Initial Study

Dry-Fermentation Anaerobic Digestion Facility Project

File No. SP09-057

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

APRIL 2011

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SECTION 1.0 INTRODUCTION AND PURPOSE

This Initial Study of environmental impacts is being prepared to conform to the requirements of the California Environmental Quality Act (CEQA), the CEQA Guidelines (California Code of Regulations §15000 *et.seq.*) and the regulations and policies of the City of San José, California.

This Initial Study evaluates the environmental impacts that might reasonably be anticipated to result from the Dry-Fermentation Anaerobic Digestion Facility Project (referred to as "the project" hereafter). The 41-acre project site is located north of State Route 237 on the north side of Los Esteros Road.

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT FILE NUMBER AND TITLE

SP09-057; Dry-Fermentation Anaerobic Digestion Facility Project

2.2 PROJECT LOCATION

The approximately 41-acre project site is located at 2100 Los Esteros Road, north of Zanker Road off of State Route 237 in the Alviso area of San José, California, as shown on Figures 2.0-1, 2.0-2, and 2.0-3.

2.3 LEAD AGENCY NAME AND ADDRESS

City of San José
Department of Planning, Building and Code Enforcement
200 E. Santa Clara Street, 3rd Floor
San José, CA 95113

2.4 CONTACT PERSON AND TELEPHONE NUMBER

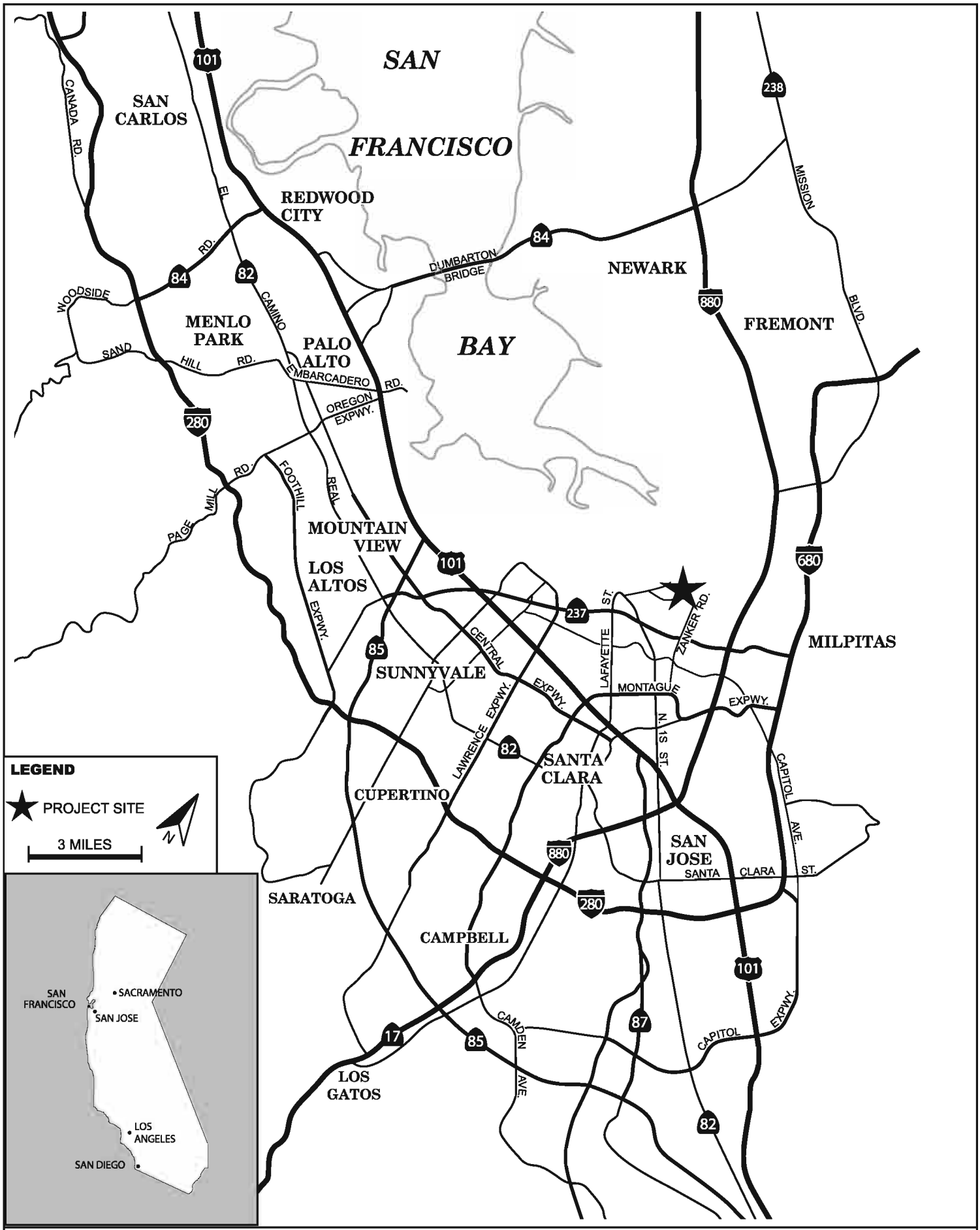
Jodie Clark, Project Manager
Department of Planning, Building, and Code Enforcement
(408) 535-7818

2.5 ASSESSOR'S PARCEL NUMBER

015-38-005 (portion-refer to Figure 2.0-3)

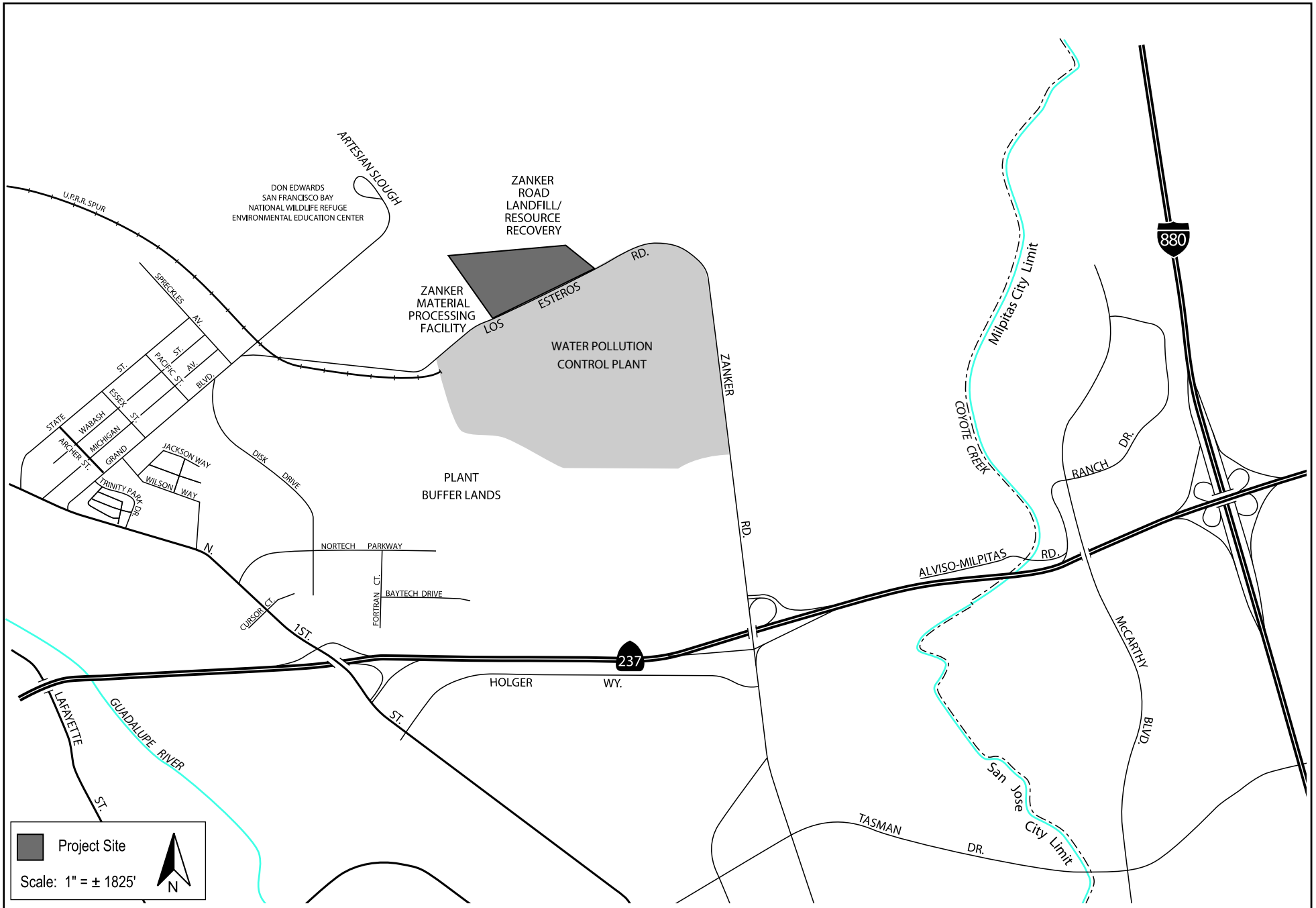
2.6 GENERAL PLAN DESIGNATION AND ZONING DISTRICT

Zoning District:	LI, Light Industrial
General Plan Designation:	Alviso Planned Community - Public/Quasi-Public



REGIONAL MAP

FIGURE 2.0-1



VICINITY MAP

FIGURE 2.0-2

AERIAL PHOTOGRAPH AND SURROUNDING LAND USES

FIGURE 2.0-3

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW

The project site is located at 2100 Los Esteros Road north of Zanker Road off of State Route 237 in the Alviso area of San José, as shown on Figures 2.0-1 to 2.0-3.

The project site is part of an approximately 96-acre parcel of land that is adjacent to the Zanker Road Resource Recovery Operation and Landfill (ZRRROL) and the Zanker Material Processing Facility (ZMPF). Of the 96 total acres, approximately 41 acres is considered to be the proposed project site (refer to Figure 3.0-1). The site is part of the buffer lands of the San José/Santa Clara Water Pollution Control Plant (the Plant). Currently unused, the 96-acre property contains part of the former Nine Par Landfill, a tidal marsh area, and an inactive recycled water filling station and water tank.

This project site has been designated by the City of San José as a possible expansion area for the Plant. As part of the proposed project, the owners of the Plant (the City of San José and the City of Santa Clara), will execute a land lease with Zero Waste Energy Development Company, Inc. (Zero Waste), which would be responsible for designing, constructing and operating the proposed Anaerobic Digestion (AD) facility. The land lease agreement will also subdivide the 96-acre parcel (015-38-005) into four separate parcels. Three of the parcels will reflect the three project phases (described below) and the fourth parcel will cover the wetland area to the north of the project site.

3.2 DESCRIPTION OF PROPOSED PROJECT

The proposed project is the construction and operation of a Dry-Fermentation Anaerobic Digestion Facility, which will utilize a proprietary technology to convert organic waste sourced from the City of San José and surrounding communities into a biogas containing 50 to 60 percent methane. Controlled composting of organic materials in large airtight containers produces carbon dioxide and methane, which are captured to create biogas. The biogas will be stored onsite at a maximum volume of 1,600 cubic feet (cf) per phase (4,800 cf at complete buildout of Phases I-III) and used to power onsite combined heat and power (CHP) engines. The project proponent and the City of San Jose are also exploring other possible options for use of biogas within the City.

Organic waste (feedstock) used in this process will consist mainly of food waste, source separated organics, and organic residue from other Municipal Solid Waste (MSW)[1] processing facilities. The proposed facility will accept commercial and municipal organic waste[2]. Municipal feedstock materials are to be trucked directly to the proposed facility or conveyed from the nearby ZRRROL and/or ZMPF facilities.

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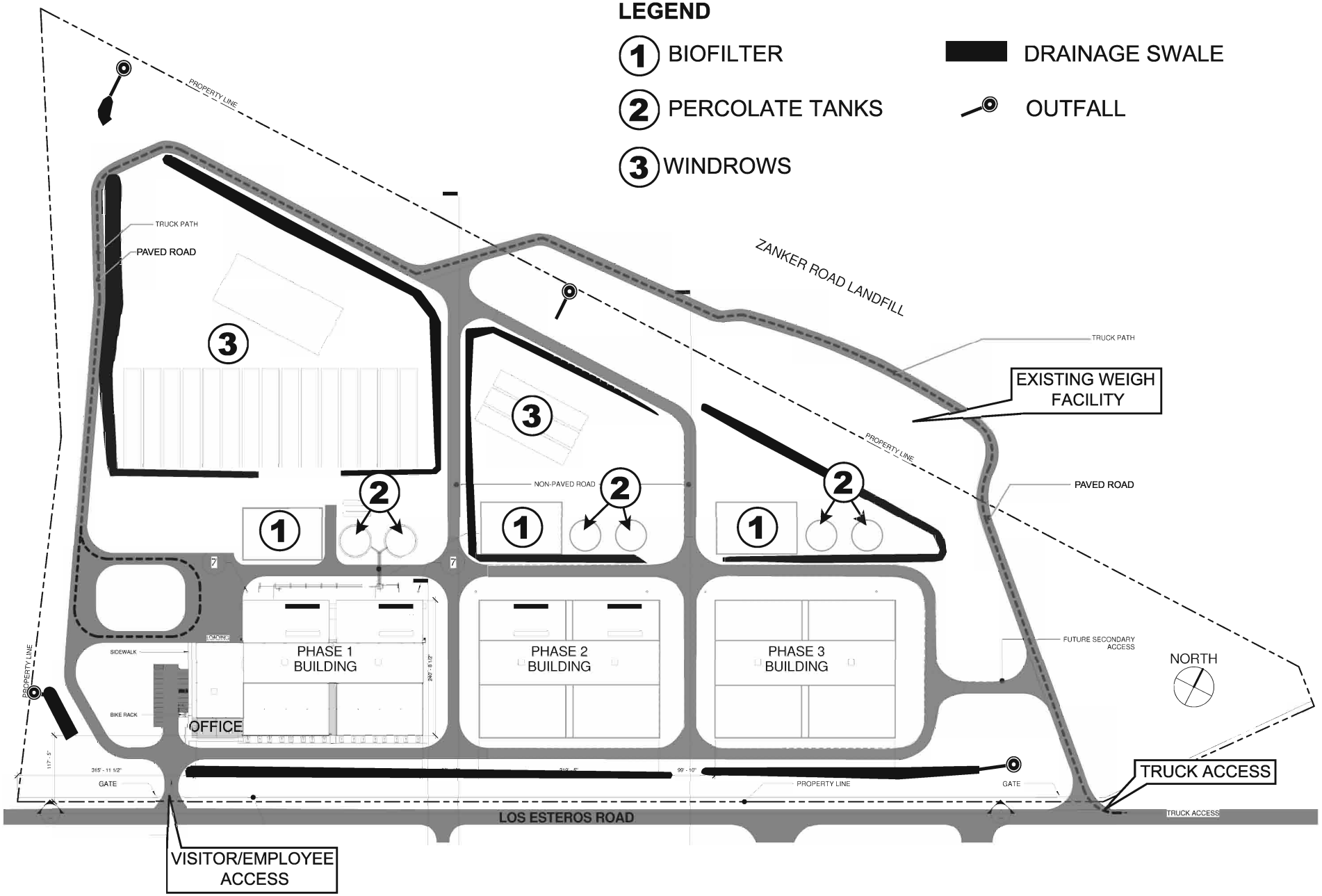
[1] Municipal solid waste is a waste type that includes predominantly household waste (domestic waste) with sometimes the addition of commercial wastes collected by a municipality within a given area. The MSW referred to in this report excludes hazardous wastes.

