food Waste Static Aeration Composting Facility Modification, 980 State Route 25, Santa Clara County* (hereinafter "noise report") prepared by Edward L. Pack Associates and from the *Traffic Noise Analysis, Z-Best Products Facility Modification, Santa Clara County, California* (hereinafter "traffic noise analysis") prepared by WJV Acoustics. These two documents are included in in Appendix F. The 2019 noise report reflects modifications made to a prior draft of that document in response to a peer review of a prior 2018 draft conducted by WJV Acoustics. Edward L. Pack Associates prepared a response memo to the peer review which outlines revisions that are included in the 2019 noise report. These two documents are also included in Appendix F.

No noise related comments were received in response to the Notice of Preparation.

11.1 ENVIRONMENTAL SETTING

Acoustics Fundamentals, Effects of Noise on People, and Vibrational Noise

This general information is described in detail in the noise report. It is not specific to the proposed project, but rather is background information regarding how noise levels are measured, units and methodologies for measuring noise intensities and sound levels, when and how specific sound level measurement methodologies are applied and effects of noise on people. Refer to the noise report in Appendix F for more information. The noise sensitive use located closest to the location of on-site operations is a residence located approximately 750 feet to north. The residence is about 600 feet from the nearest SR 25 edge of pavement. Continuous recordings of sound levels were made from a location approximately 100 feet to the south of the residence. The noise measurement location and data summary are described in the noise report in Appendix and illustrated on Figure 11-1, Noise Measurement locations.

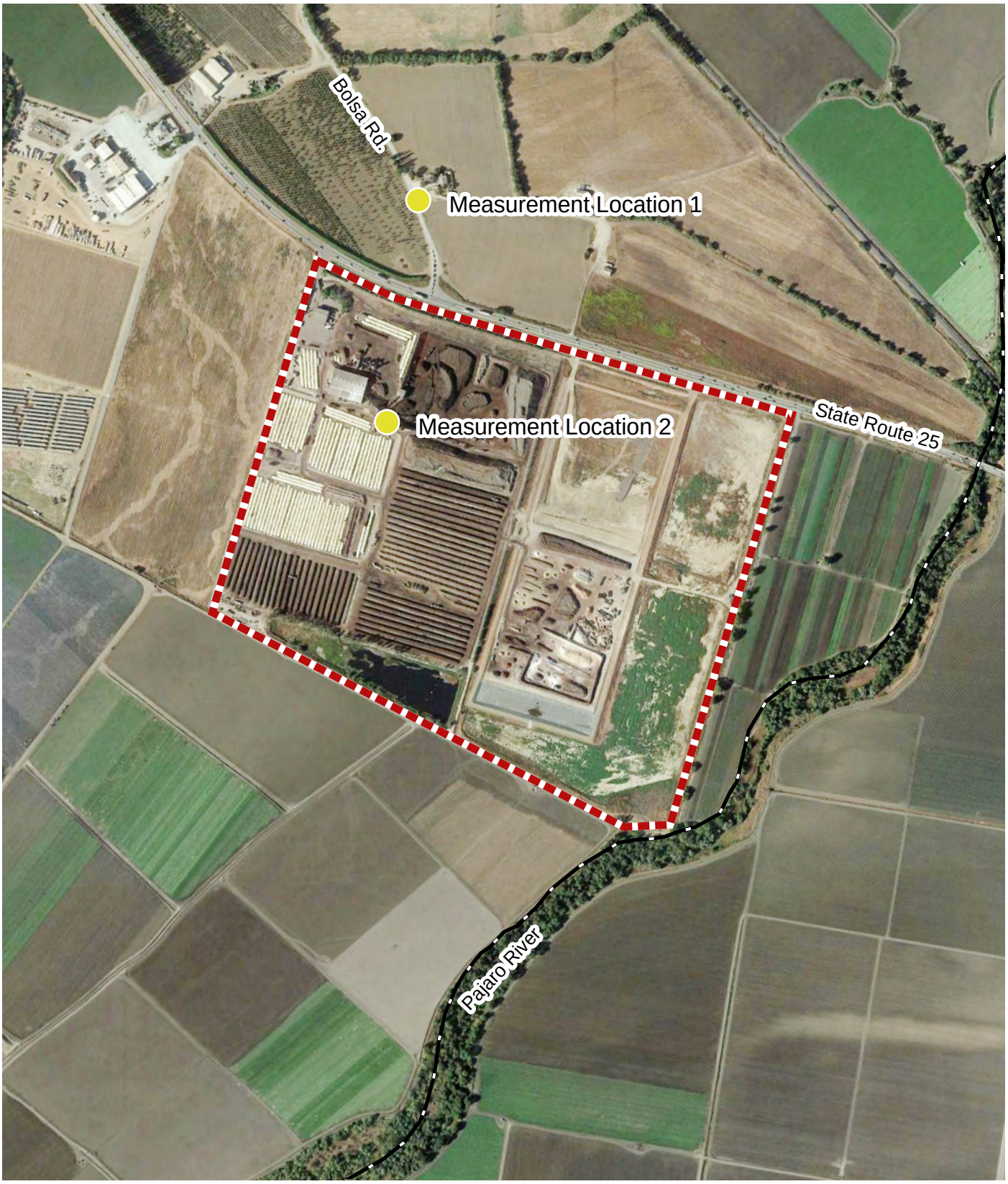
Existing Noise Conditions in the Vicinity of the Project Site

The noise environment at and in the vicinity of the site is most strongly influenced by vehicular traffic on SR 25. To define existing noise conditions near the project site that could be affected by the proposed project, noise measurements were taken at two locations shown on Figure 11-1. Existing conditions were measures to establish baseline existing noise conditions against which changes in noise levels from proposed on-site operations and increases in traffic volumes on SR 25 generated by the project can be compared. Changes in on-site operational noise and traffic-generated noise are relevant for their potential to affect any nearby noise sensitive receptors, particularly residences. Results of the noise measurements are summarized below.

Residential Receptor Location (Location 1)

Location and Surrounding Environment

The noise-sensitive use closest to noise-generating on-site operations is a residence located approximately 750 feet to north and is shown on Figure 11-1. The residence is approximately 600 feet from the nearest edge of pavement on SR 25. Continuous recordings of sound levels were made from a location approximately 140 feet closer to the Z-Best site than the residence. The noise measurement location and data summary are described in Appendix F.



Source: Google Earth 2018, Edward L. Pack Associates Inc. 2017

0 1,000 feet

Project Boundary

Figure 11-1

Noise Measurement Locations

Z-Best Composting Facility Modifications EIR

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Noise Measurement Results

The continuous equivalent-energy noise levels (L_{eq}) ranged from 58.5 to 65.2 dBA (A-weighted sound level) during the daytime and from 54.2 to 63.4 dBA at night. L_{eq} is generally considered the average sound level. The sound levels were produced primarily by traffic on SR 25, with the maximum sound levels due to traffic on Bolsa Road, as the sound meter was very close to the Bolsa Road right-of-way. The L_{eq} measurements were then converted to Day-Night Levels (DNL) descriptor. DNL accounts for human sensitivity to nighttime noise by "penalizing" nighttime noise levels by 10 dB. DNL (also sometimes referred to as "Ldn") is the descriptor commonly used by local agencies, including the County of Santa Clara, to identify acceptable noise exposure limits for various types of land uses, including noise-sensitive residential units. The existing noise exposure level at location 1 was 67 dB DNL.

Noise from existing Z-Best operations was generally inaudible at the receptor location. The only sound audible was an equipment backing beeper. It was not possible to measure the audible sound solely from the backing beeper at location 1 because the two times a backing beeper was heard were during traffic passbys on SR 25.. But the backing beeper was loud enough to be audible above the traffic noise. During periods of traffic lulls, the background sound levels at the measurement location ranged from 39-52 dBA, with the highest sound levels due to chirping birds.

Z-Best Facility (Location 2)

Location and Surrounding Environment

Location 2 was approximately 700 feet from SR 25 within the project site. This measurement location was near the center of Area 1 and surrounded by existing Z-Best operations activities that generate noise.

Noise Measurement Results

The noise exposure at location 2 ranged from 61.3 to 69.5 dBA L_{eq} during the daytime and from 62.9 to 69.3 dBA L_{eq} at night. These levels were used to determine that the ambient noise level at location 2 is 73 dB DNL.

The noise report also includes an analysis of projected noise levels at location 1 resulting from existing operations at Z-Best. The location 2 sound levels were used to make this determination and these sound levels were [insert simple explanation of how the noise analysis projected the noise level at location 1]. The noise level at location 1 from the existing Z-Best activities was calculated to be 48 dB DNL, below the 55 dB DNL threshold for exposure at noise-sensitive residential uses as described below in the Regulatory Setting section.

11.2 REGULATORY SETTING

County regulations and standards related to noise that are germane to the proposed project are summarized below.

County

Santa Clara County General Plan Noise Element

The Santa Clara County Noise Element includes noise compatibility standards for land use. The standards identify exterior noise levels for different types of land uses that are acceptable and above which more detailed analysis of potential noise impacts and mitigations are warranted. Given that concern about noise levels from the proposed project center on potential impacts to noise-sensitive residential uses located near the project site and along the SR 25 corridor, the residential use compatibility standard of 55 dBA DNL is applicable and is used as a threshold of significance as described below.

The Santa Clara County General Plan includes policies related to noise. Project consistency with the policies is described in Table 3-1, Policy Consistency Table in Section 3.0, Existing Setting.

Santa Clara County Noise Ordinance

The County Noise Ordinance establishes limits for short-term maximum noise at residential properties depending on the time of the day, the duration of the noise and noise type. These limits are reflected below Table 11-1, Santa Clara County Noise Ordinance Noise Limits. The Noise Ordinance limits are relevant to assessing potential impacts of construction noise.

Table 11-1 Santa Clara County Noise Ordinance Noise Limits

Duration of Noise	Daytime (7:00 A.M. – 10:00 P.M.)	Nighttime (10:00 P.M. – 7:00 A.M.)
30 min./hr. (L_{50})	55 dBA	45 dBA
15 min./hr. (L_{25})	60 dBA	50 dBA
5 min./hr. (L_{8})	65 dBA	55 dBA
1 min./hr. (L_{2})	70 dBA	60 dBA
Maximum (L_{max})	75 dBA	65 dBA

SOURCE: Santa Clara County Noise Ordinance
NOTE: The above noise limits are reduced by 5 dB if the noise contains a steady whine, screech, hum, music or speech, but are increased by 5 dB if the noise source and noise receptor are in different zoning districts.

11.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of noise 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. In addition to using the checklist questions, the County's General Plan Noise Element and Noise Ordinance do provide standards that are used as thresholds. For the purposes of this EIR, a significant impact would occur if implementation of the proposed project would result in:

- 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.

  The General Plan Noise Element includes noise compatibility standards that serve as thresholds of significance for assessing the significance of impacts of new development. For noise-sensitive residential uses, exterior noise exposure is considered to be a potentially significant impact if it exceeds 55 dB DNL (Ldn).

  Noise Ordinance values, which are used primarily for noise annoyance, are utilized for assessing the significance of temporary construction noise impacts.

- Generation of excessive groundborne vibration or groundborne noise levels.

  The Noise Element does not contain standards for vibration impacts. In-lieu of quantified standards from the County, Federal Transit Administration (FTA) guidance and recommendations for vibration exposure is utilized as to assess the significance of potential vibration impacts. FTA recommends that residential uses be exposed to no more than 80 vibration decibels (VdB).

  The County Noise Ordinance 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 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 Hz."

- 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?

Issues or Potential Impacts not Discussed Further

Proximity to Airports or Air Strips

The nearest facility is Frazer Lake Airpark, located approximately 2.34 miles east of the project site. Frasier Lake Airpark is a small, privately-owned airpark hosting classic antiques, 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. No further evaluation of this issue is required.

11.4 Analysis, Impacts, and Mitigation Measures

Analysis and Impact Methodology

On-Site Operations Analysis

Edward L. Pack Associates, under contract to the applicant, conducted an acoustical analysis of the proposed new operations. Edward L. Pack Associates utilized widely-accepted methodologies for evaluating stationary noise impacts. Methods are detailed in that report, which is included in Appendix F. WJV Acoustics conducted a peer review of that acoustical analysis. The peer review is also included in Appendix F.

Roadway Traffic Noise Analysis

WJV Acoustics, under contract to the County's consultant EMC Planning Group, conducted an analysis of project-related roadway traffic noise (WJV Acoustics 2019). The proposed project would result in an increase in truck and passenger (worker) trips along SR 25 between U.S Highway 101 to the west of the site and SR 152 to the east of the site. As a baseline from which to assess changes in noise levels on SR 25 from new project-generated vehicles, WJV Acoustics conducted an analysis of existing and peak day operations noise conditions when truck volumes would be highest. Caltrans traffic count data and truck volume percentages for SR 25 from 2016, the most recent year for which such data was available at the time the roadway traffic analysis was conducted, were used as inputs to the Federal Highway Administration Highway Traffic Noise Prediction Model, a standard analytical method used for roadway traffic noise calculations. Results are included the traffic noise analysis in Appendix F.

Because changes in traffic noise levels are of most concern at noise sensitive residences located along this segment of SR 25, noise levels at these residences were modeled. The closest residential receptor is located 80 feet from the roadway. This receptor is about 5.25 miles to the east of the project site, just east of the SR 25/Hudner Lane intersection, along the west side of the highway. The receptor location is shown in Figure 1 of the noise analysis as receptor 6. The modeled existing noise level was 65.6 dBA Ldn. The furthest residence at which noise was modeled is about 1,300 from the roadway. The existing noise level was modeled at 53.4 dB Ldn.

On-site Operational Noise Effects

IMPACT 11-1	On-Site Operational Ambient Noise Levels Would Not Result in a Permanent Substantial Increase in Excess of County Standards at the Nearest Sensitive Receptor	Less than Significant

The proposed project includes replacing the existing CTI composting technology with a new ECS technology. Major noise related changes include eliminating the existing CTI bagging and fan system and replacing it with a CASP aerated composting process. The new system replaces smaller CTI process fans with fewer, but larger fan systems. The ECS technology includes sump pumps for pumping leachate collected in the bottom of each CASP bunker. The sump pumps would be placed underground in an enclosed structure, with noise muffled by the enclosure, ground and MSW within each bunker. Consequently, sump pump noise is not expected to create significant noise levels near the source nor at off-site sensitive receptors. The rest of the equipment associated with MSW composting operations would largely remain the same. Hours of facility operation would also be extended, as the project includes an increase in total daily MSW volume intake that must be processed prior to composting. Noise associated with existing sorting, screening, loading and on-site transport operations would increase in duration.

Table 11-2, Existing and Projected Operational Noise at Closest Residential Receptor, shows the hourly average noise levels for on-site operations under existing and proposed conditions at the nearest residential receptor, which is the residence identified as location 1 on Figure 11-1. The values are based on measurements of existing equipment noise levels and noise levels associated with proposed new equipment (primarily fans providing aeration at the proposed CASP and eASP bunkers) projected at the receptor taking into account distance and any shielding effects from existing buildings and materials stockpiles. Total L_{eq} is tabulated using the full range of existing and proposed facility processes and activities.

The nearest sensitive receptor to the project site (location 1) is 750 feet to the north of the location of new operational noise sources within the project site. Permanent on-site operations are projected to increase the exterior noise level at this receptor by 4 dB Ldn to 52 dB Ldn. The Ldn increase is derived by adding 10 dB to every Leq value measured during

the hours of 10 PM to 7AM as shown in Table 11-2, then calculating the equivalent energy sound level of all 24 hourly Leq values shown in the table. The 52 dB DNL exterior noise exposure level is below the 55 dB Ldn noise compatibility threshold for residential uses identified in the Noise Element. Therefore, the proposed project operations would not increase noise to a level that exceeds the acceptable standard and the project impact would be less than significant.

Table 11-2 Existing and Projected Operational Noise at Closest Residential Receptor

Time	Existing Conditions (Total L_{eq})	Proposed Conditions (Total L_{eq})
7:00 AM	48	49
8:00 AM	48	49
9:00 AM	48	49
10:00 AM	48	49
11:00 AM	48	49
12:00 PM	44	49
1:00 PM	45	49
2:00 PM	45	49
3:00 PM	44	49
4:00 PM	44	49
5:00 PM	32	48
6:00 PM	39	44
7:00 PM	39	46
8:00 PM	39	44
9:00 PM	39	44
10:00 PM	39	46
11:00 PM	--	43
12:00 AM	39	44
1:00 AM	39	46
2:00 AM	39	44
3:00 AM	39	44
4:00 AM	39	46
5:00 AM	--	44
6:00 AM	48	49
DNL	48	52

SOURCE: Edward L. Pack Associates, Inc. 2017

Traffic Noise Effects

IMPACT 11-2	Project-Related Traffic Noise Levels Would Not Result in a Permanent Substantial Increase in Excess of County Standards at the Nearest Sensitive Receptor	Less than Significant

The proposed project would generate new traffic in form of waste haul truck trips and new employee trips. Noise from new vehicle trips was assessed by WJV Acoustics using a commonly accepted modeling methodology (WJV Acoustics, 2019). The purpose was to determine whether noise from additional vehicle trips could adversely impact noise-sensitive receptors located along the segment of SR 25 between U.S. Highway 101 to the west and SR 152 to the east. It is on this segment that all new project vehicle trips would be distributed. The nearest noise-sensitive residential receptor is 80 feet from SR 25. This receptor is about 5.25 miles to the east of the project site, just east of the SR 25/Hudner Lane intersection, along the west side of the highway. The receptor location is shown in Figure 1 of the noise analysis as receptor 6.

The maximum number of combined new daily employee and new truck trips would occur during the 20-day peak season period. On peak days, the proposed project would generate 64 additional employee trips per day, 42 of which would occur during nighttime hours of 10:00 PM to 7:00 AM and 22 during the daytime hours of 7:00 AM to 10:00 PM (specifically, between 3:00 PM and 4:00 PM). A total of 314 new daily truck trips would occur during peak day operations for a total of 378 new daily trips. On the remining 345 non-peak days, new employee trips would remain at 64, with new truck trips projected at 200, for a total of 264 new daily trips, or 114 fewer trips than on peak days.