[2] Organic waste is a major component of municipal solid waste. Most originates from household waste but commercial, institutional, and industrial waste can also contain significant proportions of organic waste. Organic waste is biodegradable and can be processed in the presence of oxygen by composting or in the absence of oxygen using anaerobic digestion. Both methods produce a soil conditioner, which when prepared correctly can also be used as a valuable source of nutrients in urban agriculture. Anaerobic digestion also produces methane gas an important source of bio-energy.



SITE PLAN

FIGURE 3.0-1

Biogas is harvested within enclosed process structures in "digesters", which are large concrete vessels (refer to Figure 3.0-1). These digesters are filled with feedstock and processed using an anaerobic digestion procedure. During this process biogas is continuously generated and extracted from the digesters.

Biogas generated by the anaerobic digestion of the waste will power six[3] 832 horsepower onsite CHP engines driving electric power generators. Heat extracted from the hot combustion exhaust of each engine will be used to warm the anaerobic digestion process. A flare is included in each of the three phases as back-up to combust the biogas when insufficient engine capacity is available due to maintenance or other downtime of the engines.

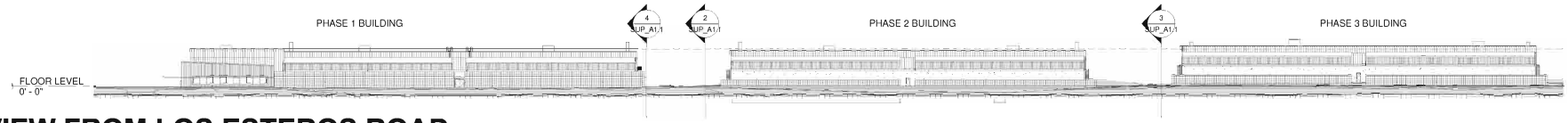
After the digestion phase is complete (up to 28 days), the remaining material is removed from the digesters and placed into composting tunnels inside the same building the same day, where a bulking agent such as woodchips is added. The woodchips and feedstock are combined and processed using an aerobic composting procedure (up to 21 days). The material is then removed from the composting tunnels and transported outside for curing and screening (2-4 weeks). This byproduct material becomes compost which will be sold as soil amendment. Any small amount of residual material that is left over from the curing and screening process may be reused as bulking material or properly discarded.

The project will be developed in three phases, with each phase being capable of handling 75,000 tons of incoming organic waste material per year plus 15,000 tons of bulking material and compost amendments, for an eventual total of 225,000 tons of organic feedstock and 45,000 tons of bulking agent to be used in the Anaerobic Digestion (AD) process per year. The 15,000 tons of bulking material added at each phase will be transferred from the adjacent ZRRROL facility. Construction of Phase I will take approximately ten months to complete, while Phases II and III will require approximately six months of construction each.

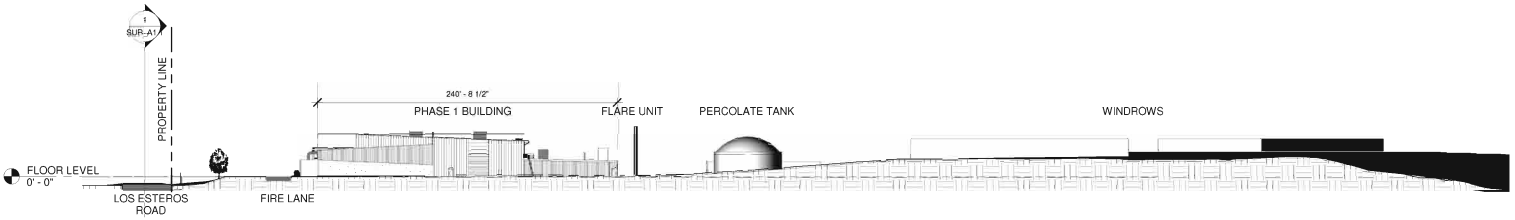
The proposed project includes three approximately 60,000 square foot enclosed buildings that will house the AD process (refer to Figure 3.0-2). These buildings will be constructed of concrete with metal frame roofs, with a maximum height of forty feet. Each building will include an enclosed receiving area for organic feedstock delivery and storage, sixteen digesters for the extraction of biogas, an engine room, eight compost curing tunnels, and a biogas storage area, (refer to Figure 3.0-1). The enclosed buildings will be equipped with an air circulation control system that regulates air within the structure, and exhausts air through biofilters with baghouses to control odors and diesel emissions from the front end loaders. Each building will also include a diesel-fueled backup generator engine.

Additionally, the facility will include a maintenance shop, administrative office, and washroom facilities for employees. The administrative building will be wood frame construction with cement-board siding, with a maximum height of twenty-seven feet, including roof equipment.

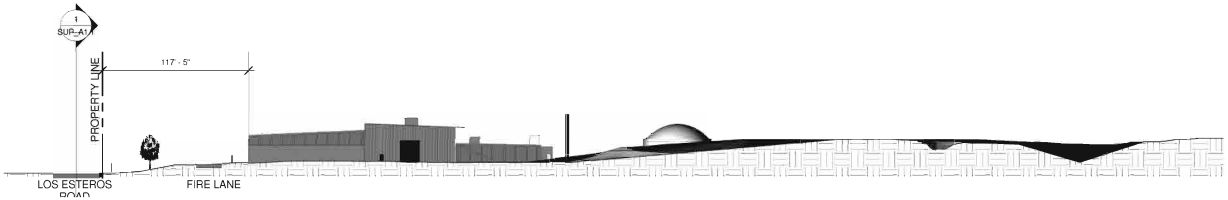
[3] The six engines on average will receive an annual amount of biogas equivalent to running four of the engines at full load.



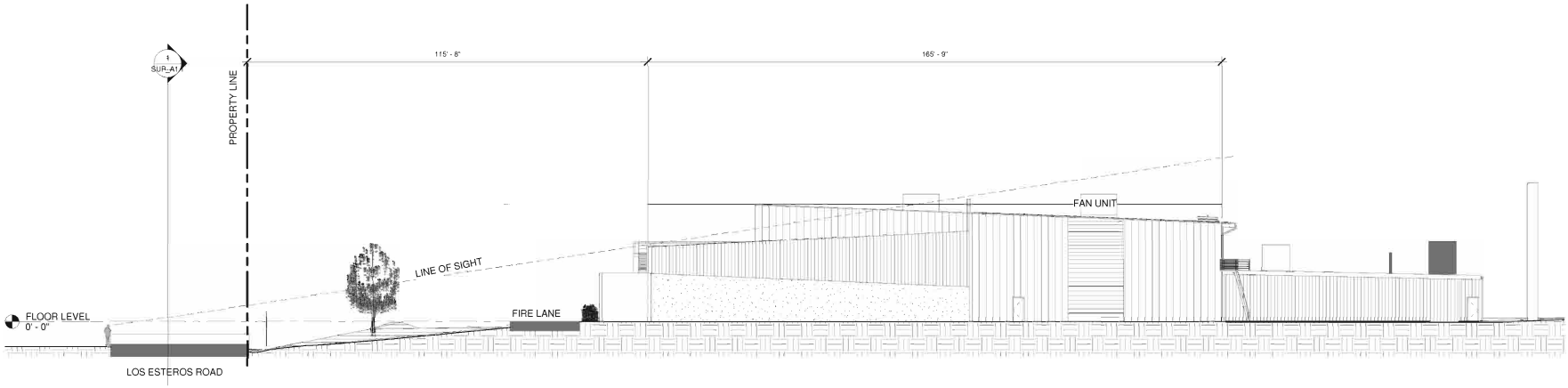
VIEW FROM LOS ESTEROS ROAD



VIEW FROM EAST OF PHASE I



VIEW FROM EAST OF PHASE III



VIEW FROM EAST OF PROPOSED STRUCTURES

ELEVATIONS

FIGURE 3.0-2

3.3 HOURS OF OPERATION

The proposed AD facility will operate continuously 24-hours per day, 7-days per week, 365 days per year. The facility will be open to accept inbound materials and transport outbound materials from approximately 8:00 am to 6:00 pm every day. During initial operations (Phase I), the facility is expected to directly employ approximately fifteen full-time employees. At full build-out (Phase III), the facility is expected to directly employ approximately 26 full-time employees.

3.4 SITE ACCESS

Regional access to the project area is provided via State Route 237 and Zanker Road. Entry to the proposed project site for feedstock deliveries will share the access driveway from the adjacent ZRRROL property, which is accessed via Los Esteros Road. Trucks will first enter vehicle-weighing scales located at the adjacent ZRRROL facility before entering the AD Facility. An attendant at the scale house will inspect incoming trucks and direct them to the appropriate receiving location. Transportation of feedstock within the facility will be accomplished with front end loaders and haul trucks for material handling, mixing, loading and unloading of incoming haul trucks. Phase I digester building will have two front end loaders moving materials within the building and Phases II and III will each have one front end loaders moving materials within the buildings. Outside mobile equipment will include three front end loaders and two haul trucks.

A separate public, employee, and emergency entrance will be located in the southwest corner of the facility with direct access to Los Esteros Road. The site will include public and employee parking consisting of 26 parking spaces in accordance with the City's Zoning Code. A future secondary access road will be constructed near the Phase III facilities that will connect to the existing ZRRROL driveway. The project proposes a perimeter barrier to discourage unauthorized entry and will feature lockable gates at the entrance to the ZRRROL property and the public/employee entrance on Los Esteros Road, as well as a manned vehicle scale house located on the ZRRROL property.

3.5 UTILITIES

Sanitary facilities will be provided onsite for employees and visitors, including a washroom and toilet facility and two showers within the administrative building built in Phase I. Sewer lines will be extended under Los Esteros Road (public right-of-way) to the Plant facility to adequately handle waste from the washroom facilities. It is anticipated that the project's force main connection will not be installed until completion of the secondary Alviso/Spreckles Force Main project. The new Alviso/Spreckles Force Main is estimated to be operational in early 2013.

Potable water will also be provided onsite requiring the extension of a municipal water line to the property. The closest available water source is at the corner of Spreckles Avenue and Grand Boulevard. The proposed project includes extending an approximately 18-inch diameter water main from this source to the driveway of the project site which includes an approximately 6,500 feet trench in the public right-of-way (Figure 3.0-3).

Outside lighting is proposed to allow continued operations after darkness, accommodate safe traffic flow, and employee safety. The proposed lighting will consist of energy efficient lights positioned to minimize off-site impacts by being directed inward and downward with appropriate shielding and away from Los Esteros Road and from nearby sensitive habitat, and the Plant outflow channel, and the U.S. Fish and Wildlife Service Don Edwards National Wildlife Refuge.

PROPOSED UTILITY CONNECTIONS

FIGURE 3.0-3

3.6 GRADING AND DRAINAGE

The proposed project includes a Grading and Drainage Plan, as required by the Special Use Permit SP09-057. Plans for the project construction require additional imported soil in the amount of approximately 100,000 cubic yards (cy) brought in over five to seven weeks for grading purposes.

A Stormwater Control Plan was also prepared for the project, as described in *Section 4.9 Hydrology and Water Quality* of this Initial Study, which will detail existing hydrologic conditions and changes from the proposed AD facility. Plans for the project include six vegetated swales as well as four drainage outfalls.

3.7 GENERAL PLAN LAND USE DESIGNATION AND ZONING

The project site is currently designated *Alviso Planned Community - Public/Quasi-Public* (*PQP*) in the City of San José's adopted General Plan. This designation identifies public land uses such as libraries, community centers, schools, fire stations, post offices, and the Water Pollution Control Plant and its buffer lands. The collection and processing of the City's municipal solid waste including organic materials is a municipal (public) service that, in San José, is provided by private companies under a franchise granted by the City. The proposed privately-owned and operated composting facility that will process waste generated in San Jose and elsewhere is an allowed use under the PQP designation in the Alviso Planned Community and City of San José's General Plan. A General Plan amendment is not proposed or required as part of this project.

The property is currently zoned LI – *Light Industrial*, which is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. "Recycling Processing Facilities" are allowed under the LI – *Light Industrial* designation of the San José Zoning Code (Section 20.50.100) with a Special Use Permit. No rezoning is intended or proposed as part of this project.

3.8 LANDFILL STATUS

The Nine Par property is a "disposal site" (an older type of landfill without environmental controls) that is currently a non-operating inactive site. It is subject to applicable state regulations contained in California Code of Regulations (CCR) Title 27. This proposed project causes this site to become subject to CCR, Title 27, Post-Closure Regulations, which in part specify the need for project review, approval, and compliance with state environmental monitoring and controls. The landfill will be required to file a plan for Closure and Post-Closure maintenance and monitoring in addition to a post-closure project application that addresses all applicable requirements of CCR, Title 27, Section 20190, including the approval of the City of San Jose Local Enforcement Agency, and the 'concurrence' of the Natural Resources Agency - CalRecycle Program.

Development and activities on the site will also be regulated by the San Francisco Bay Regional Water Quality Control Board through the issuance of Waste Discharge Requirements (WDR). Permits from the Bay Area Air Quality Management District (BAAQMD) will also be required for facility operation. As a former landfill, special consideration is required in dealing with existing and future soil conditions.

There is no engineered cap over the previous waste, although a general two to twelve foot layer of sandy to gravely clay exists in varying (low to medium) plasticity. This layer, with re-grading and

compaction, is considered suitable as a foundation layer component and is being evaluated for acceptability as an engineered alternative cap under current regulations (CCR Title 27). As required for all landfill post closure operations, continuous monitoring of combustible gas and protection measures will be required for all enclosed structures and installation of groundwater, and perimeter gas monitoring wells will also be required in accordance with CCR Title 27.

3.9 VECTOR MANAGEMENT PLAN

The proposed project includes development of a vector management plan (VMP) for the AD Facility that will be implemented during all materials processing. The VMP will be reviewed and approved by the City of San Jose Department of Planning, Building and Code Enforcement (PBCE) prior to permit approval. The purpose of the VMP will be to minimize the degree to which nuisance species increase in the vicinity of the site as a result of processing activities. Such nuisance species, which include gulls, corvids such as common ravens and American crows, and nuisance mammals such as rats, opossums, raccoons, skunks, red foxes, and feral cats, may be attracted to the site to feed on food waste that will be processed at the facility, if such waste is accessible to these species. These nuisance species could then adversely affect sensitive wildlife species elsewhere in the South Bay through predation or competition. Nuisance species also include nuisance insects. The VMP would thus minimize this project's contribution to the maintenance of populations of these nuisance species. Measures to be included in the VMP are described below.

The VMP will focus on minimizing accessibility of organic waste to nuisance species so that these species are not attracted to the facility, and for insects and rodents, on minimizing features that would support breeding by and refugia for these species. Because completely eliminating access to food waste and refugia for nuisance species may not be feasible, the VMP also includes measures to capture and remove individual nuisance mammals and treat areas with nuisance insects.

The VMP will be designed to be adaptive. It will include some monitoring of the presence and/or abundance of individual nuisance animals and increasingly more stringent measures to limit accessibility of wastes to these animals. Because of the adaptive nature of the VMP, specific measures to limit accessibility of waste to wildlife, haze birds to reduce the site's attractiveness to them, and remove nuisance mammals may be implemented in the future that are not described below.

3.9.1 Minimization of Access of Waste Materials to Wildlife

All materials to be processed in the AD Facility will be kept inside the facility buildings. If spillage of materials outside the facility occurs, immediate removal of materials will occur to prevent or minimize attraction of wildlife species. Complete removal of all food wastes and municipal solid waste (MSW) from the receiving hall will occur within 48 hours of arrival at the facility. Daily and weekly scheduled cleaning and maintenance of the facility, and the equipment within, will be completed to reduce availability of food waste to wildlife species.

All entranceways to the interior of the facilities will be kept closed except during peak truck unloading operations. The operators will screen all windows and vents and eliminate (e.g., by plugging or caulking) all holes that mammals could use to access the facility.

Other measures that may be implemented if needed to limit access of waste materials to wildlife are described under "Monitoring and Adaptive Management" below.

3.9.2 Minimization of Refugia for Nuisance Species

Small voids within and around the facility, and around equipment and containers, will be filled or screened to minimize refugia for rodents.

During facility construction, an effort will be made to avoid or minimize the creation of areas where water suitable for mosquito breeding can pool. Any such areas that occur on the site will be modified so that they are no longer suitable for breeding, or treated using methods approved by the Santa Clara County Vector Control District.

3.9.3 Mammal Trapping

The operators will routinely trap small and medium-sized nuisance mammal species (all rodents, feral cats, skunks, opossums, raccoons, and red foxes) using live traps. Trapping for medium-sized mammals will occur inside the facility and along the perimeter of the property. Regular trapping for rodents will occur within the tipping and storage operations within the AD facility buildings. Small mammal traps will not be placed outside the facility in order to avoid accidental trapping of salt marsh harvest mice (see "Monitoring and Adaptive Management" below). The inspection of traps, removal of captured nuisance animals, and release of non-target species will occur within 12 hours of trap deployment. Any non-target species (e.g., gray foxes) will be released in appropriate areas, with approval from appropriate resource agencies, while target species will be euthanized. Cats will be transported to the Humane Society of Silicon Valley or the Silicon Valley Animal Control Authority, and if the collars or chips bear owner contact information, then the owner will be contacted. All trapping procedures, including the euthanasia of nuisance animals, will follow California Department of Fish and Game regulations. Records will be kept of the number of individuals of each species captured (summarized weekly).

3.9.4 Monitoring and Adaptive Management

Monitoring of the AD Facility by properly trained facility staff, biologists, or other trained personnel will be completed to ensure that the VMP is effective at preventing the facility from contributing substantially to local populations of nuisance species. Any revision or addition to the VMP will be revised by a qualified biologist approved by the City of San Jose Department of PBCE to ensure that the procedures included appropriate measures to avoid all harm to protected species. Monitoring would include determination of the presence and relative abundance of nuisance species through periodic surveys of gulls, crows, and ravens and maintenance of records of mammal trapping results. If initial management practices are not effective, then an appropriate combination of adaptive management measures, possibly including the following measures, will be implemented:

3.9.4.1 *Gulls and Other Avian Species*

- If gulls, crows, or ravens frequently enter the processing facility, clear plastic strips (warehouse grade) may be hung in all open entranceways to prevent access to the building.

- All rooftops, light posts, signs, and other structures may be fitted with stainless steel "bird spikes" that prevent avian species from roosting on-site.

- In situations where bird spikes are not applicable, electric shock strips, or shock tracks, may be installed and maintained to prevent birds from roosting.

- Audio and visual deterrent systems may be installed to scare birds from roosting and foraging on the project site, as long as such systems do not result in substantial adverse effects on wildlife use of surrounding off-site areas, as determined by the biologist.

- Wire mesh, or "gull wire", may be used in strategic areas (e.g., roof overhangs and entrances to digester buildings) to prevent gulls from accessing the interior of the buildings and/or other areas on the project site where they can access food waste. Such wire would not be placed in areas where it would pose a risk to non-target birds flying through the area (e.g., shorebirds or waterfowl moving between New Chicago Marsh and the San Jose-Santa Clara Water Pollution Control Plant).

3.9.4.2 *Rodents*

- If necessary, controlled poisoning by a qualified and trained professional, or other control programs, will be incorporated into the rodent control program for building interiors.

- If rats outside the material recycling facility become a problem, rodent trapping using live traps may be completed immediately outside the building (where salt marsh harvest mice are unlikely to occur due to the open, paved area separating the buildings from the perimeter berms) if the U.S. Fish and Wildlife Service concurs that no impacts to salt marsh harvest mice will occur. Rats will be euthanized, as necessary.

3.9.4.3 *Insects*

- The use of Integrated Pest Management techniques shall be investigated prior to the use of pesticides for addressing nuisance insects. If necessary, the application of approved pesticides will be used to control insect populations.

3.9.5 VMP Oversight

The VMP will be reviewed and approved by City of San José's Local Enforcement Agency and the Department of PBCE prior to the start of operation. If measures do not properly control nuisance species, the acceptance of organic waste and/or MSW may be restricted by the LEA, and possibly even eliminated, as necessary. A copy of the approved VMP will be on file with the Local Enforcement Agency.

SECTION 4.0 ENVIRONMENTAL SETTING, CHECKLIST, AND DISCUSSION OF IMPACTS

This section describes the existing environmental conditions on and near the project area, as well as environmental impacts associated with the proposed project. The environmental checklist, as recommended in the California Environmental Quality Act (CEQA) Guidelines, identifies environmental impacts that could occur if the proposed project is implemented.

The right-hand column in the checklist lists the source(s) for the answer to each question. The sources cited are identified at the end of this section. Mitigation measures are identified for all significant project impacts. Measures that are standard and required by the City or law are categorized as "Standard Measures." Measures that are proposed by the applicant that will further reduce already less than significant impacts are categorized as "Avoidance Measures." Measures that are required to reduce significant impacts to a less than significant level are categorized as "Mitigation Measures." All measures shall be printed on all construction documents, contracts, and project plans.

4.1 AESTHETICS

4.1.1 Setting

The 41-acre site is characterized by two large, gently-sloping hills surrounded by mostly flat terraces. Vegetation on the site includes mainly non-native and weedy shrubs. The southwest portion of the project site is paved with an old asphalt road which runs in a northeastern direction into the project site (between the mounds of dirt). Los Esteros Road forms the southern boundary of the project site (Photo 1). There is also a row of 37 eucalyptus trees along the southern boundary of the project site paralleling Los Esteros Road west of the existing driveway.

Access to the project site is from two existing driveways along Los Esteros Road. At the eastern end of the project site, an existing paved driveway crosses through the property to provide access to the ZRRROL facility and gatehouse/vehicle-scales (Photo 2). Between the project site and ZRRROL property, near the gatehouse and vehicle-scales, is a seasonal wetland ditch encompassing 0.22 acres.

Overhead power lines run along Los Esteros Road adjacent to the southern border of the project site. The entire project site is currently surrounded by a chain-link fence. Southwest of the project site is an inactive recycled water filling station, consisting of a paved asphalt driveway, an elevated recycled-water storage tank, and five truck filling stations.

The project site is located adjacent to facilities that are industrial in character. The immediate project area includes two landfill and resource recovery facilities: the ZMPF to the west (Photo 3) and the ZRRROL to the north (Photo 4). The ZMPF is elevated on dirt and landfill waste which includes one-story administration buildings, large piles of materials for sorting and processing, and related processing equipment (trommel screens, front-end loaders, wood grinders, etc.). The ZRRROL is located on a landfill atop which the recovery and landfilling operations occur. An access road to the top runs along the southern edge of this mound, adjacent the northern border of the project site, which leads to the ZRRROL gatehouse and vehicle scales. South of the project site, across Los Esteros Road, is the Water Pollution Control Plant (Photo 5). The Plant includes seven large industrial buildings, a series of large tanks, and other outdoor processing equipment, as well as a large complex of sludge ponds. Northwest of the site are the relatively flat ponds. Northwest of the

Photo 1 - View of Los Esteros Road and southern boundary of project site, looking northeast.

Photo 2 - View of the adjacent ZRRROL facility and existing gatehouse/vehicle scales.

PHOTOS 1 AND 2

Photo 3 - View of project site and adjacent ZMPF facility, looking west.

Photo 4 - View of existing asphalt road in western portion of project site and adjacent ZRRROL facility, looking northeast.

PHOTOS 3 AND 4

Photo 5 - View of southern portion of project site and adjacent WPCP facility, looking south.

Photo 6 - View of northern portion of project site, looking northwest to Don Edwards NWR.

PHOTOS 5 AND 6

site are the relatively flat grasslands, waterways, and marshes, including the Don Edwards San Francisco Bay National Wildlife Refuge (NWR), (Photo 6).

Located approximately one mile east of the project site is the historic town of Alviso. The residential area of Alviso, referred to in the Alviso Master Plan as the Alviso Village, is roughly bounded by Spreckles Avenue, Grand Boulevard, and North First Street.

4.1.2 Environmental Checklist and Discussion of Impact

AESTHETICS						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	☐	1,2
2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐	☐	1,2
3) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	☐	1,2
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐	☐	1,2,3

4.1.2.1 *Discussion of Impacts*

The project proposes to construct an Anaerobic Digestion (AD) and composting facility on the 41-acre project site located at 2100 Los Esteros Road.

The proposed AD facility buildings would be set back 117 feet from Los Esteros Road. The maximum height of the buildings would be 40 feet, including roof equipment. The fully enclosed ground-based flare would have a maximum height of 40 feet and a maximum operation of 5 days per year. These heights would be less than landfills and buildings in the immediate vicinity.

The proposed buildings and some outdoor processing activities would be visible from Los Esteros Road. Proposed buildings and flare would not be visible from Alviso Village because viewpoints are blocked by ZMPF and the Plant. Portions of the buildings and operations may be visible from the NWR Environmental Education Center parking lot, although these views would be difficult to distinguish from the existing viewshed that includes the ZMPF and ZRRROL. These uses are much higher in elevation than the proposed AD facility.

The existing topography of the site would be modified to accommodate the proposed AD facility. Thirty-four eucalyptus trees at the project boundary along Los Esteros Road would be removed,

although, three easternmost trees would remain. The project proposes a landscaping plan that would replace the removed trees and plant rows of trees along the southern and western project site boundaries, as well as around the administration building and digester buildings. Other unpaved areas will be planted with a native restoration/erosion hydroseed mix. In conformance with the General Plan, City staff will continue to work with the applicant to preserve as many trees as possible.

The project includes plantings of California pepper trees along the project frontage at Los Esteros Road and New Zealand Christmas trees along the western boundary and as screening for the parking lot and windrows. These plantings would be similar to that in surrounding areas. The project also proposes a neutral color palette for the proposed structures compatible with the surrounding area.

The project site is located at the edge of an urban area adjacent to a large industrial facility (Water Pollution Control Plant) and two landfill processing facilities. The proposed project would construct additional industrial buildings within this existing industrial area.

The proposed project would alter the existing visual character of the site and its surroundings through various means including the grading of existing site topography and the construction of the proposed AD facility and supporting structures. The project site is not located along a designated rural scenic corridor, urban throughway, or City of San José Landscaped Throughway but it is located along a designed scenic trail and pathway corridor. The current height of the surrounding landfills alters the existing views of hillside areas from the Don Edwards San Francisco Bay NWR. Views from the edge of the Alviso Village would continue to include industrial buildings and the Refuge. Based upon the existing industrial area and views of the project site, the proposed project would not substantially change or have a substantially adverse impact on the visual character or quality of the site from the surrounding area. **(Less Than Significant Impact)**

A lighting plan has been prepared for the proposed project. The project includes lighting on the buildings, parking areas, and at the new entrance road. All lighting would be required to conform to the standards of the City Council Policy 4.31, Outdoor Lighting on Private Development. All lighting will be full cutoff and low pressure sodium (LPS) lighting positioned to minimize off-site impacts by being directed inward and downward with appropriate shielding and away from Los Esteros Road and from nearby sensitive habitat and the U.S. Fish and Wildlife Service Don Edwards National Wildlife Refuge. Exterior building and parking lot lighting associated with the new development would increase the amount of nighttime lighting on the site; however, it would not significantly affect nighttime views in the area. Therefore, less than significant impacts would occur as a result of the project. **(Less Than Significant Impact)**

4.1.3 Conclusion

The proposed project would not result in any significant visual and aesthetic impacts. **(Less Than Significant Impact)**

4.2 AGRICULTURAL AND FORESTRY RESOURCES

4.2.1 Setting

The project site is zoned LI - *Light Industrial*. It is not currently being farmed or used for agricultural purposes and is not located near any agricultural resources. The site is not designated by the California Resources Agency as Farmland of any type and is not the subject of a Williamson Act contract. There are no properties used for agricultural purposes adjacent to the project site.