All new truck trips would occur between the hours of 8:00 PM to 4:00 AM. Traffic analysis data provided by Hexagon Transportation Consultants indicates that 83 percent of new truck trips would be distributed onto SR 25 west of the project site and 17 percent to the east, with additional employee travel on SR 25 split about 49 percent to the west and 51 percent to the east. This distribution would be the same under both regular daily operations and peak-day operations (Hexagon Transportation Consultants 2020). Table 11-3, Existing and Peak Day Traffic Noise Levels, includes a summary of existing and post-project traffic noise volumes and incremental increases in noise exposure created under post-project conditions at noise sensitive receptors located along SR 25.

Existing noise levels at nearly all of the receptors already exceed the County's 55 dB Ldn exterior noise level standard. The added noise from project generated traffic is no greater than 0.7 dB at any of the receptors. The slight measurable increase in traffic noise level exposure would not be noticeable at the receptors, as it is substantially below the level of 3 dB at which the human ear generally can discern noise decreases or increases. Therefore, the proposed project would not have a significant impact from traffic noise that could annoy existing residents, interfere with daily activities, or cause other adverse effects.

Table 11-3 Existing and Peak Day Traffic Noise Levels

Receptor Distance from SR 25 (Feet)	Existing Ldn (dB)	Peak Day Ldn (dB)	Change
80	71.6	71.7	0.1
200	65.6	65.7	0.1
320	62.5	63.2	0.7
500	59.6	60.3	0.7
600	58.4	59.1	0.7
1,300	53.4	53.5	0.1

SOURCE: WJV Acoustics 2019

Temporary Construction Noise

IMPACT 11-3	Temporary Construction Noise Levels Would Not Result in a Substantial Increase in Excess of County Standards at the Nearest Sensitive Receptor	Less than Significant

Noise impacts resulting from construction depend upon the noise generated by various construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. Construction noise impacts primarily result when construction activities occur during times of the day (e.g., early morning, evening, or nighttime hours) when the sensitivity of noise-sensitive receptors is highest, when the construction occurs near noise-sensitive receptors, and/or when construction lasts over extended periods of time.

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 associated with proposed improvements to SR 25 described in Section 12.0, Transportation, would primarily involve grading, paving and striping. Refer to Section 4.3, Project Description, and Table 4-3, On-Site and Off-Site Improvements Construction Information. Refer to Section 12.0, Transportation, for a summary of anticipated construction phasing and major activities per phase.

During each stage of construction, a different mix of equipment would be utilized and noise levels would vary by stage and vary within stages. Based on the information provided in Table 11-4, Typical Construction Equipment Noise Emission Levels, and accounting for typical usage factors of individual pieces of equipment and activity types as well as typical

noise attenuation rates, on-site construction-related activities could result in hourly average noise levels of up to 94 dBA at 50 from the source(s) feet when all mobile construction equipment is operating simultaneously. Stationary equipment, such as generators, typically generates noise levels of up to 82 dBA at 50 feet.

Table 11-4 Typical Construction Equipment Noise Emission Levels

Equipment Type	Typical Noise Level (dBA) 50 feet from Source
Backhoe	80
Concrete Mixer	85
Dozer	85
Front End Loader	80
Paver	89
Roller	85
Scraper	89
Tractor	84
Grader	85

SOURCE: Federal Transit Administration 2006

For construction activities, Section B11-154(b)(6) of the Noise Ordinance establishes a maximum daytime noise level for mobile equipment in a single-family dwelling residential area of 75 dBA and a maximum nighttime noise level for mobile equipment in a single-family dwelling residential area of 50 dBA.

The closest sensitive receptor (the single-family residence to the north identified as location 1 on Figure 11-1) is about 600 feet from SR 25 and 750 feet from the site where construction activities would occur. Additional analysis was conducted to ascertain projected construction equipment noise exposure at the sensitive receptor. Of the equipment types listed above, paver equipment would produce the highest noise exposure level at 66 dBA. In event that all types of construction equipment are operating simultaneously, noise exposure at the residence would be 71 dB (WJV Acoustics, email message, June 3, 2020). Both worst-case individual equipment and worst-case simultaneous equipment operation noise exposure would be below the Noise Ordinance standards.

Haul trucks would be the most significant source of on-road noise during construction. Haul trucks would be traveling the SR 25 corridor in greatest number during the first construction phase (focused on grading and soil excavation) and during the last construction phase when concrete would be needed to construct the CASP bunkers. Most on-road truck trips would be limited to daylight hours. However, up to about 100 truck haul trips from 8 PM to 4 AM are

planned during the first construction phase. These trips would occur at a frequency of about 20 days per month for a period of about three months (Hexagon Transportation Consultants, 2019). This activity would increase noise levels on SR 25 at the noise sensitive residential uses described previously.

The traffic noise analysis described above evaluated the noise increase from 314 new truck trips traveling SR 25 during the period 8 PM to 4 AM during project operations. That increase was found to be far below that which would be noticeable at the closest residential receptors. Similarly, noise from construction haul trips, even if distributed only west or east on SR 25, would increase by 0.1 dB Ldn when added to existing traffic volumes on SR 25. This change is based on calculations conducted using the Federal Highway Administration traffic noise model (WJV Acoustics, email message, June 2, 2020). This increase is substantially below the 3 dB Ldn increase at which the change in noise would be noticeable at the nearest sensitive receptor north of the project site

The Noise Ordinance prohibits construction activities on weekdays and Saturday between 7 PM and 7 AM if the activity causes a noise disturbance across a residential or commercial property line during those hours.

As has been described above, construction activities would not raise the perception of noise level at the nearest sensitive residential receptors from the site or along SR 25 and would therefore not exceed the County's noise exposure standards at the sensitive receptors. Therefore, the proposed project would have a less-than-significant impact on sensitive noise receptors during temporary construction activities.

Groundborne Construction Vibration

IMPACT 11-4	Construction Activities Would Not Generate Excessive Groundborne Vibration	Less than Significant

Some types of construction equipment generate varying degrees of temporary ground vibration. Vibration diminishes in magnitude with increased distance. Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as bulldozers and trucks. The effects of ground vibration may be imperceptible at the lowest levels. Vibration at moderate levels to high levels can cause sleep disturbance or annoyance.

The County Noise Ordinance, Section B11-154.7 Vibration, prohibits the operation or permitting the operation of any device that creates a vibrating or quivering effect that endangers or injures the safety or health of human beings or animals, annoys or disturbs a person of normal sensitivities, or endangers or injures personal or real properties. The vibration perception threshold is presumed to be a motion velocity of 1/100 inches per second over the range of one to 100 Hz (Section B11-151(dd)). Caltrans has developed

vibration annoyance exposure criteria in its *Transportation and Construction Vibration Guidance Manual* (California Department of Finance 2013). The criteria identify that vibration is barely perceptible at a peak particle velocity of 0.01. This is analogous to the County perception threshold of 1/100 inches per second. Heavy construction equipment such as large bulldozers and loaded trucks can generate vibration at this level of particle velocity at distances of up to about 100 feet (California Department of Transportation 2013). The nearest sensitive residential receptor is about 600 feet to the north of the site from the closest locations of proposed grading activity along SR 25. This is about six times the distance at which vibration from heavy equipment use could be of concern. Therefore, project impacts associated with construction-related ground vibration would be less than significant.

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12.0
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:

- *Z-Best Traffic Operations and Site Access Analysis* (Hexagon Transportation Consultants, Inc. February 7, 2017);
- *Z-Best Compost Facility Operations Analysis Peer Review, Santa Clara County, CA* (Keith Higgins January 2, 2019);
- *Response to Peer Review Comments on the Z-Best Compost Facility Application (File No. 6498-17P)* (Hexagon Transportation Consultants, Inc. January 25, 2019);
- *Z-Best Compost Facility Expansion Construction Traffic Impact Evaluation* (Hexagon Transportation Consultants, Inc. June 17, 2019);
- *Z-Best Traffic Operations and Site Access Analysis (*Hexagon Transportation Consultants, Inc. January 30, 2020);
- *Z-Best Traffic Operations and Site Access Analysis Peer Review, Santa Clara County, CA*. (Keith Higgins March 20, 2020); and
- Geometric Layout, Roadway Improvements and Cross-Sections, Z-Best Facility (Ruggeri-Jensen-Azar June 2019).

Several responses to the NOP included recommendations for the scope of the transportation impact analysis. Caltrans' 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 proposed limit on new truck trips to the hours from 8 PM to 4 AM would be monitored and enforced 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.

12.1 ENVIRONMENTAL SETTING

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. 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 provides the only access to the project site. The nearest intersection, Bolsa Road, is located 680 feet east of the project site access. 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 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 below, there are no plans to install bicycle lanes or transit improvements on SR 25 in the project vicinity.

Existing Z-Best Composting Facility Vehicle Miles Traveled

The Z-Best Composting operation current generates VMT from employee commuting to and from the project site. VMT is also generated by trucks 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.

Employee-Based VMT

Hexagon Transportation Engineers estimated VMT from existing employees (58 as of October of 2018) based on the estimated trip volumes for each as well as trip origin/destination distance information provided by the applicant. VMT for employees and haul trucks 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 trips per day. 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). See Hexagon Transportation Engineers, August 11, 2020, Table 2 (Appendix G). Daily VMT is 35.5, which is calculated by dividing the daily VMT of 2,059 by the 58 existing employees.

Truck-Based VMT

Existing truck trip VMT is estimated at 7,348 per day. This represents the sum of truck trips for transporting solid waste, 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. See Hexagon Transportation Engineers 2020, Table 7 (Appendix G).

Section 12.4 contains more information on existing VMT, including a comparison of existing and post–project VMT.

Existing Traffic Safety Conditions

Caltrans Collision History

Hexagon Transportation Consultants reviewed Caltrans' collision history along SR 25 in the vicinity of the project entrance and Bolsa Road. The data indicates a total of 29 collisions over a three-year span along SR 25 between Bloomfield Road and the beginning of the highway divider located approximately 1.5 miles east of the project site entrance. The number of collisions along this highway segment exceeds the statewide average for similar facilities. Two of these collisions occurred in the vicinity of the project entrance and Bolsa Road intersections with SR 25 over that same three-year period (Hexagon Transportation Consultants 2020).

Transportation Safety Effects with Potential Future SR 25 Realignment

Approximately 1.5 miles to the west of the project site, SR 25 has an interchange with Highway 101, the main north-south arterial throughout the region. Bolsa Road is a rural road running north-south from Gilroy that intersects with SR 25 about midway along the project site frontage with SR 25.

Caltrans has identified operational problems during the peak commute hours along the SR 25 corridor and at the U.S. Highway 101/SR 25 interchange. The problems are due primarily to the capacity constraints of the highway and interchange. In June 2016, Caltrans approved the Hollister to Gilroy State Route 25 Route Adoption project. It proposes widening and realigning SR 25, including the segment along the project frontage, and realigning Bolsa Road. Although Caltrans has yet to design and fund the project, the traffic analysis includes evaluations of existing circulation conditions and existing plus project conditions with these improvements. The SR 25 widening project is a potential future improvement to the regional roadway network to address cumulative development conditions. As such, it is discussed for informational purposes in the Transportation subsection of Section 15, Cumulative Impacts. Alternative Modes of Transportation the portion of SR 25 fronting the project site does not include pedestrian or bicycle improvements. San Benito County Express operates an intercounty transit route that uses SR 25.

12.2 REGULATORY SETTING

State

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.

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 to update the CEQA Guidelines to replace automobile delay—as described solely by LOS or similar measures of vehicular capacity or traffic congestion—with VMT as the recommended metric for determining the significance of transportation impacts. The Office of Planning and Research has updated the CEQA Guidelines for this purpose by adding a new section 15064.3 to the Guidelines. Beginning July 1, 2020, the provisions apply statewide.

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. 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 (Guidelines section 15064.3(b).).

Technical Advisory on Evaluating Transportation Impacts in CEQA

In response to revising the CEQA Guidelines pursuant to SB 743, the Office of Planning and Research (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).

Regional/Local

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 analysis 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.

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 describe 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 2019).

County of Santa Clara Roads and Airports Department

The County Department of Roads and Airports operates and maintains the County's expressways and unincorporated 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.

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 (Santa Clara County 2018).

12.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of transportation 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:

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

  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. 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.

- Substantially increase hazards due to a geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

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 household, or any other measure.

Data compiled by the VTA shows that the per capita VMT for employee trips in rural unincorporated Santa Clara County is 21.16 (Valley Transportation Authority 2019). This per capita VMT metric is used as the baseline for evaluating the project's employee trips. The County has selected as the threshold a 15 percent reduction below this baseline, which would be 18.36 VMT per capita.

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.

Issues or Potential Impacts not Discussed Further

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

  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 this issue is required.

12.4 Analysis, Impacts, and Mitigation Measures

Analysis and Impact 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 2020 (Hexagon Transportation Consultants 2020). Hereinafter, the 2020 traffic operations and site access analysis is referred to as the "traffic analysis."

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). The traffic analyses, the Higgins peer reviews, and Hexagon Transportation Engineers' responses to the 2017 and 2020 Higgins peer reviews 2020, are included in Appendix G in chronological order.

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.

Operational Vehicle Miles Traveled

IMPACT 12-1	The Proposed Project would Conflict with CEQA Guidelines Section 15064.3 by Exceeding the Applicable VMT Threshold	Significant and Unavoidable

Employee Vehicle Miles Traveled

As explained above, 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, 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). 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. VMT per employee would not increase and would remain 35.5. However, 35.5 is above the threshold of 18.36. Therefore, this impact would be potentially significant.

Truck Operations Vehicle Miles Traveled

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 2020, Tables 6 and 7). As shown in Table 12-1 below, the net increase in VMT generated by the proposed project would be 8,698 miles per day for regular days and 13,095 miles per day for the 20 peak days that involve higher levels of green waste associated with seasonal landscape maintenance during the fall months.

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. However, in light of the substantial increase in truck trip VMT that would result from the project, the increase in truck-based VMT from the proposed project is considered a significant VMT impact.

Table 12-1 Net Projected Increase in Truck Operations Vehicle Miles Traveled

Truck Trip VMT					
Existing		Existing + Proposed Project		Net VMT Increase	
Trip Purpose	VMT/Day	VMT/Day		Net Truck Trip Daily VMT[2]	
		Daily Operations	20 Peak Days	Daily	20 Peak Days
Green Waste	3,929	8,262	10,770		
Products	2,075	2,874	3,375		
Landfill	1,344	3,924	5,403		
Subtotal	7,348	15,060	19,548	7,712	12,109
Total New MT/Day[3]				8,698	13,095
% Increase				12.8%	8%

Source: Hexagon Transportation Engineers 2020 (Tables 6 and 7)
Notes:
1. Existing plus project VMT – existing VMT as shown in Hexagon 2020, Table 6
2. Existing plus project VMT – existing VMT as shown in Hexagon 2020, Table 7.
3. Sum of daily employee net VMT and truck trip VMT.

Mitigation Options

Employee-Based VMT

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. Therefore, 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.

Truck-Based VMT

VMT would 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.

Significance Conclusion

As discussed above, VMT generated by new employee trips would exceed the applicable VMT/capita significance threshold identified for projects in the rural unincorporated area. The increase in truck VMT would also be a significant impact. For the reasons discussed above under "Mitigation Options," no feasible mitigation measures have been identified that would reduce VMT of either new employee trips or project-generated truck trips. Therefore, this impact would be significant and unavoidable.

Operational Circulation Safety and Emergency Access

IMPACT 12-2	Improved Operational Circulation Safety and Emergency Access on State Route 25 at the Project Entrance	Less than Significant

Caltrans and the Council of San Benito Governments, and the County raised concerns about traffic safety concerns in their responses to the NOP. Caltrans stated that planned SR 25 improvements should meet its design criteria and that the impacts of trucks entering and exiting the site during both construction and normal operations should be analyzed. Comments from the Council of San Benito Governments focused on safety of truck turning movements into out of the site and related impacts on the flow of traffic on SR 25.

The applicant is proposing improvements on SR 25 and along the project site frontage that would provide improved operational conditions on SR 25, with the co-benefit of improving traffic safety on the highway. The proposed improvements are as follows:

- New entrance at the existing SR 25/Bolsa Road intersection that would become a new fourth leg of the intersection;
- Westbound SR 25 deceleration lane for left turns into the site;
- Westbound SR 25 acceleration lane for traffic turning left out of the site onto westbound SR 25; and
- Eastbound SR 25 deceleration lane for eastbound right turns into the project site.

The on-site component of the proposed improvements is an approximately 600-foot long paved drive from SR 25 that is parallel to SR 25, which would create a new project site entrance at the existing SR 25/Bolsa Road intersection. It would tie into the existing access

road that provides access into the project site from the existing entrance. Refer to Figure 4-6, Project Entrance/Driveway and SR 25 Improvements - Areas of Impact, for an illustration of where road widening would occur.

To accommodate the 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 2019) included in Appendix G. Along the south side of SR 25, the project includes about 1,800 feet of new pavement and a low retaining wall. Along the north side of the highway, the project includes about 1,600 feet of new pavement and a low retaining wall.

All proposed SR 25 improvements can 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 needed. 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. The applicant and County have met with Caltrans to discuss the improvements. The proposed improvements are designed in part based on Caltrans' input.

Once the highway improvements are completed and the new entrance/exit to the facility is operational, the existing entrance/exit would be closed.

Circulation Safety Effects

Through Traffic Safety on SR 25

The proposed westbound SR 25 deceleration/left-turn lane would accommodate westbound left turns into the site. This would separate westbound turns into the site from westbound through traffic. The westbound through traffic would no longer need to slow or stop behind vehicles turning left into the site. A westbound acceleration lane is planned for left turns out of the site onto westbound SR 25. Traffic turning left out of the site would be able to accelerate in a separated lane so that it is able to merge with westbound through traffic without forcing that traffic to substantially slow as occurs under existing conditions. In the eastbound direction on SR 25, a right-turn deceleration lane for eastbound turns into the site is also planned. This would separate the right turns from eastbound through traffic on the highway, thereby eliminating the need for through traffic to slow as occurs under existing conditions. In summary, the proposed SR 25 improvements are anticipated to improve through traffic conditions/safety on SR 25.