The City of San Jose does not contain any forest lands or timberlands suitable for timber production nor are there any areas zoned Timberland Production.

4.2.2 Environmental Checklist and Discussion of Impact

AGRICULTURAL AND FOREST RESOURCES						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	☐	1,3,4
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	☐	1,3,4
3) 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))?	☐	☐	☐	☒	☐	1,3,4
4) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐	1
5) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐	1,3,4

4.2.2.1 *Discussion of Impacts*

Agricultural uses have not occurred on the project site or adjacent the project site for many years. There is no Williamson Act contract on the property. The proposed project would not affect farmland or agricultural uses in any way. The project would, therefore, have no impact on farmland or agricultural activities of any kind. The project site is outside of any timberland areas, and will therefore, not result in a significant impact from the loss forest lands or timberlands.

4.2.3 Conclusion

The proposed AD facility would not impact agricultural or forestry resources. **(No Impact)**

4.3 AIR QUALITY

The following section is based on an Air Quality Impact Assessment prepared by *Sierra Research* in November 2010. This report is located in Appendix A of this document.

4.3.1 Regulatory Framework and Background Information

The federal Clean Air Act governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. At the federal level, the United States Environmental Protection Agency (EPA) administers the federal Clean Air Act. The California Clean Air Act is administered by the California Air Resources Board (CARB) at the state level and by the Air Quality Management Districts at the regional and local levels. Bay Area Air Quality Management District (BAAQMD) regulates air quality at the regional level, which includes the nine-county Bay Area.

Bay Area Air Quality Management District is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. Regional air quality management districts such as BAAQMD must prepare air quality plans specifying how state standards would be met. BAAQMD's most recently adopted Clean Air Plan (CAP) is the *2010 Clean Air Plan* (2010 CAP).

The Bay Area 2010 CAP provides an updated comprehensive plan to improve Bay Area air quality and protect public health, taking into account future growth projections to 2035. The 2010 CAP was adopted by BAAQMD's Board of Directors in September 2010. The population projections used in the 2010 CAP were based on the Association of Bay Area Government (ABAG) *2007 Projections*. ABAG's *Projections 2007* forecasts San Jose's population to be 1,422,800 residents in 2035.

4.3.1.1 *Overview of Air Quality Standards*

The EPA has established national ambient air quality standards (NAAQS) for ozone, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), respirable particulate matter (with aerodynamic diameter less than or equal to a nominal 10 microns, PM_{10}), fine particulate matter (with aerodynamic diameter less than or equal to a nominal 2.5 microns, $PM_{2.5}$), and airborne lead. Areas with air pollution levels above these standards can be designated by the EPA as "nonattainment areas" subject to stringent planning and pollution control requirements.

Similarly, CARB has established California ambient air quality standards (CAAQS) for ozone, CO, NO_2, SO_2, sulfates, PM_{10}, $PM_{2.5}$, airborne lead, hydrogen sulfide, and vinyl chloride at levels designed to protect the most sensitive members of the population, particularly children, the elderly, and people who suffer from lung or heart diseases.

Both state and national air quality standards consist of two parts: an allowable concentration of a pollutant and an averaging time over which the concentration is to be measured. Allowable concentrations are based on the results of studies of the effects of the pollutants on human health, crops, and vegetation, and, in some cases, damage to paint and other materials. The averaging times are based on whether the damage caused by the pollutant can occur during exposures to a high concentration for a short time (1, 3, 8, or 24 hours), or to a relatively lower average concentration over a longer period (1 month or 1 year), or both. For some pollutants there are at least two air quality standards to address health effects found for both short-term and long-term periods. Table

4.3-1 presents the NAAQS and California ambient air quality standards. The California standards are generally set at concentrations lower than the federal standards and in some cases have shorter averaging periods (i.e., more difficult to attain).

Table 4.3-1:
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm[a]	---
	8-hour	0.07 ppm[a]	0.075 ppm
Carbon Monoxide	1-hour	20 ppm[a]	9 ppm[b]
	8-hour	9.0 ppm[a]	35 ppm[b]
Nitrogen Dioxide	Annual	0.03 ppm	0.053 ppm
	1-hour	0.18 ppm[a]	0.1 ppm
Sulfur Dioxide	Annual	---	0.03 ppm[c]
	24-hour	0.04 ppm	0.14 ppm[d]
	3-hour	---	0.5 ppm[e]
	1-hour	0.25 ppm	0.075 ppm
PM_{10}	Annual	20 µg/m^3	---[f]
	24-hour	50 µg/m^3	150 µg/m^3
$PM_{2.5}$	Annual	12 µg/m^3	15 µg/m^3
	24-hour	---	35 µg/m^3
Sulfates	24-hour	25 µg/m^3	
Lead	Calendar quarter	---	1.5 µg/m^3
	30-day average	1.5 µg/m^3	---
Hydrogen Sulfide	1-hour	0.03 ppm	---
Vinyl Chloride	24-hour	0.01 ppm	---

Notes: ppm = parts per million, µg/m3 = micrograms per cubic meter.
[a] Not to be exceeded.
[b] Not to be exceeded more than once a year.
[c] EPA proposed rule, Federal Register, Volume 74, Number 234, pp. 64809-64881, December 8, 2009, and based on 3-year average of annual 99th percentile (4th highest) 1-hour daily maximum concentration.
[d] EPA. Primary National Ambient Air Quality Standard for Sulfur Dioxide, Final Rule, June 2, 2010, http://www.epa.gov/air/sulfurdioxide/pdfs/20100602final.pdf.
[e] This is a national secondary standard, which is designed to protect public welfare.

4.3.2 Existing Air Quality

Data from several ambient air monitoring stations were used to characterize air quality in the area of the project site. All ambient air quality data shown in this section were taken from CARB publications and data sources or EPA air quality data tables. Ozone, NO_2, CO, PM_{10}, and $PM_{2.5}$ were monitored at the San Jose-Jackson Street station, located about 6.5 miles from the project site. SO_2 was monitored at San Francisco-Arkansas Street station (about 33 miles from the project site), and lead was monitored at the Whitney Young Circle station in San Francisco (about 31 miles from the project site). Table 4.3-2 summarizes the most recent four years of available ambient monitoring data to characterize existing air quality in the project area.

Table 4.3-2:
Background Air Quality Data

Pollutant	Parameter	2005	2006	2007	2008	2009	Applicable Air Quality Standard
Ozone	Highest 1-hr Average (ppm)	0.113	0.118	0.083	0.118	0.088	0.09 (state)
	# of days exceeding state standard	1	5	0	1	0	--
	# of days exceeding federal standard	0	0	0	0	0	--
	Highest 8-hr Average (ppm)	0.08	0.087	0.068	0.08	0.069	0.07 (state) 0.075 (federal)
	# of days exceeding state standard	1	5	0	3	0	--
	# of days exceeding federal standard	1	3	0	2	0	--
Nitrogen Dioxide	Highest 1-hr Average (ppm)	0.074	0.074	0.065	0.08	0.069	0.1 (federal)
	Highest Annual Average (ppm)	0.019	0.018	0.017	0.017	0.015	0.03 (state)
Carbon Monoxide	Highest 1-hr Average (ppm)	4.3	4.1	3.5	3.3	3.4	20 (state) 35 (federal)
	Highest 8-hr Average (ppm)	3.11	2.92	2.71	2.48	2.5	9 (state) 9 (federal)
Sulfur Dioxide	Highest 1-hr Average (ppm)	0.019	0.25	0.016	0.021	*	0.25 (state)
	Highest 24-hr Average (ppm)	0.007	0.007	0.006	0.004	*	0.04 (state) 0.14 (federal)
	Annual Average (ppm)	.001	0.001	0.001	0.001	*	0.03 (federal)
PM_{10}	24-hr Average	53.5	73.2	69.1	57.3	43.3	50 (state)
	$\mu g/m^3$	49.9	68.9	64.7	55	41.1	150 (federal)
	# of days exceeding state standard	11.5	11.5	18.1	6.1	0	--
	Annual Average ($\mu g/m^3$)	22.3	21	21.9	23.4	20.3	20 (state)
$PM_{2.5}$	24-hr Average	39.8	36	39.1	32.4	29.3	35 $\mu g/m^3$ (3-yr avg. of 98th percentiles)
	Annual Average ($\mu g/m^3$)	11.7 11.7	* 10.7	11	11.5 11.5	29.8	12 (state) 15 (federal)
Lead	Quarterly Average ($\mu g/m^3$)	0	n/a	n/a	n/a	n/a	1.5 (federal)

*There was insufficient (or no) data available to determine the value.

4.3.3 Setting

4.3.3.1 *Climate and Topography*

The overall climate in the project area is dominated by the semi-permanent eastern Pacific high pressure system centered off the coast of California. In the summer, the high moves to its northernmost position, which results in strong northwesterly flow and negligible precipitation. A thermal low pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay area much of the summer. In the winter, the high moves southwestward toward Hawaii, which allows storms originating in the Gulf of Alaska to reach northern California, bringing wind and rain.

In the project area, stable atmospheric conditions and light winds can provide conditions for pollutants to accumulate in the air basin where emissions are produced. Wind patterns in the general area of the project site are closely aligned with the orientation of Santa Clara Valley (i.e., primarily from the north-northwest, and northwest).

The main air quality-related problem in this mild Mediterranean climate is the frequent presence of a temperature inversion over the Santa Clara Valley that traps air pollution below. Air quality is determined primarily by the type and amount of pollutants emitted into the atmosphere, the topography of the air basin, and local meteorological conditions.

4.3.3.2 *Sensitive Receptors*

Sensitive receptors are locations where groups of individuals, including infants, children, the elderly, and the chronically ill, who may be more susceptible than the general population to health risks from air pollution may be found. Schools, day-care facilities, convalescent homes, and hospitals are of particular concern. The nearest sensitive receptors are residences located approximately 0.82, 1.26, 1.23, and 1.74 miles west-southwest, south-southwest, south-southeast, and east-northeast of the project site, respectively. The middle two groups of residences are within 100 and 500 feet of the south side of the State Route 237, and the fourth group of residences are within 100 feet of the east side of Interstate 880. Refer to Figure 4.3-1.

4.3.3.3 *Community Risk Contaminants and their Health Effects*

Fine Particulate Matter ($PM_{2.5}$)

Particulate matter pollution consists of very small particles suspended in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when industry and gaseous pollutants undergo chemical reactions in the atmosphere. Respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) represent fractions of particulate matter. PM_{10} refers to particulate matter less than 10 microns in diameter and $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter. Major sources of $PM_{2.5}$ are primarily diesel fuel combustion (from motor vehicles, power generation, industrial facilities), residential fireplaces, and wood stoves. PM_{10} includes all $PM_{2.5}$ sources as well as emissions from dust generated by construction, landfills, and agriculture; wildfires and brush/waste burning, industrial sources, windblown dust from open lands, and atmospheric chemical and photochemical reactions. PM_{10} and $PM_{2.5}$ pose a greater health risk than larger-size particles, because these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract increasing the number and severity of asthma attacks,

NEAREST SENSITIVE RECEPTORS

FIGURE 4.3-1

cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Whereas larger particles tend to collect in the upper portion of the respiratory system, $PM_{2.5}$ are so tiny that they can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants discussed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the CARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants programs.

CARB reports that recent air pollution studies have shown an association in which diesel exhaust and other cancer-causing toxic air contaminants emitted from vehicles are responsible for much of the overall cancer risk from TACs in California. Diesel particulate matter (DPM) emitted by diesel-fueled engines was found to comprise much of that risk. DPM can be distributed over large regions, thus leading to widespread public exposure. Diesel engines emit particulate matter at a rate about 20 times greater than comparable gasoline engines. The vast majority of diesel exhaust particles (over 90 percent) consist of $PM_{2.5}$, which are particles that can be inhaled deep into the lung. Like other particles of this size, a portion will eventually become trapped within the lung possibly leading to adverse health effects. While the gaseous portion of diesel exhaust also contains TACs, CARB's 1998 action was specific to DPM, which accounts for much of the cancer-causing potential from diesel exhaust. California has adopted a comprehensive diesel risk reduction program to reduce DPM emissions 85 percent by 2020. The USEPA and CARB adopted low sulfur diesel fuel standards in 2006 that reduce diesel particulate matter substantially.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations.

In December 2008 the CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles. The regulation requires affected vehicles to meet specific performance requirements between 2011 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

Non-diesel vehicles also emit TACs, primarily in the form of organic compounds. A fraction of the total organic gas (TOG) emissions from vehicles are TACs. Organic compounds that have been identified as TACs associated with the emissions from vehicles include acetaldehyde, benzene, 1,3-butadiene, ethyl benzene, formaldehyde, hexane, naphthalene, toluene, and xylenes. These TACS are emitted from vehicle exhaust and from evaporative emissions that emanate from hoses, fittings or canisters, while the vehicle is being operated.

4.3.4 Environmental Checklist and Discussion of Impact

AIR QUALITY						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐	1,5
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐	☐	1,5
3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☐	☒	☐	☐	1,5
4) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	☐	1,5
5) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	☐	1,5

4.3.4.1 CEQA *Thresholds of Significance*

Thresholds have been established to determine if the potential environmental impacts of a proposed project are potentially significant, and would therefore require mitigation in an attempt to reduce the potential impacts to a less-than-significant level. The criteria are accompanied by quantitative thresholds to allow a clear determination of potential significance. Because of different approaches to analysis, the significance criteria and thresholds are separated into three categories to address criteria pollutants relative to emission limits and ambient air quality standards, and toxic air contaminants relative to public health impacts.