Turning Movement Safety

As part of his March 2020 *Z-Best Traffic Operations and Site Access Analysis Peer Review*, Keith B. Higgins provided additional information regarding turning movement safety related to the proposed new site entrance. Please refer to Appendix G for more information. This

discussion is taken largely from that review. By relocating the existing entrance as a new fourth leg of the existing SR 25/Bolsa Road intersection, existing turning movements into and out of the existing entrance would be replaced with turning movements at the SR 25/Bolsa Road intersection. This change modifies turning movement safety conditions.

The proposed westbound SR 25 left turn lane into the site would provide a refuge for westbound vehicles waiting for gaps in traffic traveling east to turn left into the site. This would be a safety improvement compared to existing conditions where there is no left turn lane for westbound SR 25 traffic. The proposed westbound median acceleration lane would allow vehicles turning left out of the site onto SR 25 to cross only one direction of SR 25 traffic at a time, which is considered a two-step left turn movement. This would be a safety improvement compared to existing left turn movements onto SR 25.

There is no eastbound left-turn lane on SR 25 for left turns onto Bolsa Road. This is due to the very low number of existing left-turn movements at this location. Under post-project conditions, the number of left turns will remain low. Therefore, no eastbound left turn lane from SR 25 onto Bolsa Road is proposed. The existing left-turn volume at this location could actually decline under post-project conditions. This is because traffic exiting the site onto eastbound SR 25 under existing conditions that would have turned left onto Bolsa Road will no longer need to make this left-turn movement. With the proposed driveway realignment, these vehicles would only need to make a through movement from the relocated entrance directly onto Bolsa Road.

No eastbound SR 25 median acceleration lane currently exists for vehicles turning left from Bolsa Road onto eastbound SR 25 and one is not included in the proposed project improvements. With the addition of the proposed entrance as a fourth leg of the intersection, the vehicles turning left onto SR 25 from Bolsa Road would be required to yield to westbound vehicles on SR 25 that are waiting within the proposed left-turn lane to make left turns into the site. Under existing conditions, westbound vehicles turning left into the site currently do so downstream (west) of Bolsa Road at the existing entrance, so have already cleared the Bolsa Road intersection. This would result in a slight increase in delay for Bolsa Road traffic attempting to turn left onto eastbound on SR 25. Increased delay for a side street movement generally results in impact on safety because drivers may have to accept shorter gaps and take more chances to make the turn. However, this concern is moderated by the fact that very few westbound left turns would be entering the site during the PM peak hours when peak demand on Bolsa Road occurs. This is largely due to the proposed changes in employee trips and truck trips arriving and departing the site during the peak hours. During the PM peak hours of 4 PM to 6 PM, 10 trips into the site are projected. These are all employee, non-truck trips (Hexagon 2020, Table 3). Employee trip origins and destinations are roughly split between eastbound SR 25 and westbound SR 25 (Hexagon 2020, Figure 3), resulting in approximately five, non-truck left turns into the site during the PM peak hours. Given these considerations, the change in turning movement delay have a less than significant safety impact.

In summary, the SR 25 channelization improvements, the proposed driveway relocation, and the proposed employee/truck trip arrival and departure changes would support traffic safety conditions and the impact of these changes on safety would be less than significant.

Emergency Access

Under existing conditions, emergency access into the site is at the existing site entrance. Under post-project conditions the exiting entrance would be closed. Emergency access would then be provided via the new entrance and access road at the Bolsa Road intersection. Because the proposed SR 25 improvements facilitate improved traffic safety on SR 25 at the proposed new entrance, safety for emergency vehicles entering and exiting the site would also improve. The proposed project would have less than significant impact on emergency access.

Short-Term Construction Traffic Safety

IMPACT 12-3	Substantially Increase Traffic Hazards or Result in Inadequate Emergency Services During Construction Activities	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 4-3, On-Site and Off-Site Improvements Construction Information), a maximum of 228 daily trips are estimated during Phase 1, 20 daily trips during Phase 2, and 180 daily trips during Phase 3. Traffic from the various construction activities would be ongoing throughout the construction phases. During construction, primary and secondary MSW composting activities would largely cease, while green waste composting would continue.

The increase in vehicle trips associated with construction activities has the potential to result in short-term safety impacts for traffic on SR 25. Construction traffic safety would improve if the proposed SR 25 improvements and the new project site entrance improvements are operational prior to the time all other on-site construction activity is completed. Implementation of the following mitigation measure would reduce this potentially significant safety impact to a less-than-significant level.

Mitigation Measure

12-3 The applicant shall prepare a Construction Management Plan, subject to review and approval by Caltrans, prior to issuance of a grading permit. The plan shall be implemented during construction and include, but not be limited to, the following:

a. Restrict all ingress/egress at the construction entrance to right-in and right-out turns only;

b. Provide for the appropriate control measures, including barricades, warning signs, speed control devices, flaggers, and other measures to mitigate potential traffic hazards;

c. Ensure coordination with emergency response providers to provide sufficient emergency response access for the surrounding area;

d. Prohibit heavy vehicle traffic to and from the project site during the commute hours of 7:00-8:00 AM and 4:00-6:00 PM;

e. Implement truck haul routes for construction trucks deemed acceptable by Caltrans with SR 25 and U.S Highway 101 as the assumed routes to and from the north; and

f. Store construction equipment on the project site during the construction phase of the project.

Implementation of this mitigation measure would minimize potential safety impacts by requiring the applicant to submit, and Caltrans to approve, a construction traffic control plan that would reduce potential short-term traffic impacts associated with project construction by controlling ingress and egress, 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 to be stored on site to minimize additional traffic. Therefore, this potentially significant impact would be less than significant with mitigation incorporated.

13.0
Water Supply

Water supply for existing operations at the Z-Best facility is derived from groundwater and retained storm water. Groundwater is used as supply for domestic needs. Retained storm water is used for composting process needs and for watering for dust control. Groundwater is also used to supplement composing process needs and dust control needs once retained storm water supply is exhausted. This section of the EIR describes the existing groundwater supply setting, changes in groundwater demand resulting from the proposed project and assesses whether the change has implications for groundwater resource sustainability.

Information in this section is derived primarily from:

- *Technical Report Z-Best Composting Facility* (Golder Associates, Inc. October 2016);
- *Detention Basin 1 and 2 Water Balance Calculations, Revision 1* (Golder Associates, Inc., October 2016);
- *Z-Best Compost Facility Water Balance* (Golder Associates, Inc. March 26, 2019);
- *Technical Memorandum Re: Water Balance, Z-Best Compost Facility* (Golder Associates, Inc. June 7, 2019);
- *2016 Groundwater Management Plan* (Santa Clara Valley Water District November 2016);
- *Water Year 2018 Report for the Santa Clara and Llagas Subbasins* (Santa Clara Valley Water District March 2019); and
- *Water Supply Master Plan 2040* (Santa Clara Valley Water District November 2019).

No water supply related comments were received in response to the NOP.

13.1 Environmental Setting

Municipal water supply is not available to support Z-Best's current operations. Water supply is derived from groundwater and from stored storm water. Consequently, this environmental setting discussion focuses on existing groundwater and storm water supply conditions.

Existing Z-Best Water Supply Demand and Sources

Primary composting, secondary composting, and dust control are the dominant sources of water demand. Demand for domestic use is a very small component of the overall facility demand profile. A water balance analysis was conducted by the applicant to assess water demand/water balance conditions in 2016 with use of the existing CTI technology (Golder Associates 2016b). A second water demand/water balance analysis was conducted to evaluate conditions assuming use of the proposed ECS technology (Golder Associates 2019a). Subsequent to the 2019 water balance analysis, the applicant prepared a supplemental memo to compare existing groundwater demand to projected post-project water demand (Golder Associates 2019b). All three documents are included in Appendix H.

Under current conditions, water is obtained from three water supply wells, as well as from storm water that is conveyed to and stored in detention basins 1 and 2. Direct precipitation and storm water runoff from Areas 1 and 2 are the fundamental sources of water storage in the basins. Water is distributed from the basins to provide for primary and secondary composting process needs and for dust control. Water is also lost from the basins due to evaporation. This supply is insufficient to meet the needs of the facility during an annual average precipitation year. Records from Z-Best show that approximately 89,800 gallons per day or 32,664,000 gallons per year of groundwater is used to supplement storm water storage supply (Golder Associates 2019b, p. 2). This is equivalent to approximately 100.2 acre-feet per year.

Groundwater Supply Conditions

Three water supply wells are located at the facility. There are two wells located in Area 1 – a domestic water well near the office and an agricultural well used for process water for the processing building. The third water supply well is located on the eastern perimeter of Area 2 and is the primary water source for composting (Golder Associates 2016a).

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 County Water District 2016).

SCVWD prepared detailed groundwater budgets for the Llagas Subbasin for calendar years 2003 through 2012. This period was chosen to represent recent longer-term conditions that include wet, normal, and dry years, but are not significantly affected by later, exceptionally dry years. During this period, groundwater pumping far exceeded natural replenishment and SCVWD managed recharge was needed to ensure a balanced water budget. There was no average change in storage in the Llagas Subbasin over this period, indicating the subbasin is in long-term balance (Santa Clara County Water District 2016, p. 4-7).

The long-term average groundwater pumping in the Llagas Subbasin is 44,000 acre-feet per year (AFY) based on average pumping from 2003 to 2012. The maximum annual pumping during that period was 48,000 AF and the minimum annual pumping was 39,000 AF. Groundwater use in the Llagas Subbasin is nearly evenly split between agricultural uses at 50 percent and municipal and industrial uses at 45 percent, with five percent used for domestic purposes. The Llagas Subbasin is not in a condition of chronic overdraft and long-term average yields are sustainable. SCVWD makes investments, implements programs, and modifies water supply operations as needed to maintain sustainable conditions now, and in the future (Santa Clara County Water District 2016, pp. 4-13 - 4-15).

In 2018, total pumping in the subbasin was about 42,600 acre-feet (AF). Groundwater storage slightly decreased across the subbasin by about 1,100 AF in 2018. However, the subbasin has fully recovered to pre-drought conditions and groundwater elevation and storage remained sustainable in 2018 (Santa Clara Valley Water District 2019).

SCVWD assumes that demand for groundwater pumping would increase over time. Future groundwater demands are projected to increase from 2020 to 2035, then level out through 2040. Future pumping is projected to increase by around seven percent in 2020 relative to the current long-term average pumping of 44,000 AFY. The projected increase in demand between 2020 and 2040 equals 6,000 AFY (Santa Clara County Water District 2016, p. 4-18).

SCVWD's managed recharge program includes significant recharge through many miles of stream channels. The managed recharge program helps to maintain flows in these creeks, most of which would flow only intermittently otherwise. SCVWD is not aware of any areas where groundwater pumping has a significant or unreasonable effect on interconnected surface water (Santa Clara County Water District 2016, p. 3-10).

13.2 REGULATORY SETTING

State

Sustainable Groundwater Management Act

On September 16, 2014, Governor Brown signed into law Assembly Bill 1739, Senate Bill 1168, and Senate Bill 1319 (AB-1739, SB-1168, and SB-1319). This three-bill legislative package

is known collectively as the Sustainable Groundwater Management Act (SGMA). The 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 prepare and submit groundwater sustainability plans for the basin by January 31, 2020, and requires groundwater sustainability agencies in all other groundwater basins designated as high- or medium-priority basins to prepare and submit a groundwater sustainability plan by January 31, 2022. Following state approval, the basin would thereafter be managed under the groundwater sustainability plan.

The key intended outcomes and benefits of the Sustainable Groundwater Management Act are numerous, and include:

- Advancement in understanding and knowledge of the state's groundwater basins and their issues and challenges;
- Establishment of effective local governance to protect and manage groundwater basins;
- Management of regional water resources for regional self-sufficiency and drought resilience;

- Sustainable management of groundwater basins through the actions of Groundwater Sustainability Agencies, utilizing state assistance and intervention only when necessary;
- All groundwater basins in California are operated to maintain adequate protection to support the beneficial uses for the resource;
- Surface water and groundwater are managed as a single resource to sustain their interconnectivity, provide dry season base flow to interconnected streams, and support and promote long-term aquatic ecosystem health and vitality;
- A statewide framework for local groundwater management planning, including development of sustainable groundwater management best management practices and plans;
- Development of comprehensive and uniform water budgets, groundwater models, and engineering tools for effective management of groundwater basins;
- Improved coordination between land use and groundwater planning; and
- Enforcement actions as needed by the SWRCB to achieve region-by-region sustainable groundwater management in accordance with the 2014 legislation.

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.

Regional/Local

SCVWD 2016 Groundwater Management Plan

Overview

SCVWD 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. SGMA lists SCVWD as one of fifteen exclusive agencies with powers to comply with SGMA within its statutory boundary. SCVWD is the Groundwater Sustainability Agency for the Santa Clara and Llagas subbasins.

In the basins designated by the California Department of Water Resources as medium- and high-priority, local public agencies and Groundwater Sustainability Agencies are required to develop and implement groundwater sustainability plans or alternative plans

SCVWD prepared its *2016 Groundwater Management Plan* (GWMP) as an alternative plan to satisfy SGMA objectives. SCVWD believes the GWMP meets the objectives of SGMA and contains information and elements that are functionally equivalent to the elements of a groundwater sustainability plan.

The GWMP includes 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 SCVWD 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, 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, SCVWD replenishes the groundwater subbasins with local and imported surface waters in SCVWD recharge facilities;
- In-Lieu Recharge: SCVWD'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: SCVWD'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 SCVWD, 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 SCVWD 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.

SCVWD is responsible for reviewing and updating the GWMP every five years at a minimum.

SCVWD 2015 Urban Water Management Plan and Water Supply Master Plan 2040

SCVWD 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 SCVWD's countywide water reliability goals. Water retailers deliver over 85 percent of the total water used in the county. The *2015 Urban Water Management Plan* 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 *2015 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 SCVWD's water supply as storage reserves become depleted.

The purpose of the *Water Supply Master Plan 2040* 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 SCVWD 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, SCVWD 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 (Santa Clara Valley Water District 2019a).

13.3 THRESHOLDS OR STANDARDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of groundwater 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:

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin; or
- Conflict with or obstruct implementation of a sustainable groundwater management plan.

13.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Analysis and Impact Methodology

Domestic needs of employees, composting process needs, and dust control needs are the primary sources of Z-Best's existing water demand. These sources of demand would remain unchanged under post-project conditions. The proposed ECS process would demand more water than the existing CTI process. Therefore, the water supply analysis addresses the change in water demand associated with the change in proposed processes.

A complete analysis of the post-project water balance is included in the *Z-Best Compost Facility Water Balance* (Golder Associates 2019a). The results of that analysis are summarized in the *Technical Memorandum Re: Water Balance, Z-Best Compost Facility* (Golder Associates 2019b). Both reports are included in Appendix H.

Golder Associates modeled monthly inflows and outflows and resulting basin elevations based on stage-storage relationships for detention basin #1 and detention basin #2 (DB-1 and DB-2). Inflows consist of direct precipitation into DB-1 and DB-2 and facility runoff. Outflows include DB-1 and DB-2 evaporation, and use of water for compost moisture conditioning and dust control. Compost operations water requirements would exceed available water from DB-1 and DB-2. Golder Associates calculated the volume of groundwater required to make-up the difference.

The State Water Resources Control Board Composting Order states that all detention basins shall be designed to maintain all runoff from the working surfaces in addition to direct precipitation from a 25-year, 24-hour peak storm event (4.75 inches). Both detention basins have been designed to hold the runoff from a 100-year, 24-hour storm event (6.5 inches), which exceeds the requirements of the Composting Order. To be conservative, a water balance model was completed to show that DB-1 and DB-2 have sufficient capacity to manage all direct precipitation and storm water runoff from an average annual year of precipitation (20.8 inches) and a 25-year return period wet year (37.4 inches).

Change in Groundwater Demand

IMPACT 13-1	Decrease Groundwater Supplies by 149 Acre Feet Per Year but Would Not 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.

Table 13-1, Proposed Project Groundwater Demand, includes a summary of water demand 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 would, during both an average annual precipitation year and a 25-year wet year, be insufficient to meet total demand. Approximately 81,206,000 gallons (249 AFY) of groundwater would be required to supplement water requirements during an average precipitation year. This volume decreases to 77,308,000 gallons (237 AFY) during a 25-year wet year.

Table 13-1 Proposed Project Groundwater Demand

	Requirement (Gallons/Year)	Source		
		DB-1[1]	DB-2[2]	Groundwater[3]
Average Annual Precipitation				
Primary Composting[4]	53,060,000	24,052,000		29,008,000
Secondary Composting[4]	60,360,000		10,564,000	49,796,000
Dust Control	36,015,000	4,605,000		31,410,000
TOTAL Gallons per Year				81,206,000
25-year Wet Year				
Primary Composting[4]	53,060,000	33,565,000		19,495,000
Secondary Composting[4]	60,360,000		19,797,000	40,563,000
Dust Control	36,015,000	18,765,000		17,250,000
TOTAL Gallons per Year				77,308,000

SOURCE: Golder Associates, Inc. 2019b
NOTE:
1. Detention Basin 1 (DB-1) water is suitable for primary composting and dust control
2. Detention Basin 2 (DB-2) water is suitable for secondary composting and dust control, if available
3. Groundwater is suitable for primary composting, secondary composting, and dust control
4. Includes both green waste open windrow composting and ECS composting

Relative to existing conditions where existing operations result in groundwater demand of approximately 32,664,000 gallons per year, the proposed project would increase water demand by 48,542,000 gallons per year or 149 AFY (48,542,000 gallons per year/325,851 [gallons in one-acre foot] = 149 AFY) as summarized in Table 13-2, Change in Groundwater Demand.

Table 13-2 Change in Groundwater Demand

Condition	Groundwater Demand (Gallons/Year)
Existing Conditions	32,664,000
Post-Project Condition	81,206,000
Net Increase in Demand	48,542,000 (149 AFY)

SOURCE: Golder Associates 2019b

The proposed project would increase demand for groundwater from the Llagas Subbasin by approximately 149 AFY or about 0.03 percent relative to existing conditions. 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). SCVWD has already anticipated and planned for

increased groundwater pumping from the subbasin over time. The increased demand from the project represents 1.6 percent of SCVWD's projected pumping increase to the year 2040. The increase in demand is assumed as part of the SCVWD's GWMP, which serves as the functional equivalent of a sustainable groundwater management plan under SGMA. SCVWD has developed programs, projects and funding strategies to maintain supply sustainability within the subbasin. Since the projected demand increase is not substantial and additional demand 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. Therefore, the impact would be less than significant.

Changes in Groundwater Recharge Potential

IMPACT 13-2	The Proposed Project Would Not Interfere with Groundwater Recharge and Therefore, Would Not Impede Sustainable Groundwater Management of The Basin	No Impact

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 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 though the bottom of the detention basin. However, the bottom of the basin currently has low groundwater conductivity such that the volume of percolation is not anticipated to change significantly compared to existing conditions. Further, the remaining two-thirds of the existing basin surface area would be removed, regraded, and replanted. This area would become available for percolating rainwater during storm events. Therefore, the proposed project would not impact groundwater recharge potential or impede sustainable groundwater management of the basin.

Effects of Increased Groundwater Demand/Consistency with Sustainable Groundwater Management Plan

IMPACT 13-3	The Proposed Project Would Not Conflict with or Obstruct Implementation of a Sustainable Groundwater Management Plan	No Impact

As described in the environmental setting section, the project site is located within the boundary of the Llagas Subbasin. Groundwater supply conditions within the subbasin have been stable over time with no net change in groundwater in storage. Inflows have been equivalent to outflows, so the subbasin is not in overdraft. The long-term average

groundwater pumping subbasin has been 44,000 AFY based on average pumping from 2003 to 2012. The maximum annual pumping during that period was 48,000 AF and the minimum pumping was 39,000 AF. Demand for groundwater would increase over time, with a seven percent projected increase by 2020, equivalent to approximately 3,080 AFY (.07 x 44,000 AFY) and an additional 6,000 AFY increase between 2020 and 2040 (Santa Clara Valley Water District 2016).

The 149 AFY groundwater demand estimate for the proposed project represents 0.03 percent of the existing annual average pumping of 44,000 AF from the Llagas Subbasin. This fractional increase does not represent a substantial decrease in groundwater availability given that the basin is in equilibrium at this annual average pumping volume.

The 149 AFY increase in demand represents 1.6 percent of SCVWD's projected 9,080 AFY (3,080 AFY+ 6,000 AFY) increase in groundwater demand from the subbasin to 2040. The incremental increase is a fraction of the demand projection.

As described in the Regulatory Setting section, SCVWD utilizes three water supply management tools to plan for and meet short- to long-term water demand within its boundary, including the Llagas Subbasin. These include the GWMP (prepared pursuant to SGMA requirements), the *2015 Urban Water Management Plan* and the *Water Supply Master Plan 2040*. The three plans function to coordinate SCVWD's actions to ensure long-term groundwater supply sustainability. Growth in groundwater demand in the Llagas Subbasin is assumed in the SCVWD's sustainability planning. Therefore, the proposed project would not impede the SCVWD's ability to meet groundwater sustainability goals identified in the GWMP, nor would the proposed project impair SCVWD's ability to implement programs and projects planned to support the sustainability goals.

14.0
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 Agriculture and Forestry Resources

Checklist Questions

Would the project:

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 nonagricultural 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 nonagricultural use or conversion of forest land to non-forest use?

Direct Effects Impact Discussion

a. The Z-project site is not designated farmland; however, it is surrounded by land designated farmland and in agricultural use (California Department of Conservation 2018). The proposed project would not expand the footprint of the existing facility onto adjacent agricultural land, as all changes would occur within the existing facility footprint. Therefore, the proposed project would have no direct impact on prime farmland, unique farmland, or farmland of statewide importance.

b-d. The project site is not under a Williamson Act contract (Santa Clara County Department of Planning and Development GIS Planning Office 2020). The project site is located within the Exclusive Agriculture, 40-acre Combining District ("A-40ac"). Composting and wood processing activities are conditionally allowed uses with the approval of a use permit. The project site is not zoned for forestland or timberland uses. There are no forest resources on or adjacent to the project site. Therefore, the proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract, conflict with existing zoning for, or cause rezoning of, forest land, or result in the loss of forest land or conversion of forest land to non-forest use.

Indirect Effects Impact Discussion

e. A comment letter was received in response to the NOP regarding agricultural resources. The comments include requests that potential indirect impacts on farmland to the south of the site be investigated. The potential effects noted include groundwater quality degradation, airborne debris transmission and pathogen transmission. Clarification was also requested regarding whether new proposed activities would be located closer to the subject farmland than current activities.

As noted in Section 10.0, Hydrology and Water Quality, groundwater quality conditions are expected to improve under post-project conditions. This conclusion is based on the fact that detention basin #1 will be improved to include an impermeable liner. Under existing conditions, storm water containing a range of chemical constituents is delivered to the basin and can percolate to groundwater, as the basin is currently unlined. The liner is being proposed to ensure Z-Best's compliance with the SWQCB's 2015 Composting General Order.

Regarding airborne debris, all handling and sorting of incoming MSW will continue to be conducted at the northern portion of the site near SR 25. Initial handling and sorting results in the primary source of airborne debris and other materials with potential to contain pathogens. The debris fence along SR 25 would continue to catch windblown debris. The Z-Best facility is subject to regular inspection by the LEA.

Under existing conditions, secondary MSW composting takes place in open windrows located in the southern portion of the site. This area is buffered from agricultural land to the south by existing detention basin #1. Under post-project conditions, secondary composting activities will take place within three-sided concrete bunkers, as opposed to the existing open windrows, where the secondary compost materials are not contained. Relative to existing conditions, this change would reduce the potential for composted materials to be blown or otherwise transmitted off site. Further, storm water collection infrastructure will be improved within Area 1 where ECS technology will be deployed, thereby further reducing potential for storm water containing leachate and possible pathogens to migrate off-site.

The proposed ECS technology is designed to significantly reduce MSW composting time. Throughput will increase as a result, yet the footprint of existing composting activities will not increase and composting materials will continually be present within Area 1 as they are under current conditions. The change in throughput in and of itself is not expected to pose an increased risk of nuisance or hazards to agricultural production conditions or quality relative to existing conditions. Therefore, the proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use.

14.2 ENERGY

Checklist Questions

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?

Impact Discussion

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, soil truck haul trips, 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 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.

Construction equipment and related vehicle fuel efficiency regulations are not in control of the applicant. 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 2020). Transportation fuel demand would also increase as a result.

New vehicle trips to and from the project site will 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.

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 6,100,000 kWh per year (Engineered Compost

Systems 2019). The California Energy Commission Energy Consumption Data Management System estimated that the total electricity consumption in Santa Clara County in 2018 was 16,708,080,341 kWh (California Energy Commission 2020). The new demand created by the project is about 0.04 percent of the total 2018 Santa Clara County electricity consumption.

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.

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.

b. There are no state plans or regulations in place that mandate new or expanded industrial operations to 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.

14.3 GEOLOGY AND SOILS

Checklist Questions

Would the project:

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

(1) 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?

(2) Strong seismic ground shaking?

(3) Seismic-related ground failure, including liquefaction?

(4) 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 unique geologic feature?

Impact Discussion

The California Supreme Court held in the 2015 "California Building Industry Association" case that agencies subject to CEQA generally are not required to analyze the impact of existing environmental hazards or other adverse conditions on a project's future users or residents, except where a proposed project risks exacerbating those existing environmental hazards or conditions, in which case agencies should evaluate how future residents or users could be affected by exacerbated conditions. Prior to the California Building Industry Association case, CEQA analyses of potential geology and soils impacts of a project typically focused on existing geologic hazards that have potential to cause risk to public health and safety. However, the answers to these questions are provided here for informationally purposes.

a (1) and (4). The project site is not located in an Alquist-Priolo Fault zone or within a landslide zone (County of Santa Clara Department of Planning and Development GIS Planning Office 2020).

a (2). Based on seismic mapping by the United States Geological Service, the region, including the project site, is very likely to experience strong seismic ground shaking. However, the proposed project does not have the potential to exacerbate existing hazards associated with seismic shaking.

a (3). The project site is in a known liquefaction hazard zone (County of Santa Clara Department of Planning and Development GIS Planning Office 2020). For informational purposes, it is worth noting that proposed improvements would be required to be constructed in accordance with the most recent California Building Code (Title 24 of the

California Code of Regulation) standards. This code provides standards for testing and building construction and safety measures for development within earthquake prone areas. The California Building Code requires that preliminary soils reports, geohazard reports, and geotechnical reports be prepared, as needed. These identify hazards, if any, at a project location and identify measures required to minimize risk from such hazards These codes include performance standards designed to minimize damage to improvements and to minimize public safety hazards from seismic hazards associated with ground shaking, seismic related ground failure including liquefaction and expansive soils. All new improvements must be constructed to conform to the performance standards. The County is responsible for ensuring that new improvements are constructed consistent with the standards, in accordance with the County's Geologic Hazards Ordinance.

Therefore, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides.

b. The proposed project includes grading, excavation, and trenching at the project site, which could expose soils to wind, water, and other eroding elements. The project would be subject to the County Grading Ordinance and its associated performance standards for preventing soil erosion and sedimentation. Additionally, the applicant would be required to develop and implement a stormwater pollution prevention plan (SWPPP) as part of its National Pollutant Discharge Elimination System permit for construction activities. The SWPPP would include a description of construction activities and would identify the best management practices 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. Compliance with the County Grading Ordinance, and implementation of a SWPPP would ensure that the proposed project would not result in substantial soil erosion or the loss of topsoil.

c. The project site is generally flat and does not contain unstable slopes or soils.

d. Soils are on the project site are Pacheco loam, which are moderately expansive. See also response to a (3).

e. Wastewater generated at the Z-Best facility through employee restrooms and sinks is disposed of through a 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 Products 2017). Therefore, soils would be capable of supporting the use of septic tanks.

f. The project site is generally level with no geologic features.

Note: Paleontological resources are addressed in Section 8.0, Cultural Resources.

14.4 HAZARDS AND HAZARDOUS MATERIALS

Checklist Questions

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?

Impact Discussion

a-c. 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. The nearest school is the Dr. TJ Owens Gilroy Early College Academy, located approximately 2.8 miles northeast of the project site (Google Earth 2020). 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; or emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

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 2019).

e. The nearest facility is Frazer Lake Airpark, located approximately 2.34 miles east of the project site (Google Earth 2020). Frazer Lake Airpark is a small, privately-owner airpark hosting classic antiques, homebuilts, 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.

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*. The project would not block public roadways or otherwise impede access. Therefore, the proposed project would not impair implementation of or physically interfere with the adopted Santa Clara County Emergency Operations Plan or any emergency evacuation plans.

g. According to the California Department of Forestry and Fire Protection's map for Fire Hazard Severity Zones in State Responsibility Areas in Santa Clara County, the project site is not located within a fire hazard severity zone in a state responsibility area. Therefore, the proposed project would not expose people or structures to a risk of loss, injury or death involving wildland fires.

14.5 MINERAL RESOURCES

Checklist Questions

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?

Impact Discussion

According to the Department of Conservation's Mineral Lands Classification Map (1982), the project site is not located within a Mineral Land Classification zone. Therefore, the proposed project would not result in impacts to known mineral resources or result in the loss of availability of a locally important resource recovery site.

14.6 POPULATION AND HOUSING

Checklist Questions

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?

Impact Discussion

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. Employees live in Hollister (51 percent), Gilroy (26 percent), Los Banos (12 percent) and the San Jose area (six percent) (Hexagon Transportation Consultants 2020). 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. The proposed project does not include housing; therefore, it would not induce substantial, unplanned population growth.

b. The proposed project would not displace existing people or housing.

14.7 PUBLIC SERVICES

Checklist Questions

Would the project 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:

a. Fire protection?

b. Police protection?

c. Schools?

d. Parks?

e. Other public facilities?

Impact Discussion

a., b. e. The project site is served by the South Santa Clara County Fire District. The nearest district fire station is located at 3050 Hecker Pass Highway in Gilroy. 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.

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 increase the need for fire and or law enforcement calls, there is no evidence that such an increase would require the construction of new public 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.

c. d. 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. Employees live in Hollister (51 percent), Gilroy (26 percent), Los Banos (12 percent) and the San Jose area (six percent) (Hexagon Transportation Consultants 2020). 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.

14.8 RECREATION

Checklist Questions

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

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

Impact Discussion

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. Employees live in Hollister (51 percent), Gilroy (26 percent), Los Banos (12 percent) and the San Jose area (six percent) (Hexagon Transportation Consultants 2020). 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 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. The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities.

14.9 TRIBAL CULTURAL RESOURCES

Checklist Questions

Would the project:

a. 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:

   (1) 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

   (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of 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.

Impact Discussion

a. The project site contains no Tribal Cultural Resources listed in the California Register of Historical Resources. In addition, the county has not received input from any tribe regarding potentially eligible resources on or near the project site. Under AB 52, if a tribe wishes to be notified of projects within its traditionally and culturally affiliated area, the tribe

must submit a written request to the relevant lead agency. The county has received no such notifications from any tribe (Email Communication from David Rader, Santa Clara County, August 8, 2019). Therefore, no tribal cultural resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources have been identified on the project site. Nor has the County, as the Lead Agency, determined in its discretion and supported by substantial evidence, significant tribal cultural resources on the project site. No substantial adverse change in the significance of a tribal cultural resource would occur.

14.10 UTILITIES AND SERVICE SYSTEMS

Checklist Questions

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?

Impact Discussion

Utility Improvement Construction

a-c. The proposed project does not require constructing or relocating new utility infrastructure (water treatment, wastewater treatment, or other utility infrastructure) with potential to cause significant environmental effects. Therefore, the project would have no impacts related to constructing these types of facilities.

The project includes several utility related changes:

- replacing the existing storm water collection system within Area 1;

- modifying detention basin #1 to reducing its footprint, but increase its capacity by raised its perimeter;
- increasing flood storage capacity by expanding the existing portion of the site which serves as storm water storage; and
- replacing/constructing new storm drainage conveyance facilities on SR 25 to accommodate the proposed new facility entrance and SR 25 widening.

These physical changes have potential to cause significant impacts that are discussed throughout the body of this EIR.

Solid Waste

d, 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 1,250 TPD increase is comprised solely of MSW and inert materials. Of the 1,250 TPD, up to 875 TPD 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 TPD of compostable MSW multiplied by 365 days per year or approximately 319,375 TPD. The project will have a beneficial impact by supporting attainment of state solid waste reduction goals.

14.11 WILDFIRE

Checklist Questions

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?

Impact Discussion

a-d. The project site is not within a state responsibility area for a fire hazard severity zone (California Department of Forestry and Fire Protection 2007). 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 does not increase the existing developed footprint of the Z-Best facility and does not include improvements that 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.

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15.0
Cumulative Impacts

15.1 CEQA Requirements

CEQA requires that an EIR contain an assessment of the cumulative impacts associated with a proposed project. This assessment involves examining project-related effects on the environment in the context of similar effects that have been caused by past or existing projects, as well as the anticipated effects of probable future projects. Although a project's individual impact can be minor, the significance of its incremental contribution to the cumulative effects caused by the project together with other projects must be evaluated. CEQA Guidelines Section 15130 requires a discussion of cumulative impacts when a project has possible environmental effects that are individually limited, but cumulatively considerable. The definition of cumulatively considerable is found in Section 15065(a)(3):

> Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," the lead agency need not consider that effect to be significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. Incremental effects that are not considered cumulatively considerable need not be discussed in detail in an EIR. A lead agency must identify facts and analysis supporting its conclusion that the cumulative impact is not significant.

A lead agency may determine that a project's contribution to a significant cumulative impact would not be cumulatively considerable and, therefore, not significant if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency is required to identify facts and analysis supporting its conclusion that the contribution would not be cumulatively considerable.

The discussion of cumulative impacts is required to reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as much detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the other identified projects contribute rather than the attributes of other projects that do not contribute to the cumulative impact.

15.2 CUMULATIVE DEVELOPMENT SCENARIO

CEQA section 15130(b)(1) requires a cumulative development scenario to consist of either 1) a "list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency" or 2) a "summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program.

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 is included in each cumulative impact discussion, is summarized in Table 15-1, Cumulative Impact Analysis Geographic Scope.

Cumulative Projects List

For some environmental issue areas, the project list approach is used as the cumulative development scenario. This approach is used because the project site is located in a rural part of the county. Its cumulative effects are better understood in the context of more local projects that influence environmental conditions in the local area than by a set of general plan projections where cumulative effects are strongly influenced by urban development in more distant urban areas.

County of Santa Clara staff, San Benito County staff, and City of Gilroy staff provided input to the cumulative project scenario. Based on communications with County of Santa Clara staff and information from the Santa Clara County "Development Proposals" interactive website, there are no active, approved projects within the SR 25 corridor area in unincorporated Santa Clara County for consideration in the cumulative project scenario (Santa Clara County 2020).

Table 15-1 Cumulative Impact Analysis Geographic Scope

Resource Area	Geographic Area
Aesthetics	SR 25, between U.S. Highway 101 and SR 156
Air Quality and Odor	Air Quality: San Francisco Bay Area Air Basin Odors: City of Gilroy, the SR 25 corridor between Highway 101 and SR 152 in San Benito County, and the City of Hollister and surrounding unincorporated areas
Biological Resources	Nine 7.5-minute U.S. Geological Survey quadrangles totally about 575 square miles centered on the project site
Cultural Resources	Historic and Archaeological Resources: City of Gilroy, the SR 25 corridor between U.S. Highway 101 and SR 152, the City of Hollister, and surrounding unincorporated areas Paleontological Resources: Santa Clara County
Energy	State of California
Geology and Soils	Project Site
Greenhouse Gases	State of California
Hydrology and Water Quality	Pajaro River Watershed
Noise	Projects that add traffic to SR 25 (traffic noise) Projects in the immediate vicinity with operational noise affecting the sensitive receptor nearest to the Z-Best site (operational noise)
Transportation	Unincorporated rural Santa Clara County
Water Supply	Llagas Subbasin

SOURCE: EMC Planning Group 2020

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. Combined with the cumulative effects of existing development, the subject projects constitute the cumulative development scenario. Given that SR 25 is a heavily traveled corridor for residents and businesses in the City of Hollister, existing development in the City of Hollister is a notable contributor to cumulative air quality, noise and traffic conditions in the project vicinity. SR 25 also provides important access from Santa Clara County to SR 152 near Hollister and to points east, including Interstate 5.