Criteria Air Pollutant Thresholds, Emission Limits and Ambient Air Quality Standards

The BAAQMD has published daily and annual significant pollutant emission thresholds for four criteria pollutants as follows:

- NOx: 54 lbs/day and 10 tons per year (tpy)
- ROG: 54 lbs/day and 10 tpy
- PM_{10}: 82 lbs/day and 15 tpy
- $PM_{2.5}$: 54 lbs/day and 10 tpy

In addition, EPA has adopted or proposed the ambient air quality standards listed in Table 4.3-1 as thresholds. Air quality impacts for criteria pollutants are determined by adding the project emissions to background ambient concentrations for each pollutant and averaging time, and comparing the sum against the corresponding ambient air quality standards. If the existing background ambient air quality level of any of the criteria pollutants already exceeds an ambient air quality standard, then the maximum quality of each pollutant generated by the facility cannot exceed the significant thresholds shown in Table 4.3-3.

Table 4.3-3: Ambient Air Quality Impact Level of Significance[a]

Pollutant	Averaging Time	Significant Thresholds ($\mu g/m^3$)
PM_{10}	24-hour Annual	5 1
$PM_{2.5}$	24-hour Annual	0.3 -1.0[b] 0.7 -2.4[b]
NO_2	Annual	1
SO_2	3-hour 24-hour Annual	25 5 1
CO	1-hour 8-hour	2000 500

[a] From EPA PSD regulations (40 CFR 52.21)
[b] USEPA. Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers ($PM_{2.5}$) - Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC); Proposed Rule, Federal Register, Volume 72, Number 183, p. 54112, September 21, 2007.

Toxic Air Contaminates and Health Impacts

The BAAQMD-adopted thresholds of significance for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level.

If emissions of TACs or $PM_{2.5}$ exceed any of the thresholds of significance listed below, the proposed project would result in a significant impact.

- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution; or
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m3) annual average $PM_{2.5}$ would be a cumulatively considerable contribution; or
- Cumulative cancer risk includes that of the project plus all local sources within 1,000 feet beyond the project boundary.

4.3.4.2 *Consistency with the Clean Air Plan*

Determining consistency with the CAP involves assessing whether Air Quality Planning control measures contained in the 2010 CAP are consistent with the proposed project. The control measures were designed to improve air quality by reducing emissions. CAP control measures may also reduce vehicle use, vehicle idling, or traffic congestion. Applicable control measures are listed in Table 4.3-4 below. Individual projects cannot individually implement the listed measures. Most control measures, however, are implemented through the City's General Plan policies, which are the basis of mitigation for land use impacts in San Jose.

The proposed project would intensify the use on the project site and increase vehicle trips compared to existing conditions; however, the proposed project provides a local facility that can divert a higher ratio of waste from landfills. This facility will create and capture methane from the organic materials that would otherwise release into the atmosphere during decomposition at landfills. Thus this facility would be considered efficient growth which is consistent with the 2010 CAP's Air Quality Planning control measures.

This is not the type of project that would lead to regional population growth beyond what is planned. In addition, the project can be considered to be efficient growth. Consequently, project implementation would not conflict with or obstruct implementation of BAAQMD's air quality planning efforts. **(Less Than Significant Impact)**

Table 4.3-4:
Bay Area 2010 Clean Air Plan Control Measures to be Implemented by Cities

Control Measures	Description
Green Fleets	This measure will promote cleaner, greener heavy duty trucks fleets and implement green fleet practices.
Fleet Modernization, Low NOx Retrofits, and Efficient Drive Trains for Medium□ and Heavy□Duty On□Road Vehicles	This measure will provide incentives for the purchase of new trucks that meet the California Air Resources Board's 2010 emission standards for heavy□duty engines. This program is designed to assist truck owners/operators to replace pre□2003 heavy□duty diesel trucks (with new diesel□fueled or natural gas□fueled trucks in advance of requirements of CARB's in□use truck regulation.
Construction Equipment	This measure will provide incentives to retrofit construction equipment engines with diesel particulate filters or upgrade to equipment with electric, Tier III or Tier IV off□road engines and encourage the use of renewable electricity and renewable fuels.
Renewable Energy	This measure will promote renewable energy generation at industrial facilities.
Energy Efficiency	This measure will provide: 1) education to increase energy

Table 4.3-4: Bay Area 2010 Clean Air Plan Control Measures to be Implemented by Cities	
Control Measures	**Description**
	efficiency; 2) technical assistance to local governments to adopt and enforce energy efficient building codes; and 3) incentives for improving energy efficiency at schools.
Urban Heat Island Mitigation	This measure will mitigate the "urban heat island" effect by promoting the implementation of cool roofing, cool paving, and other strategies.
Tree-Planting	This measure will promote planting of low VOC-emitting shade trees to reduce urban heat island effects, save energy, and absorb CO2 and other air pollutants.

4.3.4.3 *Operational Emissions Impacts*

The CHP engine, flare, biofilter, trucks, front-end loaders, and emergency generator engine emission rates have been estimated from vendor data, project design criteria, and established emission calculation procedures. In addition, ROG emissions from the outdoor curing piles and PM_{10} emissions from screening the finished product and loading it on trucks were estimated for this analysis and compared with the thresholds of significance.

The maximum facility emission levels were compared with the BAAQMD CEQA daily and annual thresholds of significance in Table 4.3-5.

Table 4.3-5: Comparison of Facility Emissions Increase with CEQA Daily and Annual Thresholds of Significance[a]			
Daily Comparison			
Pollutant	**Project Emissions (lbs per day)**	**Significant Emissions Levels (lbs per day)**	**Significant?**
NOx	43.1	54	No
ROG	51.1	54	No
PM_{10} (exhaust)	4.7	82	No
$PM_{2.5}$ (exhaust)	4.6	54	No
Annual Comparison			
Pollutant	**Project Emissions (lbs per day)**	**Significant Emissions Levels (lbs per day)**	**Significant?**
NOx	8.0	10	No
ROG	9.3	10	No
PM_{10} (exhaust)	0.84	15	No
$PM_{2.5}$ (exhaust)	0.84	10	No
[a] BAAQMD. "Adopted Air Quality CEQA Thresholds of Significance," June 2, 2010.			

The facility maximum emissions of NOx, ROG, PM_{10} (exhaust) and $PM_{2.5}$ (exhaust) would be less than the BAAQMD CEQA daily and annual thresholds of significance. Therefore, these project criteria pollutant emissions will be less than significant. **(Less Than Significant Impact)**

4.3.4.4 *Operational Air Quality Impacts for Criteria Pollutants*

Impacts of the project on ambient air quality were analyzed using USEPA-approved air quality dispersion models. These models are based on mathematical descriptions of atmospheric turbulent entrainment and dispersion processes in which a pollutant source impact can be calculated over a given area.

To determine the project's air quality impacts, the modeled maximum potential concentrations are added to the maximum background ambient air concentrations, and compared to the applicable ambient air quality standards.

Maximum quantity of pollutant due to operation of the project are shown together with the ambient air quality standards in Table 4.3-6. The results indicate that the project will not cause or contribute to violations of any state or federal air quality standards, with the exception of the state PM_{10} and $PM_{2.5}$ standards. For these pollutants, existing concentrations already exceed the state and federal standards.

Table 4.3-6:
Modeled Project Air Quality Impacts

Pollutant	Averaging Time	Max. Facility Operation Impact[a] (µg/m³)	Background Concentration[b] (µg/m³)	Total Impact (µg/m³)	State Standard (µg/m³)	Federal Standard (µg/m³)
NO_2	1-hour, NAAQS	[c]	[c]	158.0	-	188.7[d]
	1-hour, CAAQS	[c]	[c]	225.6	339	-
	Annual	5.4	36.1	41.5	57	100
SO_2	1-hour	19.6[e]	65.5	85.1	655	200[f]
	3-hour	15.6	59.0	74.6	-	1,300
	24-hour	8.9	18.4	27.3	105	-
	Annual	2.4	2.7	5.1	-	80
CO	1-hour	1,318	4,945	6,263	23,000	40,000
	8-hour	559	3,456	4,015	10,000	10,000
PM_{10}	24-hour	1.8	73.2	75.0	50	150
	Annual[g]	0.33	23.4	23.8	20	-
$PM_{2.5}$	24-hour	1.2	39	40.2	-	35
	Annual[g]	0.27	11.7	12.0	12	15.0

[a] Based on modeling analysis from AERMOD and Fumigation SCREEN3 models, refer to Appendix A for additional details.
[b] Based on the maximum concentrations of NOx, SO2, CO, PM_{10}, and $PM_{2.5}$ recorded 2005 through 2009 from the San Jose –Jackson Street and San Francisco-Arkansas Street monitoring stations.
[c] Ambient background concentrations added to facility impact hour by hour.
[d] NAAQS is 100 ppbv, which converts to 188.7 µg/m3 at 25ºC.
[e] 5-year (2005-2009) average of the 99th percentile of maximum daily 1-hour concentrations
[f] NAAQS is 0.075 ppmv, which converts to 200.0 µg/m3 at 25ºC
[g] Annual Arithmetic Mean over 5 years (2005-2009)

The results of the ambient air quality impacts analysis were used to determine if project impacts are significant. For any pollutant and averaging time combination in Table 4.3-6 whose total impact exceeds an ambient air quality standard, the determination of significance is based on whether the maximum facility impact alone exceeds the appropriate established significance level shown in Table 4.3-7. If no significance level is exceeded, no further ambient air quality impact analysis is required.

Table 4.3-7:
Comparison of Maximum Modeled Impacts with Significant Thresholds

Pollutant	Averaging Time	Max. Facility Impact (µg/m^3)	Significant Threshold (µg/m^3)	Significant?
PM_{10}	24-hour	1.8	5	No
	Annual	0.39	1	No
$PM_{2.5}$	24-hour	1.2[a]	1.2[c]	No
	Annual	0.27[b]	0.3[c]	No

[a] Highest project impact during the period 2005-2009 when the sum of the project and background concentrations exceeds the 35 µg/m3 NAAQS following EPA guidance, and the impact is rounded to the same one decimal precision as the SIL.
[b] 5-year (2005-2009) average of the first high Annual Arithmetic Mean
[c] SILs for Class II areas in EPA Final Rule[4]

The maximum modeled impacts from the project were compared with the significant thresholds. Table 4.3-8 shows that the project criteria pollutant emissions will not cause a significant air quality impact. These comparisons show that maximum potential impacts are below the significant thresholds and no further analysis is required. **(Less Than Significant Impact)**

4.3.4.5 *Toxic Air Contaminant Emissions*

Toxic air contaminants (TACs) are compounds that pose a potential health hazard to humans. Nine of these pollutants are regulated under the federal New Source Review program: lead, asbestos, beryllium, mercury, fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, and reduced sulfur compounds. In addition to these nine compounds, EPA currently lists 188[5] substances as potential hazardous air pollutants. California Assembly Bill (AB) 2588, the Air Toxics "Hot Spots" Information and Assessment Act, defined over 700 TACs for which reporting is required if emitted in excess of specified threshold amounts. BAAQMD provides a list of approximately 200 compounds defined as toxic air contaminants in Rule 5 (New Source Review of Toxic Air Contaminants) of Regulation 2 (Permits). All pollutants that may be emitted from the project and are listed in any of the above regulations have been considered in this analysis.

Emission factors were determined by reviewing the available technical data. Toxic air contaminant emission factors for 190 compounds emitted from the engines and flares were obtained from AP-42,[6] and are listed in Appendix A, Table D-1. Of the 190 compounds that may be emitted from equipment used in the project, only 11 compounds have annual emission rates high enough to exceed the BAAQMD chronic trigger levels, and none of the compounds have one-hour emission rates that

[4] U.S. EPA. Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM2.5) - Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC); Final Rule, Federal Register, Volume 75, Number 202, pp. 64864-64907, October 20, 2010.
[5] http://www.epa.gov/air/toxicair/newtoxics.html.
[6] USEPA. Compilation of Air Pollutant Emission Factors, Volume 1 - Stationary Point and Area Sources, Chapter 2 - Solid Waste Disposal, Draft Section 2.4 - Municipal Solid Waste Landfills, Table 2.4-4 (Emission Factors for Secondary Compounds Exiting Control Devices) and Mean concentrations (ppmv) in Appendix C - Landfill Gas Constituents (Uncorrected Concentrations), October 2008, as recommended by Carol Allen (BAAQMD) in telephone conversation with Eric Walther at Sierra Research on May 3, 2010.

exceed the BAAQMD acute trigger levels. The three diesel-fueled emergency standby generator engines emit only one toxic air contaminant: diesel exhaust particulate matter (DPM), or the PM_{10} emitted by the engine. The 11 exceedances trigger the need for a screening health risk assessment, as required by Regulation 2 Rule 5 (New Source Review of Toxic Air Contaminants) Section 2-5-110, and which complies with District guidelines.[7]

TAC Cancer Risk Analysis

Cancer risk is the probability or chance of contracting cancer over a human life span (assumed to be 70 years). Carcinogens are assumed to have no threshold below which there would be no human health impact. In other words, any exposure to a carcinogen is assumed to have some probability of causing cancer; the lower the exposure, the lower the cancer risk (i.e., a linear, no threshold model). Under state and BAAQMD regulations, an incremental cancer risk greater than 10 in one million due to a project is considered to be a significant impact on public health if the emitting units are determined by the BAAQMD to be using Toxics Best Available Control Technology (T-BACT).[8]

Cumulative cancer risk includes that of the project plus all local sources within 1,000 feet beyond the project boundary, and cannot exceed 100 in one million. The only local stationary source within 1,000 feet of the project boundary is the San Jose/Santa Clara Water Pollution Control Plant. Based on the health risk assessment, the maximum incremental cancer risk calculated for the proposed project is less than 10 in a million; therefore, the health risks will be less than significant. **(Less Than Significant Impact)**

Non-Cancer Health Impacts

Non-cancer health effects can be either long-term (chronic) or short-term (acute). In determining potential non-cancer health risks from air toxics, it is assumed there is a dose of the toxic air contaminant below which there would be no impact on human health. The air concentration corresponding to this dose is called the Reference Exposure Level (REL). A non-cancer health risk is measured in terms of a health hazard quotient, which is the calculated maximum exposure (concentration) of each toxic air contaminant divided by its REL. Health hazard quotients for toxic air contaminants affecting the same target organ are summed with the resulting totals expressed as health hazard indices for each organ system. A health hazard index of less than 1.0 is a less than significant health risk.

Chronic toxicity is defined as adverse health effects from prolonged chemical exposure, caused by chemicals accumulating in the body. Because chronic chemical accumulation to toxic levels occurs slowly, symptoms of chronic effects usually do not appear until long after exposure commences. The chronic REL for a non-carcinogenic air toxic is set at the lowest exposure level at which there is no chronic effect. Below this threshold, the body is capable of eliminating or detoxifying the chemical rapidly enough to prevent its accumulation. The chronic health hazard index was calculated as the sum of the chronic health hazard quotients for the individual chemicals having chronic RELs.

Acute toxicity is defined as adverse health effects caused by a brief chemical exposure of no more than 24 hours. For most toxic air contaminants, the air concentration required to produce acute effects is higher than the level required to produce chronic effects because the duration of exposure is

[7] BAAQMD. Appendix D, Proposed BAAQMD Health Risk Screening Analysis (HRSA) Guidelines, June 2005.
[8] The threshold would be 1 in one million if the emitting units were determined not to be applying TBACT.

shorter. Because acute toxicity is predominantly manifested in the upper respiratory system at threshold exposures, all acute health hazard quotients are summed to calculate the acute health hazard index. The maximum one-hour average concentration of each toxic air contaminant with acute health effects is divided by the TAC's acute REL to obtain a health hazard index for health effects caused by relatively high, short-term exposure to air toxics. An additional conservative procedure in this health risk assessment is that the health hazard quotients for all toxic air contaminants having potential acute impacts were summed regardless of target organ. This method leads to an upper-bound assessment. RELs used in the hazard index calculations were those published in the CARB/OEHHA listings dated April 25, 2005.

Four compounds also have 8-hour health effects, and associated 8-hour RELs for which health hazard quotients are calculated by dividing the maximum 8-hour average concentration of each toxic air contaminant by the TAC's 8-hour REL. The four 8-hour quotients are added to obtain the 8-hour health hazard index. The BAAQMD has not set a CEQA threshold of significance for 8-hour health impacts.

Cumulative health impact is limited to a chronic health hazard index of 10.0 from the project plus all other local sources within 1,000 feet of the project boundary, for which the Water Pollutant Control Plant is the only qualifying local source.

Because of concern about the health effects of fine particulate, the BAAQMD has supplemented the protection offered by California and national ambient air quality standards for $PM_{2.5}$. The BAAQMD has established a CEQA threshold of significance of 0.3 µg/m3 for a project, which, if exceeded, would be determined to "be a significant cumulatively considerable contribution."[9] For cumulative air quality impact analysis, the BAAQMD set the threshold of significance at 0.8 µg/m3 for a project plus all local sources within 1,000 feet of the project boundary. Again, the Water Pollution Control Plant is the only qualifying local source.

The health risk analysis done for this project, determined that concentrations are lower than the BAAQMD $PM_{2.5}$ threshold of greater than 0.3 µg/m3, (see Appendix A). For this reason, the project would not result in significant non-cancer health impacts from DPM, TACs, or $PM_{2.5}$. Refer to Appendix A for more detail about this analysis. **(Less Than Significant Impact)**

4.3.4.6 *Construction-Related Air Quality Impacts*

Construction activities would temporarily affect local air quality. Construction activities such as earthmoving, construction vehicle traffic, and wind blowing over exposed earth would generate exhaust emissions and fugitive particulate matter emissions that affect local and regional air quality. Construction activities are also a *source* of organic gas emissions. Solvents in adhesives, non-water based paints, thinners, some insulating materials, and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application.

Construction dust could affect local air quality at various times during construction of the project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere. Construction activities would increase dustfall and locally elevated levels of PM_{10} downwind.

[9] BAAQMD. "CEQA Air Quality Guidelines," page 5-4, June 2010.

Importing of soil fill for grading purposes would occur over five weeks, and include 100,000 cubic yards of imported soil. Phase I construction of the AD facility is anticipated to take place over a period of about one year (52 weeks) once the grading is implemented. Phases II and III will each take six months to complete. The construction of the site could result in significant air quality impacts associated with elevated levels of PM_{10}, which would be a significant impact.

Impact AIR-1: Construction of the proposed project could result in significant air quality impacts associated with dust and particulates. **(Significant Impact)**

The following mitigation measures have been incorporated into the project to reduce temporary air quality impacts to a less than significant level:

MM AIR-1.1: The project proposes to implement the following BAAQMD mitigation measures during all phases of construction and soil stockpiling, to prevent visible dust emissions from leaving the site:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number for contractor representative to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The City's Code Enforcement's phone number (408-535-7770) and BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Sensitive Receptors

As mentioned above, the closest sensitive receptor, a residence, is located over 4,300 feet from the project site. On-site equipment during construction would result in temporary diesel exhaust emissions.

According to BAAQMD's Screening Table for Air Toxics Evaluation during Construction[10], the screening table indicates that construction projects approximately 41 acres in size would not subject sensitive receptors to substantial increases in health risks if they are located more than 300 meters from the project site. Because the distance from the site to the nearest sensitive receptor is more than 4,300 feet (1,320 meters), the screening table confirms that the project-generated emissions would not expose sensitive receptors to substantial levels of toxic air contaminants during construction. **(Less Than Significant Impact)**

Odors

Facilities that involve anaerobic digestion and aerobic composting are potential sources of odor, and odor is considered to be a public nuisance. The organic feedstock for the project originates in municipal and commercial solid waste, which contains sulfur compounds from various household and commercial solid wastes. Pollutants emitted from the anaerobic digestion of these sulfur-containing wastes include reduced sulfur compounds, a complex group of compounds that are assumed to be approximately one third carbon sulfide, one-third dimethyl disulfide, and one-third acetic acid. Another odorous compound that is generated by the anaerobic digestion is hydrogen sulfide. The aerobic composting of the material that remains after anaerobic digestion generates ammonia, also malodorous. Trace concentrations of a total of 20 odorous compounds will be emitted from the project.

Construction Odors

During construction, the various diesel powered vehicles and equipment in use on the site would create localized odors. As the equipment moves around the site and as the wind directions and intensity varies during the day, these odors would not be noticeable for extended periods of time beyond the project's site boundaries; therefore, diesel odor impacts are less than significant.

Operation Odors

A small amount of ammonia used to control NOx emissions from the CHP engines can "slip" past the selective catalytic reduction (SCR) catalyst. This leakage is known as ammonia "slip," and will be less than 10 parts per million by volume (ppmv). Ammonia will also be produced by the aerobic composting process and emitted from the three biofilters at concentrations no higher than 20 ppbv. The biofilters will also emit other reduced sulfur compounds at concentrations less than 15 parts per billion by volume (ppbv). The composition of the other reduced sulfur compounds is represented as one-third carbon disulfide, one-third dimethyl disulfide, and one-third acetic acid.[11]

The emissions of ammonia and all other odorous compounds discussed herein were subjected to the same air dispersion modeling as the project emissions of criteria pollutants and toxic air contaminants. The odor thresholds and maximum offsite ground level concentrations for the odorous compounds emitted by the project are shown in Table 4.3-8.

After mixing with the atmosphere, the concentration of ammonia at ground level, shown in Table 4.3-8, will be far below the detectable odor threshold of 3,540 µg/m3 (5 ppmv) that the Compressed

[10] Bay Area Air Quality Management District. *Screening Tables for Air Toxics Evaluation During Construction*. May 2010. p. 9.

[11] Rosenfeld, P., M. Grey, and P. Sellew, "Measurement of Biosolids Compost Odor Emissions from a Windrow, Statis Pile, and Biofilter," Water Environment Research, Volume 76, Number 4, pp. 310-315, 2004.

Gas Association has determined to be acceptable, as well as being below the ACGIH[12] Threshold Limit Value (TLV) and Short-Term Exposure Level (STEL) values (adopted in 2003) of 25 and 35 ppm, respectively. Therefore, potential ammonia emissions would not create a significant odor.

The maximum concentrations of the other odorous compounds that are emitted from the combustion of biogas in the CHP engines and flares are also below their odor thresholds, as shown in Table 4.3-8. The project emissions of odorous compounds will not cause a detectable odor outside the project boundary and therefore, would be less than significant. **(Less Than Significant Impact)**

Table 4.3-8:
Odor Compounds, Detection Thresholds and Maximum Concentrations

Compound	Threshold of Detection ($\mu g/m^3$)	Maximum Concentration ($\mu g/m^3$)	Below Threshold?
Acetonitrile	1,950,000	0.0284	yes
Carbon tetrachloride	884,000	0.0015	yes
1,4-Dioxane (1,4-Diethylene dioxide)	270,000	0.000895	yes
Hexylbenzene	230,000	0.00013	yes
Ammonia(2A)	3,540	5.25	yes
1,2-Dichloroethane (Ethylene dichloride)	165,000	0.0296	yes
Benzene	108,000	0.22	yes
Hydrogen chloride	15,000	0.166	yes
1,1,2,2-Tetrachloroethane	50,000	0.144	yes
Toluene (Methyl benzene)	25,400	3.62	yes
Chlorobenzene	5,900	0.0808	yes
1,3-Butadiene (Vinyl ethylene)	2,400	0.0122	yes
Formaldehyde	1,200	0.00048	yes
1,2-Dichloropropane	2,400	0.00567	yes
Ethylbenzene	2,000	1.05	yes
Carbon disulfide	650	0.0123	yes
Dichlorobenzene	730	0.148	yes
Carbonyl sulfide (Carbon oxysulfide)	250	0.084	yes
Acetaldehyde	120	0.00475	yes
Benzyl chloride	210	0.00290	yes

4.3.3 Conclusion

The proposed project, with implementation of the above mitigation measures, would not result in significant air quality impacts. **(Less Than Significant Impact with Mitigation)**

[12] American Congress of Government Industrial Hygienists

4.4 BIOLOGICAL RESOURCES

The following section is based primarily upon a Biological Resources Report prepared for the proposed project by *H.T. Harvey & Associates* in June 2010 and Tree Survey prepared by *Landarc Associates, Inc.* in January 2011. These reports are provided in Appendix B of this Initial Study.

4.4.1 Setting

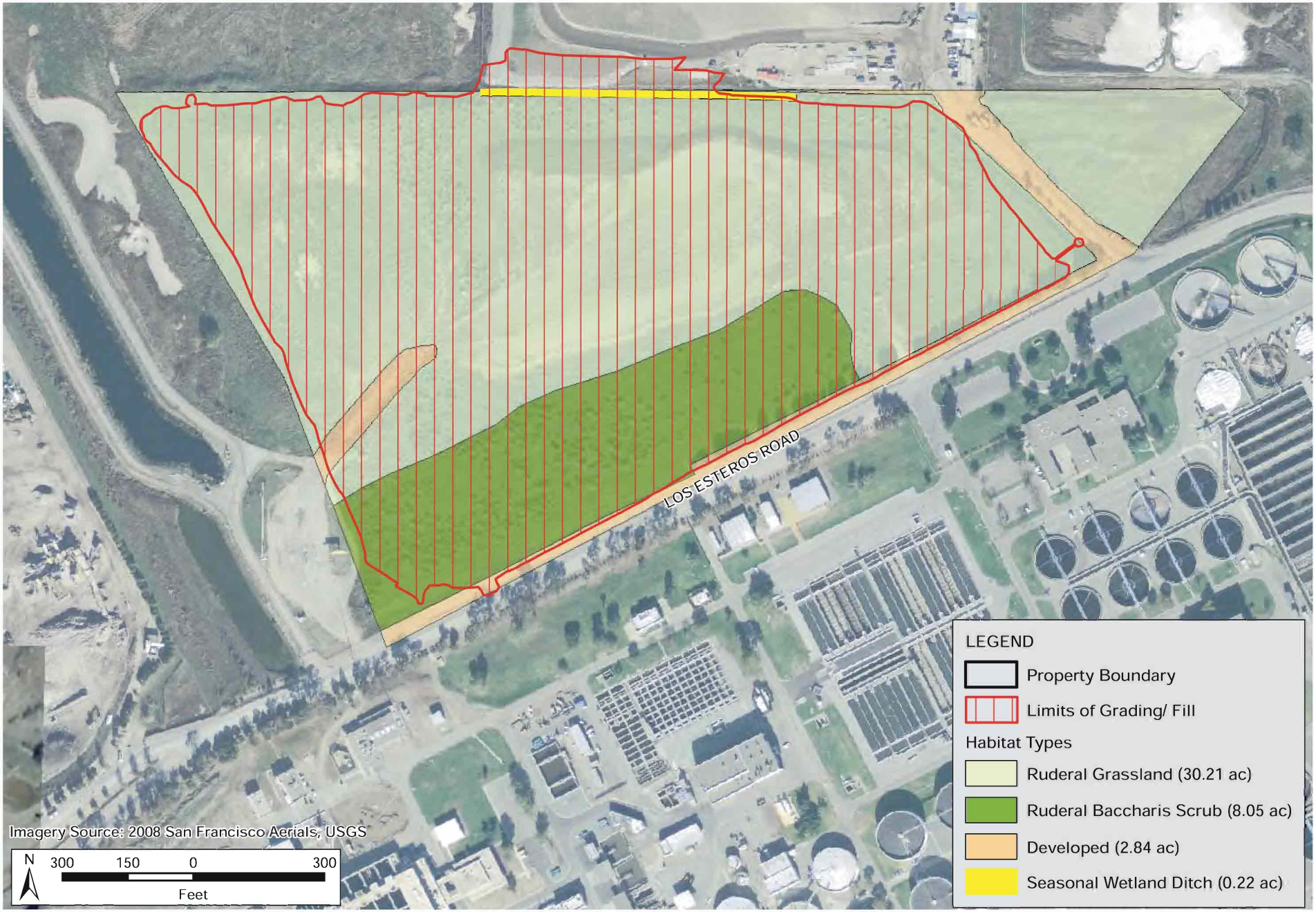
The project is located on the Plant buffer lands in San José. The areas adjacent to the project site are primarily characterized by existing solid and liquid waste management facilities to the west, south, and northeast. There are extensive natural wetlands and areas of coastal salt marsh adjacent to, but outside of, project boundaries to the north and west. The Plant outflow channel is located to the west of the site at the Artesian Slough.

Ruderal grasslands (30.21 acres) comprise the primary biotic habitat on the project site, as well as ruderal Baccharis scrub (8.05 acres), developed (2.84 acres), and seasonal wetland ditch (0.22 acre) (refer to Figure 4.4-1). These habitats support limited plant species diversity with a high proportion of non-native and weedy species due to the disturbed nature of most of the property and the fill soils that have been placed on the site in the past.