Planned, approved and recently approved/under construction projects within the three jurisdictions are presented in Table 15-2, Cumulative Project List. The project locations are illustrated on Figure 15-1, Cumulative Project Locations. The agencies were consulted to identify the projects that are under construction, recently approved or are in process of being considered. Larger projects with greater potential to influence environmental conditions in the immediate project area were then selected from those projects.

Table 15-2 Cumulative Project List

Project Name	Location	Project Description
Santa Clara County		
1. Shamrock Seeds (Approved)	6640 Holsclaw Road, Gilroy	10,000-square-foot agricultural research building, parking lot, and two sets of greenhouse structures with total of approximately 40,000 square feet
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
City of Gilroy		
3. PFG Warehouse (Under Construction)	5480 Monterey Road, Gilroy	Grocery and dry goods distribution center with 347,651 square-foot warehouse
4. Gateway Apartments (Under Construction)	Monterey Road/Earvin Court	75-unit senior housing
5. Hampton Inn (Under Construction)	5975 Travel Park Circle	100-room hotel
6. Gilroy Sports Park Master Plan Amendment (Approved)	5925 Monterey Frontage Road	100,000 square-foot, two-story permanent building with two ice rinks and related parking
San Benito County		
7. TARMAC at San Benito (Proposed)	0.30 miles east/southeast of Z-Best facility	Located within the northeastern portion of the Bolsa Study Area, one of four New Community Study Areas identified for new development in the San Benito County General Plan. Proposed phased development to include: • Up to three 70-acre Innovation Center R&D sites • One approximately 176-acre Innovation Center E-Commerce Site • Approximately 400 acres of vehicle testing tracks • Up to 30 acres of supporting infrastructure (access improvements, stormwater drainage, streets, EVA, etc.) • Access point from Betabel Road (101) and Bolsa Road (25) • Utility improvements (power, telecom, etc.) Specific plan would be prepared to detail the project land use designations and development components. 4,200 projected new jobs.
8. San Benito Hemp Campus (Approved)	3 miles east of Z-Best facility	Reuse of 275,000 square feet of existing structures at a former turkey raising facility on a 75-acre agriculturally (AP) zoned parcel south of and adjacent to the Frazier Lake Airport. Hemp cultivation and hemp-derivative manufacturing and oil extraction. The project includes a proposal to erect 60,000 square feet of "hoop" greenhouses for seed production and cultivation. To process hemp grown elsewhere in the California region. The proposed facility would operate seven days per week, 24 hours/day with two, twelve-hour shifts. Potentially 125 employees at full development.

Project Name	Location	Project Description
9. Tanimura & Antle (Approved)	1298 Orchard Road, Hollister, approximately 3.75 miles east of Z-Best facility	New vegetable transplant nursery consisting of greenhouses and related facilities with about 100,000 square feet of office area and maintenance buildings, 700,000 square feet of greenhouse, and 500,000 square feet of outdoor covered growing and work area.

Source: Santa Clara County 2020, City of Gilroy 2019

15.3 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?

15.4 CUMULATIVE PROJECT IMPACTS

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).

Aesthetics

Proposed Project Impact Summary

The proposed project's visual impacts are discussed in Section 5.0, Aesthetics. The proposed project would result in the following visual impacts:

- Impact 5-1. The Proposed Project would not have an Adverse Effect on a Scenic Vista. **No Impact.**
- Impact 5-2. The Proposed Project Could Degrade the Existing Visual Character or Quality of the Site and Its Surroundings. **Less than Significant with Mitigation Incorporated.**
- Impact 5-3. The Proposed Project Would Introduce New Sources of Light with the Potential to Adversely Affect Nighttime Views. **Less than Significant.**

Geographic Scope

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. 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.

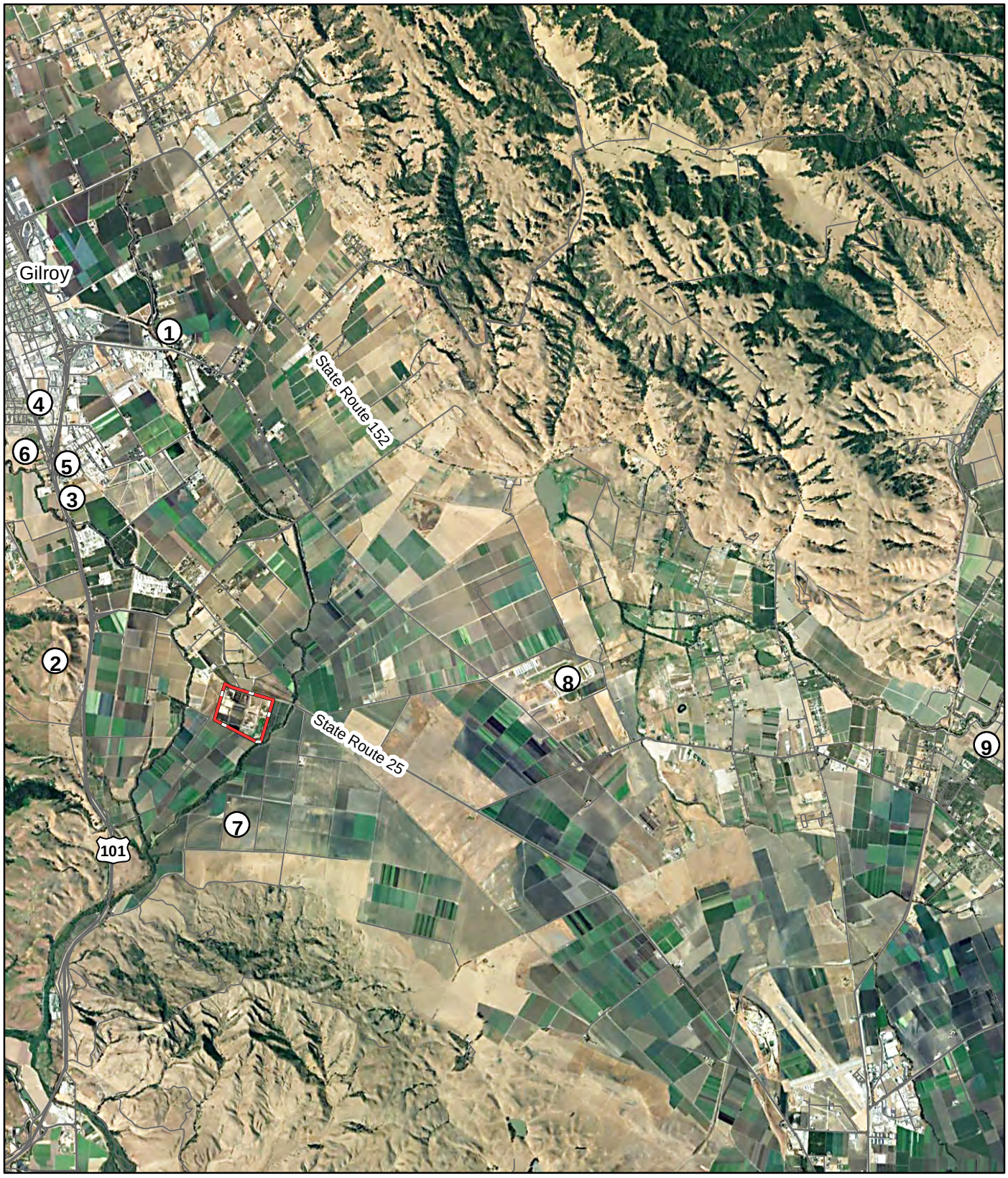
Cumulative Impacts

Scenic Vistas and Visual Character

Past and existing cumulative urban development within the SR 25 corridor has been relatively limited. Scenic vistas and visual character 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 TARMAC project (Cumulative Project #7), none of the cumulative projects would affect aesthetic conditions within the SR 25 corridor. The TARMAC project may substantially affect aesthetic conditions depending on the extent of its visibility from the highway. However, development would be largely set back from the highway with existing agricultural uses maintained adjacent to the highway. Given these conditions, past, present and probable future development within the SR 25 corridor would have less-than-cumulatively significant impacts on aesthetic resource conditions.

Lighting and Nighttime Views

Similarly, past and present uses within the SR 25 corridor have not contributed to significant sky glow. The TARMAC project has potential to significantly alter sky glow conditions, depending upon the level of night-time light that will be implemented. At buildout, it could introduce significant urban development that may increase skyglow effects to the extent that cumulative skyglow effects could be considered cumulatively significant.



Source: ESRI 2018, Santa Clara County GIS 2015

0 1.85 mile

Project Boundary

Project Locations

Figure 15-1

Cumulative Project Locations

Z-Best Composting Facility Modifications EIR

EMC

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Project Contribution to Cumulative Impacts

Scenic Vistas

As described for Impact 5-1, the proposed project would have a less-than-significant impact on scenic vistas. Its visual changes would be minimal relative to existing conditions in that the project would modify existing developed conditions solely within the project site and the adjacent highway, and to a minimal degree relative to existing conditions. Proposed modifications in the interior of the site, such installing ECS bunkers that would appear nominally taller than existing CTI bags and changes to the detention basins, would be minimally visible from SR 25. Therefore, the proposed project's contribution to the cumulative impact on scenic vistas would not be cumulatively considerable and therefore not cumulatively significant.

Visual Character

As described for Impact 5-2, the project would have a potentially significant, but mitigable impact on visual character due to its potential to generate additional litter that could detract from existing visual quality. None of the other project components would adversely affect existing visual character. With implementation of mitigation measure 5-2, the proposed project's contribution to cumulative impacts on visual character would not be cumulatively considerable and therefore not cumulatively significant.

Lighting and Nighttime Views

As described for Impact 5-3, the proposed project would have a less-than-significant impact from skyglow effects, though it will introduce a new minor source of new nighttime lighting within a largely rural area. The lighting would be designed to create zero uplighting such that its contribution to sky glow would be minimal or avoided. Further, the project would be conditioned to demonstrate compliance with County lighting standards as part of the Architectural Site review which ensures lighting is contained onsite and not directed upwards. This change would not be cumulatively considerable.

Conclusion

The project's aesthetic impacts related to scenic vistas, degradation of visual quality and lighting and nighttime views would not be cumulatively considerable.

Air Quality and Odor

Proposed Project Impact Summary

The proposed project's air quality and odor impacts are discussed in Section 6.0, Air Quality of Odor. The proposed project would result in the following impacts:

- Impact 6-1. Construction NOx Emissions will Exceed the Air District Threshold and Degrade Air Quality. **Significant and Unavoidable.**

- Impact 6-2. Operational NOx Emissions will Exceed the Air District Threshold of Significance. **Significant and Unavoidable.**
- Impact 6-3. Vehicle Trips Associated with the Project Would Expose Sensitive Receptors to Carbon Monoxide. **Less than Significant.**
- Impact 6-4. Truck Trips Associated with the Project Would Expose Sensitive Receptors to Toxic Air Contaminants. **Less than Significant.**
- Impact 6-5. Change in Odor Generation. No Impact**.**
- Impact 6-6. Construction and Operational Project Truck Trips Make the Project Inconsistent with the Clean Air Plan. **Significant and Unavoidable.**

Geographic Scope

Criteria Air Emissions and Consistency with the Clean Air Plan

The geographic scope for cumulative impacts is 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. This is the area for which the BAAQMD has prepared plans for reducing specific types of air emissions and otherwise manages air quality to meet federal and state air quality standards.

Carbon Monoxide

Carbon monoxide emissions tend to be localized. The geographic scope of the project's potential to contribute to carbon monoxide (CO) impacts would be primarily limited to intersections to which it would contribute new vehicle trips. The majority of new project trips, primarily truck trips, would be distributed to the west on SR 25. The intersection that would be most affected by new trips is the SR 25/U.S. Highway 101 intersection, which as reported in Section 6.0, Air Quality, had a daily traffic volume of 29,500 in 2017. The project would also contribute new trips to the SR 25/SR 156 intersection to the east of the site. However, the proposed project's potential to contribute to carbon monoxide emissions concentrations is greatest at the SR 25/U.S. Highway 101 interchange, where there are two sensitive receptors within 500 feet of the interchange. There are no sensitive receptors in the vicinity of the SR 25/SR 156 intersection. Therefore, the geographic scope for this effect is the SR 25/U.S. Highway 101 intersection.

Health Risk (Toxic Air Contaminants)

TAC emissions from project-generated truck traffic are created from combusting diesel fuel. 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. The geographic scope for this effect is residential

receptors within about 1,000 feet of the SR 25 corridor between Highway 101 in the City of Gilroy and SR 156 in San Benito County. BAAQMD's community risk and hazard thresholds for new source toxic air contaminants and receptors is based on exposure of residential uses within 1,000 feet of the emissions source.

Cumulative Impacts

Criteria Air Emissions and Consistency with the Clean Air Plan

In developing thresholds of significance for criteria air pollutants, 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.

The air basin is currently in non-attainment for three criteria pollutants: O_3, PM_{10}, and $PM_{2.5}$. Therefore, existing cumulative development has created a significant cumulative impact with regard to these criteria emissions; and it is reasonable to assume that future cumulative projects would add to this impact. Nitrogen oxides (NO_x) are a group of highly reactive gases known that include NO_2. The BAAQMD has adopted measures to reduce emissions of nitrogen oxides. The air basin is in attainment for NO_x as represented by NO_2.

Carbon Monoxide

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

Cumulative traffic on the roadway network onto which new vehicle trips from the proposed project would be distributed has contributed to CO levels at the SR 25/U.S. Highway 101 interchange west of the site and the SR 25/SR 156 intersection east of the site. High CO concentrations are associated with intersections operating at unacceptable levels of service. Level of service is based on traffic volumes occurring during peak travel hours. Existing peak hour traffic volumes at the interchange are high and will worsen under cumulative development conditions as greater traffic volumes pass through the interchange. There are two sensitive residential receptors located approximately 250 feet and 500 feet from the interchange. In the absence of data to conclude that existing or future cumulative CO levels at these receptors do not reach unhealthy levels during peak hours of congestion, it is assumed that cumulative CO impacts are potentially significant. There are no sensitive receptors near the SR 25/SR 156 intersection. Thus, there is no potential for cumulatively significant CO impacts at that location.

Health Risk (Toxic Air Contaminants)

A number of areas within the air basin have been identified by the BAAQMD as being exposed to diesel TAC concentrations that result in elevated cancer risk. The concentrations are generally highest in the region's more urbanized areas, reflecting traffic density along heavily travelled highway corridors. Cumulative development has resulted in increasingly congested roadways and an increase in diesel emissions along major roadways. This in turn has resulted in significant health impacts from TACs associated with increased cancer risk. SR 25 between U.S. Highway 101 and SR 152, the corridor within which sensitive receptors with the most potential to be affected by increased diesel emissions from the proposed are located, is not one of the cumulatively impacted transportation corridors (Bay Area Air Quality Management District 2014).

Project Contribution to Cumulative Impacts

Criteria Air Emissions and Consistency with the Clean Air Plan

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.

As described for Impact 6-1, during construction, the proposed project would generate NO_x emissions that exceed the BAAQMD thresholds of significance. Mitigation measures 6-1a and 6-1b included in Section 6.0, Air Quality, would reduce construction NO_x, but not to level that can be assured to reduce the impact to less than significant. Therefore, the project contribution to construction-related air quality impacts would also be cumulatively considerable and cumulatively significant and unavoidable.

As described for Impact 6-2, during operations, the proposed project would generate NO_x emissions that exceed the BAAQMD thresholds of significance. Mitigation measure 6-2 in Section 6.0, Air Quality and Odors, 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 and cumulatively significant and unavoidable.

Because construction and operational NO_x emissions would exceed the BAAQMD thresholds, as described in Impact 6-7 in Section 6.0, Air Quality and Odors, the proposed project is inconsistent with the Clean Air Plan. Mitigation measures 6-1a. 6-1b, and 6-2 would reduce NO_x emissions that exceed BAAQMD thresholds, but the inconsistency with the Clean Air Plan would be cumulatively significant and unavoidable.

Carbon Monoxide

The proposed project would contribute new vehicle trips to the SR 25/U.S. Highway 101 interchange. The project contribution of trips to the intersection could worsen potentially significant cumulative CO concentrations at the interchange if the trips were to be added during peak travel hours when the potential for congestion and long idling times that generate CO concentrations are highest. As discussed in Impact 6-3 in Section 12.0, Transportation, new trips from the proposed project would not occur during peak travel hours. Therefore, the proposed project would not contribute to CO concentrations under worst-case conditions with greatest potential to adversely impact nearly sensitive receptors. The project contribution to this impact would not be cumulatively considerable.

Health Risk (Toxic Air Contaminants)

As described in Impact 6-4 in Section 6.0, Air Quality and Odors, TACs from diesel emissions from new truck traffic trips on SR 25 would increase. However, the increased concentrations would not exceed the BAAQMD thresholds of significance and the impact is less than significant. The BAAQMD threshold is also a cumulative threshold as described in the Air Districts' 2017 CEQA Guidelines. Since the project does not exceed the cumulative impact threshold, its contribution to exposure of sensitive receptors to diesel TACs would not be cumulatively considerable.

Conclusion

The proposed project will result in three significant and unavoidable cumulative air quality impacts. These are:

- Generation of NO_x emissions during the construction phase;
- Generation of NO_x emissions during operations, and
- Due to the cumulatively significant NO_x emissions, the project would be inconsistent with the Clean Air Plan.

Other air quality effects of the proposed project would not be less cumulatively considerable and therefore not cumulatively significant.