Approximately 30 acres of the project site is dominated by ruderal grassland, which is characterized by plant species that thrive in disturbed areas, occupying the recently filled areas and along the northern, western, and eastern areas of the site. Along the southern border of the project site, a band of coyote brush occupies an area less affected by stockpiling. This area has been undisturbed long enough that a mature scrub canopy has formed. The developed area near the road entrance in the southwestern corner of the project site and the road bisecting the eastern corner of the site are sparsely vegetated, and unlikely to be used regularly by wildlife.

A seasonal wetland (0.22 acre) ditch runs along the northern boundary of the project site, adjacent to, and south of, the off-site ZRRROL landfill road. The ditch supports mostly upland-associated plant species and does not provide high-quality wetland habitat for wildlife. One source of hydrology appears to be runoff from dust suppression efforts on the adjacent ZRRROL site. The ditch does not empty into any other wetlands or aquatic habitats. Water may pond in the lowest portion of the ditch for a short duration after heavy rain events, but the source of dry-season hydrology (water from dust suppression trucks) does not provide aquatic or marsh habitat. As a result, this ditch does not provide suitable breeding habitat for amphibians, nor open-water foraging habitat for ducks or shorebirds.

The National Wetland Inventory (NWI) (1985) depicts one historic wetland within the project boundary, but surveys completed in December 2009 did not find any evidence of its existence. Other wetlands and estuarine waters are located just outside of project boundaries to the west and north of the project site. Historically, tidal marsh soils underlay the project site, although past land filling and current soil stockpiling have deposited various fill materials on top of the native soil.



HABITAT MAP

FIGURE 4.4-1

4.4.1.1 *Regulatory Overview (Sensitive Biological Communities)*

Waters of the United States

Areas meeting the regulatory definition of "Waters of the U.S." (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual.* Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE.

Reconnaissance-level field surveys for jurisdictional waters on the project site were completed on December 3, 2009 in accordance with USACE regulations and guidelines such that areas were inspected for a confluence of three wetland parameters: wetland hydrology, hydric soils, and hydrophytic vegetation. In addition, an H. T. Harvey & Associates senior plant/wetlands ecologist visited the site on May 13, 2010 to determine the dimensions and location of the seasonal wetland in the ditch along the northeastern edge of the site.

The wetland shown on the NWI map no longer exists on-site. One small depressional ditch exists in the northern portion of the site adjacent to, and south of, the off-site landfill road. This ditch did not contain water during the December 3, 2009 site visit and was not dominated by hydrophytic vegetation except in a few small, isolated areas comprised of Italian rye-grass and curly dock. This ditch has been excavated within the surrounding ruderal habitat, probably for the purposes of runoff detention from the landfill slope. Such ditches generally have been considered non-jurisdictional by the USACE in the past due to their manmade nature and ongoing use for construction and operations. During the May 13, 2010 site visit, water spread by a dust suppression truck was collecting in drainage features along the roads on the ZRRROL site and discharging into the seasonal wetland ditch. As mentioned above, the ditch does not empty into any other wetlands or aquatic habitats; rather, it is depressional, with higher-elevation areas separating it from the extensive, natural wetland to the west/northwest.

Determination of the regulatory status of this ditch would require preparation of a Waters of the U.S. delineation report and field review by the USACE. Ecologically, this depression serves few wetland functions.

California Department of Fish and Game Jurisdictional Habitats

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by California Department of Fish and Game (CDFG) under Sections 1600-1616 of California Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement.

The CDFG potentially extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependant terrestrial wildlife" (CDFG 1994). Such areas on the site were determined using methodology described in *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607* (CDFG 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream, or which substantially change its bed, channel, or bank, or which utilize any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFG.

Reconnaissance-level field surveys were completed within the project area for streams and other waterways potentially under the jurisdiction of the CDFG. There are no channels, drainages, or waterways potentially under the regulatory jurisdiction of the CDFG. There are no channels, drainages, or waterways that the CDFG would claim under the Fish and Game Code cited above.

4.4.1.2 *Regulatory Overview (Special-Status Species)*

Special-status species include those plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed and proposed species. In addition, CDFG Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in the USFWS Recovery Plans, and CDFG special-status invertebrates are all considered special-status species. Although, CDFG Species of Special Concern generally have no special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Plant species on California Native Plant Society (CNPS) Lists 1 and 2 are also considered special-status plant species and must be considered under CEQA. CNPS List 3 plants have little or no protection under CEQA, but are included in this analysis for completeness.

4.4.1.3 *Special-Status Plants*

Reconnaissance-level field surveys were completed on December 3, 2009, for habitats capable of supporting special-status plant species. Prior to the site-surveys, information concerning the known distribution of threatened, endangered, or other special-status plant species with potential to occur in the area was collected from several sources and reviewed. These sources included the CDFG's Natural Diversity Database (CNDDB) and information available through the USFWS, CDFG, and previous special-status plant analyses for projects adjacent to the current project site.

Many of the special-status plant species that occur in the vicinity or the surrounding areas, or in Santa Clara County, are associated with habitats or soil types that did not occur on the project site historically or no longer occur on the project site due to the extensive removal of soil and addition of fill and landfill material. Such habitats and soil types that are absent from the project site include serpentine soils, clay soils, rock outcrops, vernal pool habitat, riparian habitat, chaparral, coastal salt marshes, and cismontane woodland habitat. Additionally, many of the species identified as potentially occurring in the area occur at much higher elevations than are present at the project site. Finally, the site is extremely disturbed by fill soil placement and non-native weedy plant invasions, and as such, was too degraded to be considered to support many species.

No special-status plant species were observed on the project site during the field survey, and none are expected to occur there.

4.4.1.4 *Special-Status Wildlife*

Based on the site visit and review of CNDDB records and other information regarding the occurrence of special-status wildlife species in the site vicinity, it was determined that the project's impact areas lack habitat for most regionally occurring special-status species. Other special-status species may occur on the property only as uncommon to rare visitors, migrants, or transients, or may forage on the site in low numbers while breeding in adjacent areas. These species are not expected to breed on the project site, or to be substantially affected by the proposed project. These species include the short-eared owl, northern harrier, white-tailed kite, American peregrine falcon, golden eagle, California yellow warbler, and tricolored blackbird. Any migrant willow flycatchers occurring on the site are likely from breeding populations outside the state, and thus would not be considered representatives of the state or federally listed California populations.

The following paragraphs discuss potential impacts to species that may breed or roost in or immediately adjacent to the project area.

Burrowing Owl

No evidence of burrowing owls was observed on the site during the reconnaissance-level survey completed for the project. However, this species is known to occur in the grasslands and ruderal habitats on Water Pollution Control Plant lands south of the site and in New Chicago Marsh to the west. Burrowing owls are expected to occur on the site at least as occasional foragers. California ground squirrel burrows on the site provide potential roosting and nesting sites for the species, and burrowing owls could potentially nest or roost on the site. Due to recent declines in burrowing owl populations, the loss of any individuals or active nests would be considered a significant impact under CEQA. In addition, burrowing owls along with all other all native birds are protected by the federal Migratory Bird Treaty Act and the California Fish and Game Code.

Nesting Special-Status Birds

Due to the lack of suitable nesting habitats, no special-status birds are expected to nest on the project site. Several special-status bird species, however, including the California clapper rail, western snowy plover, loggerhead shrike, San Francisco common yellowthroat, Alameda song sparrow, and Bryant's savannah sparrow, could nest in vegetation near the project site. As mentioned previously, all native birds are protected by the federal Migratory Bird Treaty Act and the California Fish and Game Code.

Salt Marsh Harvest Mouse and Salt Marsh Wandering Shrew

The salt marsh harvest mouse and the salt marsh wandering shrew are typically found in pickleweed-dominated marshes. The pickleweed-dominated marshes north of the western portion of the project site could potentially support these species. There is no suitable salt marsh habitat on the project site. Salt marsh harvest mice spend most of their lives in pickleweed habitat; although they occasionally move into adjacent upland habitat, such as the grassland habitat to the north of the project site. The project site itself is far-removed from salt marsh habitat, and thus salt marsh harvest mice and salt marsh wandering shrew are not expected to occur on the site itself, or in immediately adjacent areas.

4.4.1.5 *City of San José Tree Ordinance*

The City of San Jose General Plan encourages to preserve, protect, and increase plantings of urban trees within the City. The City of San José Tree Ordinance defines an ordinance-sized tree as any woody perennial plant characterized by having a main stem or trunk which measures 56 inches or greater in circumference (18 inches in diameter) at a height of 24-inches above natural grade slope. A multi-stem tree is considered a single tree and measurement of that tree includes the sum of the diameter of the tree trunks of that tree. There are 37 eucalyptus trees on the site. All of the thirty-seven trees are of ordinance size. The condition and specific size of each trees is identified in Appendix B.

4.4.1.6 *City of San José Heritage Trees*

Under the City of San José Municipal Code, Section 13.28.330 and Section 13.32.090, specific trees are found, because of factors including, but not limited to, their history, girth, height, species or unique quality, to have a special significance to the community and are designated Heritage Trees. There are no heritage trees on the project site.

4.4.2 **Environmental Checklist and Discussion of Impact**

BIOLOGICAL RESOURCES						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	☐	1,2,6
2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐	☐	1,2,6
3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐	☐	1,2,6

BIOLOGICAL RESOURCES						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☐	☒	☐	☐	1,2,6
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐	☐	1,2,6
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐	☐	1,2,6

4.4.2.1 *Discussion of Impacts*

Up to 25.7 acres of ruderal grassland habitat, 7.6 acres of ruderal Baccharis scrub, 0.9 acres of developed habitat, and 0.2 acres of seasonal wetland ditch habitat on the project site will be impacted by the project either through direct permanent impacts such as conversion to new developed uses, direct temporary impacts such as construction staging, or indirect impacts such as increased dust generation. An additional 0.9 acres of ruderal/bare ground on the adjacent ZRRROL site will be impacted by grading for the driveway connecting the two properties.

Impacts of Project Operation on Wildlife

Due to intensive disturbance of the project area that has been ongoing for years, impacts to wildlife resulting directly from habitat conversion will be minimal. However, the effects on wildlife of the new site conditions, including the presence of a large building and processing of food waste, must be addressed.

The AD facility will receive and process a variety of organic materials, including food waste. Food waste that is uncovered or is buried (*e.g.*, in a landfill) would attract nuisance species such as gulls, corvids, and rats, thus helping to sustain populations of these species in the South Bay and potentially leading to increased predation on, or competition with, sensitive native species. However, at the AD facility these materials will be received inside the proposed buildings, where biogas will be extracted in large, airtight "digesters", and remaining materials will be moved into tunnels for further composting. Only the final, "curing", stage of the compost production will occur outdoors, and at this stage the material will be almost fully decomposed, and will have a soil-like consistency and an earthy odor. No open-air, uncovered decomposing food waste, nor any landfill (*i.e.*, garbage burial) operations, will occur at the AD facility. As a result, food waste will be inaccessible to nuisance

birds such as gulls and corvids, and the project is not expected to provide food resources for these nuisance species.

Nevertheless, the project incorporates the implementation of a VMP. The purpose of the VMP will be to minimize the degree to which nuisance species increase in the vicinity of the site as a result of materials processing activities. Such nuisance species, which include gulls, corvids such as common ravens and American crows, and nuisance mammals such as rats, opossums, raccoons, skunks, red foxes, and feral cats, may be attracted to the site to feed on food waste that will be processed at the facility, if such waste is accessible to these species. These nuisance species could then adversely affect sensitive wildlife species elsewhere in the South Bay through predation or competition. Nuisance species also include nuisance insects. The VMP would thus minimize this project's contribution to the maintenance of populations of these nuisance species. The VMP will focus on minimizing accessibility of food waste to nuisance species so that these species are not attracted to the facility, and for insects and rodents, on minimizing features that would support breeding by and refugia for these species. Because completely eliminating access to food waste and refugia for nuisance species may not be feasible, the VMP also includes measures to capture and remove individual nuisance mammals and treat areas with nuisance insects. The VMP, described in *Section 3.9* of this document, includes measures to minimize access of waste materials to wildlife, minimize refugia for nuisance species, and trap nuisance mammals as needed. The VMP also includes a monitoring and adaptive management component to ensure that it is effective.

The operation of this 24-hr facility will result in increases in noise and site activity; compared to existing levels of noise and activity, such increases will be particularly great at night. However, this increase in activity is not expected to result in substantial increases in levels of disturbance of wildlife in surrounding areas, as the area already experiences substantial levels of noise and disturbance from the existing ZRRROL, ZMPF, and Plant facilities. Additionally, the vegetation to be planted around the perimeter of the project area will buffer sounds and movement to some extent. Development of open spaces can hinder wildlife movement between core habitats, resulting in negative effects on gene flow and recruitment into existing populations. However the proposed project site is surrounded by previously developed areas on three sides, and thus does not provide any habitat connectivity between the marshes to the north and other wildlife habitats likely to sustain substantial wildlife populations. The buildings and grounds will not substantially impede the passage of birds moving through the area during migration, and locally dispersing reptiles, amphibians, and mammals are not expected to disperse through the project site with any regularity. Thus, the presence of the new facilities will not substantially hinder wildlife movement. **(Less Than Significant Impact)**

The presence of the new buildings on the site may result in increased bird mortality due to bird strikes. However, such bird strikes are not expected to be frequent, to affect large numbers of birds, or to affect particularly rare or sensitive species, and the buildings will not otherwise substantially impede the movements of birds or other animals through the site. Although the project site is located in fairly close proximity to sloughs, marshes, and managed ponds that are used heavily by birds, the majority of bird movements among these habitats would not result in birds passing directly through or over the project site. Most movement of these waterbirds would occur between the bay and tidal sloughs, salt ponds (including pond A16 to the northwest and A18 to the north of the site), and New Chicago Marsh; none of the movements of birds between these features would involve birds passing through or over the project site. The movement of gulls between the bay/salt ponds and the Plant, or of waterfowl and shorebirds between New Chicago Marsh and the Plant sludge ponds, does involve some movement of birds over the project site. However, birds currently flying to the main Plant

complex have to ascend to a sufficient height to fly over the eucalyptus trees along Los Esteros and Zanker Roads and the buildings of the Plant, and thus would be flying above the elevation of the new building. In summary, the presence of the new buildings will not substantially impede such movements, or result in substantial increases in mortality due to bird strikes. **(Less Than Significant Impact)**

4.4.2.2 *Long-term Impacts to Wetlands and Water Quality*

The proposed stormwater control plan (shown in *Section 4.9 Hydrology and Water Quality*) includes a series of vegetated swales, forebays, and storm drains designed to avoid and reduce impacts from stormwater run-off from the project site to a less-than-significant level. The stormwater runoff collected in storm drains and discharged from drainage collection areas (basins) will first be channeled into open forebays, where all large sediment particles will settle out and can be removed as needed. The second water quality treatment will occur as each forebay continues to drain into one of six vegetated swales. This system will therefore provide two levels of water treatment before the stormwater is released at a controlled flow rate into the existing catch basin and wetlands to the west of the project site. The rate of outflow being discharged to the existing water and wetlands will be limited so as to avoid exceeding the prevailing pre-developed flow. The forebay and vegetated swale containment system is designed to handle 100-year flood conditions, and therefore will not be overwhelmed and release untreated water into the adjacent wetlands.