Biological Resources

Proposed Project Impact Summary

The proposed project's impacts on biological resources are discussed in Section 7.0, Biological Resources. The proposed project would result in the following impacts:

- Impact 7-1. Potential Loss or Disturbance of Special-Status Wildlife Species (California Red-Legged Frog). **Less than Significant with Mitigation Incorporated.**

- Impact 7-2. Potential Loss or Disturbance of Special-Status Wildlife Species (Burrowing Owl). **Less than Significant with Mitigation Incorporated.**
- Impact 7-3. Potential Loss or Disturbance of Special-Status Wildlife Species (Nesting Raptors and Migratory Birds). **Less than Significant with Mitigation Incorporated.**
- Impact 7-4. Potential Loss or Disturbance of Special-Status Wildlife Species (Western Mastiff Bay and Pallid Bat). **Less than Significant with Mitigation Incorporated.**
- Impact 7-5. Loss of Potential State or Federally Protected Wetlands (Approximately 0.02-acre Wetland and Approximately 3,400 Linear Feet of Drainage Ditch) **Less than Significant with Mitigation Incorporated.**

Cumulative Projects Geographic Scope

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 U.S. Geological Survey 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 U.S. Fish and Wildlife Service, the California Department of Fish and Wildlife, 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.

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 impacts of past and present projects on special-status species and protected habitat communities are cumulatively significant. The additional projects presented in Table 15-2 could further exacerbate these cumulative impacts.

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, California Department of Fish and Wildlife, 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. The additional projects shown in Table 15-2 could further exacerbate these impacts and worsen cumulative impacts. Despite restoration and other mitigation requirements, impacts of cumulative development on wetlands and waterways are cumulatively significant.

Project Contribution to Cumulative Impacts

Implementation of mitigation measures for the impacts identified above (Impacts 7-1 through 7-5) would reduce potential, significant impacts on special status species and protected wetlands to a less-than-significant level. Given that the project site is relatively devoid of biological resource habitats and the historical effectiveness of the proposed mitigation measures, the impacts of the proposed project on biological resources would not be cumulatively considerable and therefore not cumulatively significant.

Conclusion

The impacts of the proposed project on biological resources including special-status species and protected wetland would not be cumulatively considerable and therefore not cumulatively significant.

Cultural Resources

Proposed Project Impact Summary

The proposed project's impacts on cultural resources are discussed in Section 8.0, Cultural Resources. The proposed project would result in the following impacts:

- Impact 8-1. Potential for Accidental Discovery and Disturbance of Significant Historical Resources or Unique Archaeological Resources. **Less than Significant with Mitigation Incorporated.**

- Impact 8-2. Potential for Accidental Discovery and Disturbance of Native American Human Remains. **Less than Significant with Mitigation Incorporated.**
- Impact 8-3. Potential to Directly or Indirectly Destroy A Unique Paleontological Resource or Site. **Less than Significant with Mitigation Incorporated.**

Cumulative Projects Geographic Scope

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, unique archaeological resources, or paleontological 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.

The geographic scope for paleontological resources is Santa Clara County.

Cumulative Impacts

Historic Resources and Unique Archaeological Resources

Past and present projects within the unincorporated county and within the cities of Gilroy and Hollister have likely resulted in the demolition and alteration of significant cultural resources. Much of the cumulative development took place prior to implementation of protections for cultural resources established through California planning law, the California Government Code and Public Resources Code, and other state and federal regulatory measures. Future projects, including those listed in Table 15-2, may also have potential to damage or destroy significant cultural resources, though the potential is considered to be lower than for older projects given more stringent regulatory requirements but in place within the last several decades. Given the probability that past and present development has damaged significant cultural resources over time, cumulative impacts on these resources are considered to be significant.

Paleontological Resources

There have been significant vertebrate and invertebrate fossils documented throughout California, including Santa Clara County. The potential of a particular site to contain fossils depends upon the geologic age and type of rocks underlying the site. Most fossils can be found in sedimentary rocks such as sandstone or limestone that are created from soil composed of sand, silt, and clay, some volcanic rocks, and various low-grade metamorphic rocks. The potential for finding paleontological resources depends on the location, known deposits, and depth of appropriate rock formations. The U.C. Museum of Paleontology's

(UCMP 2020) resource mapper indicates that there are 191 recorded paleontological resources within Santa Clara County, however, their location is not identified. Therefore, depending on the location and the proposed depth of excavation, cumulative development in Santa Clara County could result in significant, cumulative impacts to unique paleontological resources.

Project Contribution to Cumulative Impacts

Though none are known to exist within the areas where site disturbance would occur, it is possible that grading or subsurface excavations could adversely affect unknown historical resources, unique archaeological resources, Native American human remains, or unique paleontological resources, if any are present, as described in Impacts 8-1, 8-2, and 8-3 in Section 8.0, Cultural Resources. Mitigation measures 8-1, 8-2, and 8-3 require site development activities to immediately stop if subsurface archaeological, human remains or paleontological resources are uncovered. These measures are designed to substantially reduce the potential for significant cultural resources to be damaged or destroyed. Therefore, the project contribution to potential cumulative impacts on significant cultural resources would not be cumulatively considerable.

Conclusion

The proposed project's impacts on archeological resources, human remains and paleontological resources would not be cumulatively considerable and therefore not cumulatively significant.

Energy

Proposed Project Impact Summary

The proposed project's impacts on energy resources are discussed in Section 14.2, Energy. The proposed project would result in the following impacts:

- Wasteful, inefficient, or unnecessary consumption of energy resources. **Less than Significant.**

Cumulative Projects Geographic Scope

The geographic scope for this effect is cumulative development in California with particular emphasis on current and future cumulative development. This broad scope is reflective of the rigorous state effort, as expressed through multitude of legislative acts and regulations, to reduce energy consumption across a multitude of 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.

Cumulative Impacts

There is no codified or CEQA analysis practice standard for determining what constitutes a significant impact regarding wasteful or inefficient use of energy. However, it can be assumed that past cumulative projects are less energy efficient and result in more transportation fuel use than future projects. As California continues to implement more rigorous legislation and regulations to reduce energy use through improved energy efficiency and transportation technology changes, it is assumed that future projects, particularly land development projects, will not be sources of wasteful or inefficient energy use. Nevertheless, given the large geographic scope considered for this impact and the broad scale of past economic development in the state, the cumulative impact on energy use is considered to be significant.

Project Contribution to Cumulative Impacts

The project impact from wasteful and inefficient use of energy would be significant if its contribution to wasteful and inefficient use of energy would be cumulatively considerable.

The project will generate new employee vehicle trips and new truck haul trips. Vehicle miles traveled will increase as will transportation fuel consumption. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency and substituting cleaner fuels (renewable electricity) for carbon-based fuels. Related fuel demand and efficiency is not within the control of the applicant per se. Regardless, trips to and from the site are and will continue to be made in vehicles that are subject to California's increasingly rigorous fuel efficiency regulations.

The primary source of increased electricity demand from the project will be for powering the proposed ECS mechanical systems. The proposed project would result in an estimated 6,100,000 kWh per year increase in power demand (Engineered Compost Systems 2019). The California Energy Commission Energy Consumption Data Management System estimated that the total electricity consumption in Santa Clara County in 2018 was 16,708,080,341 kWh (California Energy Commission 2020). The new demand created by the project is about 0.04 percent of the total 2018 Santa Clara County electricity consumption.

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 will be more energy efficient than the existing CTI technology. The increase in energy demand, both from electrical energy and fuel energy perspectives, will be for a productive use that helps to meet state solid waste regulatory goals. In this context, the project's contribution to cumulative impacts regarding inefficient, wasteful, and unnecessary consumption of energy would not be cumulatively considerable.

Conclusion

Given the factors presented above, the project contribution to significant cumulative impacts from energy use would not be cumulatively considerable and therefore not cumulatively significant.

Geology and Soils

Proposed Project Impact Summary

The proposed project's impacts associated with geology and soils are discussed in Section 14.3, Geology and Soils.

The proposed project would have less-than-significant impacts associated with the following geology and soils effects as described in Section 14.3, Geology and Soils.

- Risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. **Less than Significant.**
- Risks to life or property associated with expansive soil. **Less than Significant.**
- Soil erosion or the loss of topsoil. **Less than Significant**.

Geographic Scope

The geographic context for the analysis of cumulative geologic hazard impacts is usually site-specific because each project site has a different set of geologic considerations and would have not exacerbate or otherwise impact off-site persons or properties. Future development of other sites also would be subject to uniform site development and construction standards as a means to address any geologic hazards posed by those projects.

Cumulative Impacts

For geology and soils, the area of cumulative impact for this project is the site itself. There is nothing about the proposed project that would exacerbate geologic or soil hazards on- or off-site. For these resource areas, there are no cumulative projects whose impacts, when combined with existing and reasonably foreseeable future project related impacts, would result in cumulatively considerable construction or operational impacts. If future projects are developed in the immediate area, they would be subject to the same measures and ordinance requirements as the proposed project.

Conclusion

As described above, the proposed project would not contribute to cumulative impacts associated with geology and soil hazards.

Greenhouse Gases

Proposed Project Impact Summary

The proposed project's greenhouse gas impacts are discussed in Section 9.0, Greenhouse Gases. The proposed project would result in the following impacts:

- Impact 9-1. Project Would Generate Greenhouse Gas Emissions. **Significant and Unavoidable.**
- Impact 9-2. Proposed Project Conflicts with the Applicable Plan to Reduce Greenhouse Gas Emissions. **Significant and Unavoidable.**

Geographic Scope

GHG emissions effects are not localized to areas where they are produced. Climate change is a global phenomenon resulting from the combined effects of GHG emissions produced worldwide. Consequently, the analysis of climate change impacts from production of GHGs as included in Section 9.0, Greenhouse Gasses, is inherently cumulative in nature. While the true geographic scope of the area affected by GHG emissions is global, for purposes of this EIR, the geographic scope is considered to be the State of California. This scope is selected because California's legislative and regulatory climate change framework is designed to reduce GHG emissions whose management is directly or indirectly within the control of the state. The CEQA process is considered to be the appropriate mechanism for assessing the impacts of GHG emissions from land development projects in light of the state's comprehensive climate change mitigation strategy.

Cumulative Impacts

Potential effects of global warming at the local, regional and state scale are described in Section 9.2 and are summarized above. The cumulative impacts of global warming are significant given projections of a range of adverse social, economic, and environmental effects resulting therefrom. This is also true for the climate change setting within the state.

Project Contribution to Cumulative Impacts

GHGs produced by the project would exceed the thresholds of significance as described in Section 9.0, Greenhouse Gases. Therefore, the project's contribution to cumulative GHG emissions impacts are cumulatively considerable and cumulatively significant. Mitigation measure 9-1 requires the applicant to implement all feasible mitigation measures to reduce the project's GHG emissions to below the threshold of significance. However, because it cannot be determined with certainty that sufficiently enforceable mitigation measures will be available to mitigate these impacts, the project's GHG emissions are considered significant and unavoidable. Therefore, the project would also have a cumulatively significant impact on greenhouse gases.

Conclusion

GHG impacts are inherently cumulative. GHG emissions produced by the proposed project are cumulatively considerable and would have a cumulatively significant GHG impact.

Hydrology and Water Quality

Proposed Project Impact Summary

The proposed project's hydrology and water quality impacts are discussed in Section 10.0, Hydrology and Water Quality. The proposed project would result in the following impacts:

- Impact 10-1. The Proposed Composting Operations Would Not Violate Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Groundwater Quality. **Less than Significant.**
- Impact 10-2. The Proposed SR 25 And Z-Best Entrance Improvements Would Not Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Groundwater Quality. **Less than Significant.**
- Impact 10-3. The Proposed ECS Improvements Would Not Alter the Existing Drainage Pattern within Area 1 in a Manner that Would Impede or Redirect Flood Flows. **No Impact.**
- Impact 10-4. The Proposed SR 25 And Z-Best Entrance Improvements Would Generate an Increase in Storm Water Runoff. **Less than Significant.**

Geographic Scope

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. Regarding groundwater, the Llagas Subbasin underlies the project site and parts of southern Santa Clara Valley and adjacent San Benito County and is within the watershed boundaries noted above.

Flood Hazards (Storm Water Runoff)

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. These factors have contributed to increased flood hazards from the Pajaro River.

Cumulative Impacts

Water Quality

Past and existing cumulative development has contributed to significant cumulative surface and groundwater quality impacts during construction and during operations 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). Projects included in Table 15-2 could contribute to this existing significant cumulative impact, but their required conformance with current water quality regulations would lessen that potential.

Flood Hazards (Storm Water Runoff)

Past and current cumulative urban development within the cumulative flood hazard geographical boundary 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. This existing development is considered to have cumulatively significant impacts on flood hazard conditions. Projects included in Table 15-2 are not expected to contribute to this impact as they will be required to conform to current stormwater management regulations requiring no net increase in the volume or rate of runoff relative to pre-existing conditions and will be required to meet the County of Santa Clara's "no net fill" requirement for avoiding impacts from reduced flood storage capacity (please refer to Section 10.0, Hydrology and Water Quality for more information).

Project Contribution to Cumulative Impacts

Water Quality

The proposed project may result in reduced surface water and groundwater quality effects relative to existing conditions at Z-Best. The project in part is designed to enable Z-Best to comply with the SWQCB's 2015 Compost General Order. The Compost General Order includes performance standards for protecting surface and groundwater quality from composting operations. The standard requires that the existing unlined detention basin #1 be lined and protected from overtopping in a more intense design storm than the current pond is designed to withstand, and that new ECS technology improvements be designed with enhanced stormwater control features to enhance prevention of groundwater quality

degradation. Z-Best's required conformance with its existing SWPPP will ensure that potential construction phase impacts on both surface and groundwater quality are minimized. Therefore, the proposed project would not have a cumulatively considerable or cumulatively significant impact on surface or groundwater quality.

Flood Hazards (Storm Water Runoff)

As described in Section 10.0, Hydrology and Water Quality, the proposed project includes an expansion to Z-Best's existing flood storage facility. The facility is being expanded to compensate for flood storage capacity that would be lost by raising the existing CTI pad one foot to above the 100-year flood elevation. This change must be made to comply with the Compost General Order. The capacity of the facility expansion is adequate to fully compensate for the noted loss of flood storage; the project would result in no net increase in the flood elevation. Therefore, it would not have a cumulatively considerable impact or cumulatively significant impact on flood hazards.

Conclusion

As described above for Impact 10-1 through 10-4 above, the project's impacts would not be cumulatively considerable with regard to: 1) violating water quality standards or waste discharge requirements, or degrading surface or groundwater quality during construction or operations, 2) impeding or redirecting flood flows, or 3) generate an increase in storm water runoff.

Noise

Proposed Project Impact Summary

The proposed project's noise impacts are discussed in Section 11.0, Noise. The proposed project would result in the following impacts:

- Impact 11-1. On-Site Operational Ambient Noise Levels Would Not Result in a Permanent Substantial Increase in Excess of County Standards at the Nearest Sensitive Receptor. **Less than Significant.**
- Impact 11-2. Project-Related Traffic Noise Levels Would Not Result in a Permanent Substantial Increase in Excess of County Standards at the Nearest Sensitive Receptor. **Less than Significant.**
- Impact 11-3. Temporary Construction Noise Levels Would Not Result in a Substantial Increase in Excess of County Standards at the Nearest Sensitive Receptor. **Less than Significant.**
- Impact 11-4. Construction Activities Would Not Generate Excessive Groundborne Vibration. **Less than Significant.**

Geographic Scope

Long-term Traffic and Operational Noise Impacts

The geographic scope for cumulative traffic noise impacts is development that contributes vehicle trips to SR 25. Vehicles are the dominant traffic noise source within the highway corridor that affect noise sensitive residential receptors located along the segment of SR 25 onto which project-generated traffic would be distributed.

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 at the noise-sensitive residential receptor nearest to the Z-Best site. That receptor is located about 750 feet to the north of the project site.

Temporary Construction Noise and Groundborne Vibration

Construction schedules for the cumulative projects within the corridor are unknown. Additionally, due to the distance of the cumulative projects, even if their construction schedules coincided with the proposed project's construction schedule, it is unlikely that the cumulative construction or any possible cumulative groundborne vibration, would be noticeable. Therefore, temporary construction noise and groundborne vibration will not be discussed further.

Cumulative Impacts

Long-term Traffic Noise Impacts

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 Ldn noise exposure standard under existing conditions. Probable future development within the region will exacerbate existing noise impacts over time by contributing additional traffic to SR 25. Therefore, cumulative traffic noise impacts on these receptors are considered to be cumulatively significant.

Long-Term Operations Noise Impacts

There are no existing, operating developments in the immediate vicinity of the subject sensitive receptor that generate operational noise which would be measurable at the significantly impacted residential receptor. Other than Z-Best, the nearest development is Uesugi Farms, which is located approximately 1,500 feet to the southwest of the receptor. However, Uesugi Farms ceased operations in 2019. Therefore, the project-specific operational noise impact is the same as the cumulative operational noise impact for the subject receptor.

Project Contribution to Cumulative Impacts

As discussed in Section 11.0, Noise, a traffic noise analysis was prepared for the proposed project, as was an operational noise analysis. Both analyses included evaluation of existing and existing plus project noise conditions. Cumulative traffic and operations effects are discussed in the context of the proposed project contribution to both effects.

Long-Term Operations Noise Impacts

As described for Impact 11-1, project-specific operational noise impacts at the nearest sensitive receptor are equivalent to cumulative operational noise impacts because there are no other existing or cumulative projects in the vicinity of the receptor other than Z-Best that would contribute to operational noise. The operational noise analysis concluded that the proposed project's operational noise impact on the nearest noise sensitive receptor would be less than significant. Therefore, the project contribution to cumulative operational noise impacts would not be cumulatively considerable.

Long-term Traffic Noise Impacts

As described in Impact 11-2, the traffic noise analysis concludes that noise levels at most sensitive-receptor locations along SR 25 already exceed the county's 55 dB Ldn exterior noise level standard for residences. The analysis also determined that traffic volume increases from the proposed project, when added to existing noise levels from traffic on the highway, would result in slight measurable increases in traffic noise level exposure of 0.1 to 0.7 dB at the sensitive receptors, and that the slight increase would not be noticeable at nearby noise-sensitive receptors. Generally, the human ear cannot discern changes (decreases or increases) in noise levels less than 3 dB. Under cumulative development conditions, traffic-generated noise exposures at the sensitive receptors will increase. However, the project's contribution to the traffic noise would not be cumulatively considerable and therefore the cumulative impact would be less than significant.

Conclusion

The proposed project's impacts related operational noise and traffic noise would not be cumulatively considerable.

Transportation

Proposed Project Impact Summary

The proposed project's transportation impacts are discussed in Section 12.0, Transportation. The proposed project would result in the following impacts:

- Impact 12-1. Operational VMT. The proposed project would conflict with CEQA Guidelines section 15064.3 by exceeding the applicable land use threshold for VMT.

- Impact 12-2. Operational Circulation Safety and Emergency Access on State Route 25 at the Project Entrance. **Less than Significant Impact.**
- Impact 12-3. Substantially Increase Traffic Hazards or Result in Inadequate Emergency Services During Construction Activities. **Less than Significant with Mitigation Incorporated.**

Vehicle Miles Traveled-Operational

As discussed in Section 15, Transportation, the project would generate significant increases in VMT with regard to both employee trips and truck trips. There currently are no feasible, established programs to mitigate these impacts. Although the project would be required to participate in future VMT mitigation programs that become available during the life of the project, it cannot be determined with certainty that these mitigation programs would be available. Therefore, the project's VMT impacts are significant and unavoidable. The Project's VMT impacts are also cumulatively considerable.

Traffic Safety Impacts

As described in Impact 12-2, the proposed project includes two new circulation improvements. The first is a set of new acceleration and deceleration lanes on SR 25 designed to separate traffic entering and exiting the site from through traffic on SR 25. SR 25 is currently one-lane in each direction. The second is a new site entrance across from Bolsa Road that would form a new fourth leg of the existing SR 25/Bolsa Road intersection. The existing site entrance would be closed once the new entrance is constructed. Please refer to Section 4.0, Project Description and Section 12.0, Transportation, for more information on these improvements. As described in Section 12.0, the set of proposed improvements is expected to result in an overall improvement in operations safety on SR 25 along the project site frontage and at the SR 25/Bolsa Road/new project site entrance intersection. Therefore, the proposed project would improve existing and cumulative traffic safety conditions.

Geographic Scope

Vehicle Miles Traveled

The geographic scope for analyzing cumulative VMT 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.

Traffic Safety Impacts-Construction Activities

The geographic boundary for construction traffic safety effects is the segment of SR 25 along the project site frontage where construction activities associated with the project would occur.

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 the VMT methodology for evaluating transportation impacts under CEQA is so new, there are very few mitigation options available for future projects within the cumulative impact area to reduce or mitigate their VMT impacts. Therefore, cumulative VMT impacts are assumed to be significant.

Traffic Safety Impacts-Construction Activities

The timing of construction activities associated with the cumulative projects identified in Table 15-2 is unknown. None are adjacent to each other, none are known to have construction activities that interact, and none are known to require construction of improvements on SR 25 along the project site frontage. The projects are dispersed and their related construction traffic trips are likely to be distributed onto many different roadways. Even if two or more of the projects were under construction at the same time, it is unlikely that they would contribute a large number of vehicle trips onto the segment of SR 25 along the project site frontage. Therefore, it is unlikely that the traffic safety impacts of cumulative projects would be cumulatively significant.

Project Contribution to Cumulative Impacts

Vehicle Miles Traveled-Operational

As discussed above, the proposed project would have a significant VMT impact from new employee trips. In addition, the proposed project would cause a substantial increase in truck-based VMT. No feasible mitigation is currently available to reduce the VMT impacts of the proposed project or future projects to less than significant levels. Therefore, the project's VMT impact would be cumulatively considerable and would result in a significant cumulative impact.

Traffic Safety Impacts-Construction Activities

As described for Impact 12-3, the proposed project construction traffic safety effects are limited to the segment of SR 25 along the project site frontage. There are no cumulative projects proposed within the vicinity with which project construction traffic would combine to exacerbate cumulative traffic safety hazards on this segment of SR 25. The cumulative projects are geographically dispersed such that their construction traffic trips are likely to be distributed onto many different roadways other the segment of SR 25 along the project site frontage. The proposed project would not likely exacerbate traffic safety hazards related to

increased construction traffic on SR 25, even if project construction were to occur simultaneously with one or more of the cumulative projects. Implementation of construction traffic management plan as part of the project as required in mitigation measure 12-3 would assure that the project's construction traffic safety impacts would not be cumulatively considerable.

Water Supply

The proposed project's water supply impacts are discussed in Section 13.0, Water Supply. The proposed project would result in the following impacts:

- Impact 13-1. Decrease Groundwater Supplies by 149 Acre Feet Per Year but Would Not Impede Sustainable Groundwater Management of the Basin. **Less than Significant.**
- Impact 13-2. The Proposed Project Would Not Interfere with Groundwater Recharge and Therefore, Would Not Impede Sustainable Groundwater Management of The Basin. **No Impact.**
- Impact 13-3. The Proposed Project Would Not Conflict with or Obstruct Implementation of a Sustainable Groundwater Management Plan. **No Impact.**

Geographic Scope

The geographic scope for water supply effects is the Llagas Subbasin, which is part of the larger Gilroy-Hollister Valley Groundwater Basin that extends south into San Benito County. The Z-Best facility obtains water from this subbasin through an on-site well.

Cumulative Impacts

Past, present and future projects within the Llagas Subbasin have extracted, and will continue to extract, groundwater from the subbasin. The long-term average groundwater pumping in the Llagas Subbasin is 44,000 acre-feet per year (AFY) based on average pumping from 2003 to 2012. The maximum annual pumping during that period was 48,000 AF and the minimum annual pumping was 39,000 AF. Groundwater supply conditions within the subbasin have been stable over time, with no net change in groundwater storage. Inflows have been equivalent to outflows. The Llagas Subbasin is not in a condition of chronic overdraft and long-term average yields are sustainable. SCVWD makes investments, implements programs, and modifies water supply operations as needed to maintain sustainable conditions (Santa Clara County Water District 2016, pp. 4-13 - 4-15). Consequently, cumulative impacts on groundwater supply from past and present projects would not be cumulatively considerable.

The SCVWD assumes that demand for groundwater pumping will increase over time under foreseeable cumulative development conditions. A seven percent increase was projected

between 2016 and 2020, equivalent to approximately 3,080 AFY (.07 x 44,000 AFY), plus an additional 6,000 AFY increase in demand projected from 2020 to 2040 (Santa Clara County Water District 2016, p. 4-18). SCVWD is not aware of any areas where groundwater pumping has a significant or unreasonable effect on interconnected surface water (Santa Clara County Water District 2016, p. 3-10).

Project Contribution to Cumulative Impacts

As summarized in Table 13-2, Change in Groundwater Demand, and in Impacts 13-1 to 13-3 in Section 13.0, Water Supply, relative to existing conditions where existing operations result in groundwater demand of approximately 32,664,000 gallons per year, the proposed project would increase water demand by 48,542,000 gallons per year or 149 acre feet per year (AFY) during an average annual precipitation year. The 149 AFY increase in demand represents 1.6 percent of the water district's projected 9,080 AFY (3,080 AFY+ 6,000 AFY) increase in groundwater demand from the subbasin to 2040. The incremental increase is a small fraction of the demand projection.

As described in the Regulatory Setting section of Section 13.0, Water Supply, the SCVWD utilizes water supply management tools to plan for and meet short- to long-term water demand within its boundary, including the Llagas Subbasin. These include the Groundwater Management Plan (prepared pursuant to requirements in the Sustainable Groundwater Management Act) and the Water Supply Master Plan. Based on information in the Groundwater Management Plan presented above, the projected project groundwater demand represents a small fraction of cumulative projected new demand from the subbasin to 2040. The Water Supply Master Plan identifies a water management project planned for the Llagas subbasin that is expected to be operational by 2035. The South County Recharge project is designed to optimize the use of existing groundwater supplies within the subbasin. It does not involve import of water from outside the basin as a means to ensure that cumulative demand (including demand from the proposed project) and cumulative supply remain in equilibrium. Therefore, the proposed project contribution to increases in groundwater demand from the subbasin would not impede SCVWD's ability to meet groundwater sustainability goals identified in the Ground Water Management Plan. The project contribution to groundwater supply demand would be less than considerable and the cumulative impact would be less than significant.

Conclusion

The proposed project would not have a cumulatively considerable impact regarding impeding sustainable groundwater management of the Llagas subbasin or implementation of a sustainable groundwater management plan.

Other Environmental Topics

As described in earlier sections of this EIR, the proposed project would have no impact in the areas of agriculture and forestry resources, hazards and hazardous materials, mineral resources, population and housing, public services, recreation, tribal cultural, 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.

16.0
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

Based on the environmental analysis provided in this EIR, all but three of the significant impacts associated with the proposed project can be reduced to a level of insignificance through implementing mitigation measures presented in this EIR. The three significant and unavoidable impacts are construction NO_x emissions and operational NO_x emissions (project level and cumulative) and are discussed in detail in Section 6.0, Air Quality and Odors, and Section 15.0, Cumulative Impacts, are summarized below.

Construction Emissions

IMPACT 6-1	Construction NO_X Emissions Will Exceed the BAAQMD Thresholds and Degrade Air Quality (Project Level and Cumulative)	Significant and Unavoidable

Construction of the proposed project would result in 111.22 pounds per day of nitrogen oxides (NO_x). The BAAQMD threshold of significance is 54 pound per day. The proposed project would exceed the threshold by 57.22 pound per day or 106 percent. This is a significant impact. Mitigation Measures 6-1a and 6-1b, presented in Section 6.0, Air Quality and Odors, would reduce the project impact, but there is no assurance that the impact would be reduced to a less-than-significant level. Therefore, the project impact would be significant and unavoidable. The BAAQMD threshold is based on the cumulative volume of emissions that must be maintained to avoid cumulative NO_x construction emissions impacts within the air basin. Consequently, the project contribution to construction-related air quality impacts would be cumulatively considerable and cumulatively significant and unavoidable.

Operational Emissions

IMPACT 6-2	Vehicle Trips Associated with Project Operations Would Result in 123.19 Pounds Per Day or 20.58 Tons Per Year of NO_X Emissions (Project Level and Cumulative)	Significant and Unavoidable

New on-road truck trips (trips comprised of all trucks that delver materials, including feedstock to the project site and convey finished products and waste materials from the project site) generated by the proposed project would result in 123.19 pounds per day of NO_x, which exceeds the BAAQMD daily threshold of 54 pounds per day. This is a significant impact. Mitigation Measure 6-2 presented in Section 6.0, Air Quality and Odors, would reduce the impact, but there is no assurance that the impact would be reduced to a less-than-significant level. Therefore, this impact would be significant and unavoidable. The BAAQMD threshold is based on the cumulative volume of emissions that must be maintained to avoid cumulative NO_x emissions impacts within the air basin. Consequently, the project contribution to operational NO_x emissions impacts would be cumulatively considerable and cumulatively significant and unavoidable.

Inconsistency with Clean Air Plan

IMPACT 6-7	Construction and Operational Project Truck Trips Make the Project Inconsistent with the Clean Air Plan	Significant and Unavoidable

New on-road truck trips generated during construction and project operations would result in NO_x emissions that exceed the BAAQMD thresholds as described in the discussions under Impact 6-1 and 6-2 in Section 6.0, Air Quality and Odors. NO_x emissions during construction would remain significant and unavoidable even with implementation of Mitigation Measures 6-1 and 6-2. Similarly, NO_x emissions during operations would remain significant and unavoidable even with implementation of Mitigation Measure 6-2. The proposed project is inconsistent with the Clean Air Plan with regards to reducing concentrations of NO_x within the air basin. Therefore, this impact would be significant and unavoidable.

Greenhouse Gas Emissions

IMPACT 9-1	Proposed Project Would Generate Greenhouse Gas Emissions	Significant and Unavoidable

The proposed project would generate GHG emissions directly from mobile sources (employee vehicles and truck trips) and indirectly from consumption of electricity produced off-site from fossil fuels. GHG emissions would total 3,947.84 MT CO2e per year. As BAAQMD has not updated its mass emissions threshold be consistent with current statewide reduction targets, the County has determined that any net increase in GHG emissions from a project are potentially significant, and mitigation is required. Mitigation measure 9-1 requires the applicant to purchase carbon off-sets to compensate for the emissions volume that would be generated by the project. However, given uncertainty over whether GHG reductions through current offset programs are reliable and verifiable, it cannot be guaranteed that project emissions would be completely offset by implementation of mitigation measure 9-1. Therefore, the impact would be significant and unavoidable.

GHG Reduction Plans

IMPACT 9-2	Proposed Project Conflicts with the Applicable Plan to Reduce Greenhouse Gas Emissions	Significant and Unavoidable

As discussed in the Regulatory Setting section above, to date, neither the County of Santa Clara, nor any regional agency has prepared a qualified climate action plan or a GHG reduction plan that is applicable to the proposed project. Absent other local or regional plans for reducing GHGs, state legislative guidance included in SB 32 is considered to be the plan for reducing GHGs that is applicable to the proposed project.

As previously noted, because the BAAQMD mass emissions threshold has not been updated to address SB 32, the applicable threshold of significance for the proposed project is any increase in GHG emissions. Mitigation measure 9-1 has been identified to offset project emissions. However, given uncertainty over whether GHG reductions through current offset programs are reliable and verifiable, it cannot be guaranteed that project emissions would be completely offset. Therefore, the proposed project could impede attainment of the SB 32 statewide emissions reduction goal for 2030 even with implementation of mitigation measure 9-1. Therefore, this impact would be significant and unavoidable.

Operational Vehicle Miles Traveled

IMPACT 12-1	The proposed project would conflict with CEQA Guidelines section 15064.3 by exceeding the applicable land use threshold for VMT	Significant and Unavoidable

VMT generated by new employee trips would exceed the applicable VMT/capita significance threshold identified for projects in the rural unincorporated area. The increase in truck VMT would also be a significant impact. No feasible mitigation measures have been identified that would reduce VMT of either new employee trips or project-generated truck trips. Therefore, this impact would be significant and unavoidable.

17.0
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 2020). In April 2020, the unemployment rate was 19.8 percent in San Benito County and 11.7 percent in Santa Clara County (California Employment Development Department 2020). Therefore, it is anticipated that Z-Best will be able to recruit new

employees who are already residing in Santa Clara and San Benito counties. 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 to improve safety conditions associated with trucks entering and leaving the project site. These improvements 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.

18.0
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.

18.2 Project Objectives and Significant Impacts

As discussed above, alternatives must be able to meet most of the basic objectives of the project and avoid or substantially lessen any of the significant effects of the project. The project objectives and significant unavoidable effects are summarized here.

Project Objectives

As discussed above, alternatives must be able to meet most of the basic objectives of the project and avoid or substantially lessen any of the significant effects of the project. Therefore, the proposed project objects and significant effects are summarized here.

- 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.
- 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 Assembly Bill 1383, Senate Bill 1383, Assembly Bill 1826, Assembly Bill 1594, Assembly Bill 605, and Senate Bill 876.
- Ensure operational consistency with the State Water Quality Control Board's 2015 Composting General Order.
- Avoid operational traffic impacts from new employee and truck traffic by avoiding generating such trips during the AM and PM peak hours.
- 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 widening SR 25 along the project site frontage to enable installation of acceleration and deceleration lanes into and out of the relocated driveway.
- 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.

Significant Impacts

Significant Impacts Reduced to Less than Significant with Mitigation Measures

- Degrade existing visual character or quality of the site or surroundings.
- Potential construction impacts on California red legged frog.
- Potential construction impacts on protected nesting birds.
- Potential construction impacts on burrowing owl.
- Potential construction impacts on special-status bats.
- Impacts to potentially jurisdictional waters.
- Potential for discovery and disturbance of unique archaeological deposits.
- Potential for discovery and disturbance of Native American human remains.
- Potential to destroy a unique paleontological resource or site.
- GHG generation and associated conflict with a greenhouse gas reduction plan.
- Increase traffic hazards during construction activities.

Significant and Unavoidable Impacts

- Generation of NO_x emissions during construction at a volume that exceeds the BAAQMD threshold of significance (project and cumulative impact).
- Generation of NO_x emissions during operations at a volume that exceeds the BAAQMD threshold of significance (project and cumulative impact).
- Inconsistency with the BAAQMD Clean Air Plan from exceeding the BAAQMD's construction and operational NO_x threshold.
- Generate GHG emissions that would exceed the applicable thresholds of significance.
- Generation of VMT during operations that would exceed applicable thresholds of significance (project and cumulative impact).

18.3 Alternatives Considered But Rejected

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. An additional estimated 10 million tons of organics per year will need to be managed in 2020 and 20 million tons per year in 2025. To properly manage these quantities of organics, CalRecycle has estimated 50 to 100 new facilities will be needed. Others have estimated as many as 200 new facilities will be needed (Golder Associates 2018).

To meet state regulatory waste diversion requirements, it is likely existing composting facilities will expand operations and/or that new composting facilities will be developed to increase 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 by 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 12.0, 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.

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 in San Jose at 675 Los Esteros Road 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 near Alviso. 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. 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 availability of the 22 acres of unused land that would be required for the installation of an ECS composting system (Z-Best Products 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 Rd. is a 42-acre site made up of 30 acres of uncapped landfill; 6 acres of shop, office, parking facility and a stormwater basin; 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.

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 the 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's 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. In addition, the South Valley Organic Composting Facility and the Z-Best Composting facilities are approximately the same distance (45) miles from the Zanker

Recycling Facility, which is the source of the MSW to be composted. Therefore, expansion at the South Valley Organic Composting Facility would provide no opportunities to reduce the significant and unavoidable air quality and GHG impacts from trucking.

Establishing a New Alternative Location

Establishing a new MSW composting facility is highly unlikely to have fewer or less 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 biological, cultural resources, hydrology and water quality, noise, and odor 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.

18.4 ALTERNATIVES CONSIDERED

The following alternatives to the project are considered as a basis to avoid or substantially lessen the significant impacts of the proposed project:

1. Alternative 1: No Project; and
2. Alternative 2: Reduced Project Scale; and
3. 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.

Alternative 1: No Project Alternative and Description

CEQA Guidelines section 15126.6 (e) requires the "No Project" alternative 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 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.

No Project Alternative and 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.

Air Quality

The proposed project would result in significant unavoidable construction phase and operational phase NO_x emissions, primarily due to increased haul truck traffic. The no project alternative would avoid both of these impacts, as no new haul trucks trips would result for operations and truck trip generation associated with construction would be limited to modifications to detention basin #1.

The proposed project results 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.

Biological Resources

The proposed project would have potential, significant impacts on California red-legged frog, burrowing owl, special-status bats, protected nesting birds and a potentially sensitive natural community/jurisdictional waters (small wetland). These impacts would be reduced to less-than-significant with implementation of mitigation measures. The no project alternative would avoid the potential, significant impacts on California red-legged frog and a potential wetland. Under the no project alternative, detention basin #1 would still be modified; related construction activities could adversely affect burrowing owls, special-status bats, and protected nesting birds, but the impact is substantially lessened as significantly less construction activity would occur. The no project alternative is superior to the proposed project.

Cultural Resources

The proposed project has potential significant impacts to historic resources, unique archaeological resources, Native American human remains, and unique paleontological resources due to proposed construction activity. The impacts are reduced to less than significant with implementation of mitigation measures. 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. The no project alternative is superior to the proposed project.

Greenhouse Gases

The proposed project would result in significant, unmitigated impacts from generation of GHGs. The no project alternative would substantially lessen this GHG impact by eliminating the new employee and haul truck trips that are the dominant cause of the impacts. Under the no project alternative, detention basin #1 would still be modified, but related construction activities would generate a much smaller volume of GHG emissions. The no project alternative is superior to 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. The no project alternative is superior to the proposed project.

Regarding traffic safety operations, the no project alternative would result in no traffic improvements being made on SR 25 to improve traffic safety; however, these improvements would not be required with the no project alternative. The significant, but mitigable construction traffic safety impact, would be avoided.

Alternative 2: Reduced Project Scale

Alternative Description

This alternative involves one change to the proposed project. It would reduce peak day truck trips from 314 trips per day to 177 trips per day, a 56 percent reduction. The primary purpose is to avoid or substantially lessen the significant, unavoidable project and cumulative impacts from exceeding the BAAQMD's daily NO_x emissions threshold during peak project operations (that would occur up to 20 days per year). 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. No changes to other components of the proposed project would occur as part of this alternative.

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 6-7, Unmitigated Operational Criteria Air Pollutant Emissions, found in Section 6.0, Air Quality, shows that under peak season daily operations, daily NO_x emissions 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, new daily truck trip volume would also peak at 314. 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, new truck trip volume must be reduced to a number that results in a 69.19 pounds per day emissions reduction. The trip reduction volume is approximately 177 trips (69.19 pounds per day divided by 0.39 pounds per day/truck trip), or about 56 percent.

As shown in Table 6-7, annual NO_x emissions (20.58 tons per year) exceed the annual NO_x emissions threshold of 10 tons per year by slightly more than 100 percent. Consequently, it is assumed that by reducing peak day truck trips as described above by 127 percent, annual NO_x emissions would also be reduced to a level below the annual emissions threshold of significance.

This alternative would also lessen the significant, unavoidable GHG emissions and VMT impacts.

Reduced Scale Alternative and 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.

Aesthetics

The proposed project results 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. This 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 5-2) would be applied to the reduced-scale alternative, which would also mitigate the reduced litter impact to a less-than-significant level. Therefore, the reduced scale alternative is superior to the proposed project regarding this impact.

Air Quality

The proposed project would result in significant unavoidable construction and operational NO_x emissions impacts, primarily due to increased haul truck traffic. The reduced scale alternative would reduce the significant unavoidable operational impact to less than significant by reducing the number of new permitted haul trucks trips to a level at which associated NO_x emissions fall below the threshold of significance. The reduced scale alternative is superior to the proposed project regarding this impact.

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.

SOURCE: EMC Planning Group 2020

Biological Resources

The proposed project would have potentially significant impacts on California red-legged frog, burrowing owls, special-status bats, protected nesting birds, and a potentially sensitive natural community (small wetland/jurisdictional waters). These impacts are 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 reduced scale alternative and the proposed project impacts on biological resources would be similar.

Cultural Resources

The proposed project has potential to significantly impact significant historic resources, unique archaeological resources, Native American human remains, and paleontological resources due to planned construction activities that disturb soil through grading and/or excavations. The reduced scale alternative would have the same impacts to the proposed project, as the alternative does not affect the location or extent of proposed construction activities and associated grading and excavations.

Greenhouse Gases

The proposed project would result in significant, unavoidable impacts from generation of GHGs. By substantially reducing truck trips, the reduced scale alternative would also result in a substantial decrease in operational GHG emissions, as the major source of project GHG emissions would be operational truck trips and these would be reduced by 56 percent with the reduced scale alternative. Therefore, the reduced scale alternative would substantially lessen the significant, unmitigable GHG emissions impact. The reduced scale alternative is superior to the proposed project regarding this impact.

Transportation

The proposed project would result in a significant and unavoidable VMT impact from the increases in employee and truck trips. This alternative's 56 percent reduction in truck trips would substantially reduce this impact, but not to a less-than significant level given that there are no mitigation measures currently available to address this impact. No change in proposed new employment is assumed to result from the reduced scale alternative. The reduced scale alternative would have a substantially reduced VMT impact compared to the proposed project.

Alternative 3: No Driveway Relocation

Alternative Description

The no driveway relocation alternative would eliminate the proposed relocation of the existing driveway into the Z-Best site. This alternative would also eliminate the specific proposed SR 25 acceleration and deceleration lane improvements that are designed to improve traffic safety at the proposed new driveway location. Refer back to Figure 4-6, Project Entrance/Driveway and SR 25 Improvements – Areas of Impact, for the location and extent of the proposed improvements.

Under this alternative, the existing Z-Best driveway would remain the only access into the site from SR 25 and SR 25 improvements. Deceleration and acceleration lanes would also be constructed on SR 25, but relocated 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. Figure 18-1 reflects circulation improvements that the applicant had initially proposed before revising the project description to include the new relocated site entrance and SR 25 improvements associated with it.

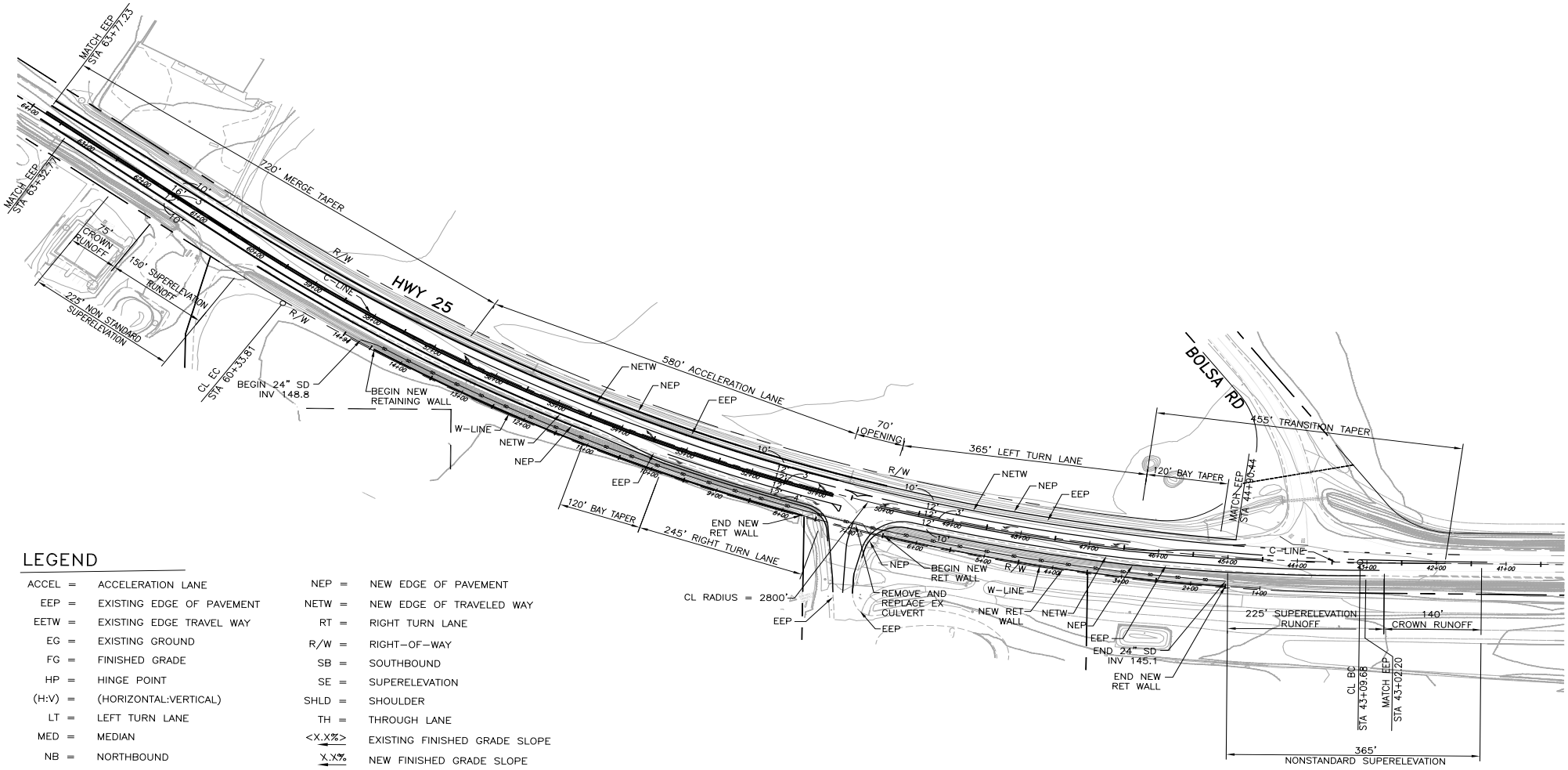
The primary changes that would occur with this alternative relative to the proposed project are as follows:

- 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.

No Driveway Relocation Alternative and 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.



LEGEND

ACCEL =	ACCELERATION LANE	NEP =	NEW EDGE OF PAVEMENT
EEP =	EXISTING EDGE OF PAVEMENT	NETW =	NEW EDGE OF TRAVELED WAY
EETW =	EXISTING EDGE TRAVEL WAY	RT =	RIGHT TURN LANE
EG =	EXISTING GROUND	R/W =	RIGHT-OF-WAY
FG =	FINISHED GRADE	SB =	SOUTHBOUND
HP =	HINGE POINT	SE =	SUPERELEVATION
(H:V) =	(HORIZONTAL:VERTICAL)	SHLD =	SHOULDER
LT =	LEFT TURN LANE	TH =	THROUGH LANE
MED =	MEDIAN	<X.X%>	EXISTING FINISHED GRADE SLOPE
NB =	NORTHBOUND	X.X%	NEW FINISHED GRADE SLOPE

Source: RJA 2019

0 230 feet

Figure 18-1

No Driveway Relocation Alternative – SR 25 Improvements for Existing Driveway

Z-Best Composting Facility Modification EIR

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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 improvements would not be made, but SR 25 improvements would be made that have equivalent traffic operations benefit. However, the safety benefits of aligning the entrance with Bolsa Road would not occur.
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

SOURCE: EMC Planning Group 2020

Aesthetics

The proposed project results 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 not affect litter generation. Therefore, the aesthetics impact of this alternative would be similar to the proposed project.

Air Quality

The proposed project results in a significant unavoidable construction and operational NO_x emissions impacts, primarily due to increased haul truck traffic. This alternative could result in a minor reduction in construction phase air emissions, including NO_x, by eliminating construction activities associated with the proposed new driveway and reducing construction activities related to filling drainage ditches adjacent to the highway. The construction NO_x impact would not be reduced to less than significant because driveway construction and drainage ditch fill related emissions would be a small percentage of overall project construction emissions inventory. Nevertheless, the no driveway relocation alternative would lessen the significant impact. This alternative is superior to the proposed project.

This alternative would not affect the significant unavoidable operations-related NOx emissions impact.

Biological Resources

The proposed project would have potentially significant impacts on California red-legged frog, burrowing owls, special-status bats, protected nesting birds, and a potentially sensitive natural community (small wetland/jurisdictional waters). These impacts are 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. The no driveway relocation alternative would require about 1,400 lineal feet of drainage ditch only 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 drainage ditches.

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.

The no driveway relocation alternative is superior to the proposed project with regards to potential impacts on special-status species and wetlands.

Cultural Resources

The proposed project has potential to significantly impact significant historic resources, unique archaeological resources, Native American human remains, and/or paleontological resources due to planned construction activities that disturb soil through grading and/or excavations.

With the no project driveway alternative, grading and any excavation work associated with the new entrance drive would be eliminated. Grading/trenching activities associated with filling about 2,000 lineal feet of drainage ditches on both sides of SR 25 would also be eliminated. By reducing the amount of construction activity with potential to impact cultural resources, the no driveway relocation alternative would reduce the significant, mitigable impacts of the proposed project. The no driveway relocation alternative is superior to the proposed project.

Greenhouse Gases

The proposed project would result in significant, mitigable impacts from generation of GHGs. The no driveway relocation alternative would reduce the duration and intensity of construction phase activities that generate GHGs, particularly operation of on- and off-road construction equipment. The volume of avoided construction phase GHG emissions relative to the total volume of construction phase emissions. Nevertheless, the no driveway relocation alternative would lessen the significant, mitigable project impact. Consequently, the no driveway relocation alternative is superior to the proposed project.

Transportation

The elimination of the driveway realignment would not affect the significant and unavoidable VMT impact because it would not change the number of employee or truck trips from operations. Regarding the significant mitigable construction phase traffic safety impact of the proposed project, the no driveway relocation alternative may slightly lessen the impact due to a minor reduction in construction trip volume and minor reduction in the duration of construction.

Regarding operational traffic safety effects, the no driveway relocation alternative would have the similar benefits from improved operations and safety on SR 25 because it includes a similar set of acceleration and deceleration lane improvements, although the safety benefit of aligning the project entrance with the Bolsa Road intersection would not occur.

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 18-3, Summary of Alternatives Impacts Compared to

the Proposed Project Impacts. Table 18-3 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 construction and operational NO_x impacts of the proposed project and avoid all other significant, mitigatable impacts of the proposed project.

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 reduces a significant unavoidable impact to less than significant and substantially lessens two other significant, but mitigable impacts. The no driveway relocation alternative incrementally lessens several construction phase related significant, mitigable impacts. 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.

Table 18-3 Summary of Alternatives Impacts Compared to the Proposed Project Impacts

Significant Environmental Impact	Proposed Project: Impact Level	Alternative 1: No Project	Alternative 2: Reduced Scale	Alternative 3: No Driveway Relocation
Impact 5-2. The Proposed Project Could Degrade the Existing Visual Character or Quality of the Site and Its Surroundings	LTSM	NI Impact Avoided	LTSM Less than Proposed Project	LTSM Same as Proposed Project
Impact 6-1. Construction Phase NOx Emissions Will Exceed Air District Threshold (This is a proposed project and cumulative project impact)	SU	NI Impact Avoided	LTS Same as Proposed Project	SU Less than Proposed Project
Impact 6-2. Vehicle Trips Associated with Project Operations Would Result in 123.19 Pounds Per Day or 20.58 Tons Per Year of NOX Emissions (This is a proposed project and cumulative project impact)	SU	NI Impact Avoided	LTS Less than Proposed Project	SU Same as Proposed Project
Impact 6-7. Construction and Operational Project Truck Trips NO_x Emissions Make the Project Inconsistent with the Clean Air Plan (This is a proposed project and cumulative project impact)	SU	NI Impact Avoided	NI Impact Avoided	SU Same as Proposed Project
Impact 7-1. Potential Loss or Disturbance of Special-Status Wildlife Species (California Red-Legged Frog)	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project
Impact 7-2 Potential Loss or Disturbance of Special-Status Wildlife Species (Burrowing Owl)	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project

Significant Environmental Impact	Proposed Project: Impact Level	Alternative 1: No Project	Alternative 2: Reduced Scale	Alternative 3: No Driveway Relocation
Impact 7-3 Potential Loss or Disturbance of Special-Status Wildlife Species (Nesting Raptors and Migratory Birds)	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project
Impact 7-4 Potential Loss or Disturbance of Special-Status Wildlife Species (Western Mastiff Bay and Pallid Bat)	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Same as Proposed Project
Impact 7-5 Loss of Potential State or Federally Protected Wetlands (Approximately 0.02-acre Wetland and Approximately 3,400 Linear Feet of Drainage Ditch)	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project
Impact 8-1 Potential for Accidental Discovery and Disturbance of Significant Historical Resources or Unique Archaeological Resources	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project
Impact 8-2 Potential for Accidental Discovery and Disturbance of Native American Human Remains	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project
Impact 8-3 Potential to Directly or Indirectly Destroy A Unique Paleontological Resource or Site	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project
Impact 9-1 Generate Greenhouse Gas Emissions	SU	NI Impact Avoided	SU Less than Proposed Project	SU Same as Proposed Project
Impact 9-2 Proposed Project Conflicts with the Applicable Plan to Reduce Greenhouse Gas Emissions	LTSM	NI Impact Avoided	LTSM Less than Proposed Project	LTSM Less than Proposed Project

Significant Environmental Impact	Proposed Project: Impact Level	Alternative 1: No Project	Alternative 2: Reduced Scale	Alternative 3: No Driveway Relocation
Impact 12-1 Generate VMT that Exceeds Threshold	SU	NI Impact Avoided	SU Less than Proposed Project	SU Same as Proposed Project
Impact 12-4 Substantially Increase Traffic Hazards or Result in Inadequate Emergency Services During Construction Activities	LTSM	NI Impact Avoided	LTSM Same as Proposed Project	LTSM Less than Proposed Project
Meets Project Objectives?	Yes	No	Reduced attainment of several project objectives regarding increasing MSW composting capacity and implementing state regulations regarding solid waste diversion and recycling	Except for eliminating the new driveway element of the improved traffic safety objective, attains all project objectives

SOURCE: EMC Planning Group 2020

NOTE: NI – No Impact; LTS – Less Than Significant; LTSM – Less-Than-Significant with Mitigation; SU – Significant and Unavoidable

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Peer Review of Applicant Odor Modeling Report
Composting Toxic Air Contaminants Analysis

Tetra Tech

Sujoy Roy, Ph.D.
Michael Ungs
Peer Review of Applicant Select Hydrology and Water Quality Technical Analyses

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