In addition, the volume of runoff released from the site in any particular area is not expected to be substantially greater than existing conditions, as the outfall areas will distribute runoff to four release locations. As a result, release of runoff from the site is not expected to result in substantial changes in the character of receiving areas off-site (*e.g.*, by converting saltmarsh habitat to brackish or freshwater marsh). Thus, project impacts to adjacent salt marsh and aquatic habitats resulting from stormwater runoff, including both quality and quantity-related impacts, are expected to be less-than-significant. **(Less Than Significant Impact)**

Construction of the proposed project would convert 0.2 acres of seasonal wetland ditch habitat into developed land. As stated above, water may pond in the lowest portion of the ditch for a short duration after heavy rain events, but the source of dry-season hydrology (water from dust suppression trucks) does not provide aquatic or marshy habitat. As a result, this ditch does not provide suitable breeding habitat for amphibians, nor open-water foraging habitat for ducks or shorebirds. Wildlife use of this ditch is expected to be similar to that of the adjacent ruderal grassland habitat. Due to the marginal nature of the ecological functions and values provided by this ditch, impacts to this ditch resulting from the construction of an access road between the project site and the ZRRROL site will be less than significant, whether or not the ditch is regulated by the USACE as Waters of the U.S. **(Less Than Significant Impact)**

It should be noted that determination of the regulatory status of this ditch would require preparation of a Waters of the U.S. delineation report and a field review by the USACE, and if the USACE does claim jurisdiction over this feature, state and federal permits would be required to place fill in the ditch.

4.4.2.2 *Short-term Construction Impacts to Wetlands and Water Quality*

The project also proposes extending an approximately 18-inch diameter water main through trench construction from nearby Spreckles Avenue and Grand Boulevard to the driveway of the project site. This pipe will be installed in Los Esteros and Zanker Roads entirely in habitat that is currently developed (*i.e*., paved or bare shoulder lacking wetlands or other sensitive habitats). As a result, no direct impacts to high-quality jurisdictional wetlands are expected to result from the installation of this pipe. **(Less Than Significant Impact)**

As mentioned previously, impacts to 0.2 acre of the seasonal wetland ditch are considered less than significant, and no other potential wetlands are proposed to be filled as part of this project. However, higher-quality, natural wetlands occur north and west of the project site, and in some areas along Los Esteros Road. During grading or construction on the project site, or during installation of the water pipe in Los Esteros Road (approximately 6,500 linear feet within the public right-of-way), soil and other materials could be placed, could slide downslope, or could be washed into adjacent wetlands, reducing water quality, covering vegetation, and altering hydrology of those wetlands. Soil disturbance during soil stockpiling and grading can result in mobilization of dust that coats plants (possibly including special-status species) in areas that are not directly impacted, potentially adversely affecting their health. Soil disturbance can also result in soil erosion, transport, and siltation of wetlands that are not intended to be filled by the project. Contamination of aquatic and wetland habitats can occur as a result of fuel leaks in construction equipment. Due to the high ecological functions and values provided by high-quality, natural wetlands, such indirect impacts are potentially significant.

Impact BIO-1: Construction and grading activities could contaminate adjacent aquatic and wetland habitat.

Implementation of the following measures would reduce these possible impacts to wetlands to less than significant levels.

MM BIO-1.1: The project will incorporate Best Management Practices (BMPs) to minimize impacts in the surrounding wetland environment. These measures will be outlined within the project's Stormwater Pollution Prevention Plan (SWPPP):

- No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into aquatic or wetland habitat.

- Standard erosion control and slope stabilization measures will be required for work completed in any area where erosion could lead to sedimentation of a wetland or waterbody. For example, silt fencing will be installed just outside the limits of grading and construction in any areas where such activities will occur upslope from, and within 50 feet of, any wetland, aquatic, or marsh habitat. This silt fencing will be inspected and maintained regularly throughout the duration of construction.

- Machinery will be refueled at least 50 feet from any aquatic habitat, and a spill prevention and response plan will be developed. All workers will be

informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

MM BIO-1.2: Dust suppression (*e.g.*, using watering trucks) will be implemented during all grading, construction, and soil stockpiling activities that have the potential to mobilize dust to keep dust from being transported to vegetated wetlands nearby. If soil stockpiles are to remain on the site for long periods of time prior to the start of grading, they will be hydroseeded so that vegetation will suppress dust and inhibit erosion.

4.4.2.3 *Impacts to Special-Status Plants*

No special-status plant species were observed on the project site, and none are expected to occur there. Thus, the project is not expected to result in impacts to special-status plant species. **(No Impact)**

4.4.2.4 *Impacts to Special-Status Animals*

Burrowing Owls

No evidence of burrowing owl occupancy was observed on the project site during reconnaissance-level surveys completed for this report. However, burrowing owls (listed as a Species of Special Concern by the CDFG) occur in numbers directly south of the site on Plant lands, and a pair has nested for several years in New Chicago Marsh to the west of the site. The non-native annual grasslands on the site provide suitable foraging, roosting, and breeding habitat for burrowing owls, and there were a small number of ground squirrels and active squirrel burrows on the site. Therefore, it is possible that burrowing owls could roost or nest in burrows on the site in small numbers.

The impact areas of this project are currently of limited value to roosting or nesting burrowing owls because of the small number of ground squirrel burrows, and the dense and high herbaceous vegetation characterizing much of the site. The project will, therefore, not result in a substantial loss of burrowing owl habitat under existing conditions if owls use the site only for foraging but not for roosting or nesting. Due to the low and declining population levels in the region, any impacts from the project that result in the injury or mortality of individual owls or active nests, such as excavation or grading, or project-related disturbance that results in the abandonment of eggs or nestlings, would be considered significant under CEQA. In addition, any loss of occupied nesting or roosting habitat would be a significant impact. Such impacts could occur even if owls are nesting or roosting in burrows immediately outside the project site.

Impact BIO-2: Construction of the proposed project could result in impacts to burrowing owl individuals and/or occupied burrows.

MM BIO-2.1: The following mitigation measures will avoid significant impacts to individual burrowing owls or occupied burrows:

- Pre-construction surveys for burrowing owls shall be completed on the site in conformance with CDFG protocols, no more than 30 days prior to the start of any ground-disturbing activity such as clearing and grubbing, excavation, or grading, or any similar activity within 250 feet of suitable

habitat that could disturb nesting owls. If no burrowing owls are located during these surveys, no additional action would be warranted. However, if burrowing owls are located on or immediately adjacent to impact areas the following mitigation measures will be implemented.

- If burrowing owls are present during the nonbreeding season (generally September 1 to January 31), a 150-foot buffer zone, within which no new project-related activity will be permissible, shall be maintained around the occupied burrow(s). A reduced buffer is acceptable during the non-breeding season as long as construction avoids direct impacts to the burrow(s) used by the owls. During the breeding season (generally February 1 to August 31), a 250-foot buffer, within which no new project-related activity will be permissible, shall be maintained between project activities and occupied burrows. Owls present at burrows on the site after February 1 will be assumed to be nesting on or adjacent to the site unless evidence indicates otherwise. This protected area will remain in effect until August 31, or based upon monitoring evidence, until the young owls are foraging independently.

- If ground-disturbing activities will directly impact occupied burrows, the owls occupying burrows to be disturbed shall be evicted during the non-nesting season by a qualified ornithologist. No burrowing owls shall be evicted from burrows during the nesting season (February 1 through August 31) unless evidence indicates that nesting is not actively occurring (*e.g.*, because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season).

- If any roosting or breeding owls must be relocated (*i.e.*, after the nesting season has ended), mitigation of impacts to lost habitat for relocated owls shall be provided. Given the relatively low quality of foraging habitat on the project site, appropriate mitigation would consist of providing 6.5 acres of suitable habitat off-site for every pair (or single owl, if unpaired) of owls displaced by the project. This mitigation may take the form of the purchase of credits in a burrowing owl mitigation bank or the preservation and management of the required habitat acreage off-site. If mitigation is provided via off-site habitat preservation and management, a Burrowing Owl Habitat Management Plan shall be prepared by a qualified biologist and implemented. This plan shall detail the location of the mitigation site, the means of preservation of the site (*i.e.*, via a conservation easement), any enhancement and management measures necessary to ensure that habitat for burrowing owls is maintained in the long term, a monitoring program, and the size of an endowment established for the long-term maintenance of the site.

Nesting Special-Status Birds

Relatively few birds are expected to breed on the project site, and some of these species (*e.g.*, European starling) are non-native, and are not protected under these laws. However, several species of birds that could nest on the site are protected under the MBTA and by State Fish and Game Code.

Project activities have the potential to take nests, eggs, young or individuals of these protected species. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests. Although this impact is not significant under CEQA due to the local and regional abundance of the species in question and the low magnitude of the potential impact, the following measures shall be implemented to avoid the risk of a violation of the MBTA and the California Fish and Game Code.

AM BIO-1.1: The following avoidance measures would avoid the project impacts to nesting birds.

- Grading and other project activities shall be scheduled to avoid the nesting season to the extent possible. The period of February 1 through August 31 encompasses the nesting season for most birds in the project area.
- If construction is to occur during the breeding season, preconstruction surveys shall be completed by a qualified ornithologist no more than 7 days prior to the initiation of construction in any given area. Pre-disturbance surveys shall be used to ensure that no nests of species protected by the MBTA or State Code will be disturbed during project implementation.
- If vegetation or structures are to be removed by the project and all necessary approvals have been obtained, potential nesting substrate (*e.g.*, bushes, trees, grass, buildings, burrows) that will be removed by the project shall be removed during the period September through January (outside the nesting season), to help preclude nesting.
- If an active nest is found, a qualified ornithologist shall determine the extent of a construction-free buffer zone to be established around the nest.

Salt Marsh Harvest Mice and Salt Marsh Wandering Shrews

The proposed AD facility will operate 24 hours a day, and as such will require a certain amount of outdoor lighting to be installed in order to ensure safety. Specifically, several high-efficiency, low sodium lights will be installed along roads around the perimeter of the facility. Lighting that increases nighttime illumination in areas of salt marsh and adjacent grassy uplands utilized by salt marsh harvest mice and salt marsh wandering shrews could potentially result in permanent functional habitat loss, as these species may avoid illuminated areas at night. Additionally, increases in illumination of harvest mouse and wandering shrew habitat could increase predation on these species by making them more visible to predators. Given the rarity of these species, any loss of use of suitable habitat or increase in predation of these species as a result of an increase in lighting would be a significant impact. Implementation of the following measures would reduce these potential impacts to salt marsh harvest mice, salt marsh wandering shrews, and their habitat to less than significant levels.

Impact BIO-3: The proposed project could result in impacts to salt harvest mice/salt marsh wandering shrew individuals, and/or suitable habitat.

MM BIO-3.1: The following mitigation measure will reduce significant impacts to salt harvest mice/salt marsh wandering shrew individuals, and/or suitable habitat

to a less than significant level. The consulting biologist have reviewed the operations and lighting plan and concluded that the following measures will reduce impacts to the adjacent marsh habitat to less than significant.

- Where lights are installed, they shall be placed on the perimeter of the facility and directed downward and inward toward the facility roads and buildings, away from the marsh and adjacent grasslands, thus limiting the amount of light spilling into areas outside of the facility.

- Shielding shall be installed on each light to block illumination from shining upward or outward into the marsh and adjacent grasslands. Overhead lighting is to be kept as low as possible.

(Less Than Significant Impact with Mitigation)

4.4.2.5 *Impacts to Trees*

The proposed project will obtain a permit for the removal of ordinance-sized trees and provide for the replacement of removed trees in conformance with the City of San José Tree Ordinance. There are currently 37 eucalyptus trees along the southern border with Los Esteros Road, ranging from 75 inches to 345 inches in circumference. The proposed development will result in the removal of 34 trees, all of which are ordinance-sized trees. In conformance with the General Plan, City staff will continue to work with the applicant to preserve as many trees as possible.

Removal of over 20 non-native ordinance sized trees would be considered a significant impact. The project will be required to conform to the City's tree preservation ordinance, and will provide replacement trees in conformance with City policy. The project proposes 150 24-inch box replacement trees, and additional 15 gallon trees, refer to Appendix B. City staff will continue to work with the applicant to incorporate appropriate native trees and vegetation into the planning plan.

Impact BIO-4: The proposed project would result in the removal of over 20 non-native ordinance sized trees which is a significant biological impact. **(Significant Impact)**

MM BIO-4.1: The following mitigation measures will reduce significant tree impacts to a less than significant level.

- All trees that are to be removed shall be replaced at the ratio identified in Table 4.4-1:

Table 4.4-1:
City of San José Standard Tree Replacement Ratios

Diameter of Tree to be Removed	Non-Native Replacement Ratio	Minimum Size of Each Replacement Tree
18 inches or greater	4:1	24-inch box

Notes:
X:X = tree replacement to tree loss ratio
Trees greater that 18" diameter shall not be removed unless a Tree Removal Permit, or equivalent, has been approved for the removal of such trees.

- Based on the above ratio, the project is required to provide 136 replacement trees. Mitigation trees should be above and beyond standard landscaping. The species and exact number of trees to be planted on the site will be determined in consultation with the City Arborist and the Department of Planning, Building, and Code Enforcement.

- In the event the project site does not have sufficient area to accommodate the required tree mitigation, one or more of the following measures will be implemented, to the satisfaction of the City's Environmental Principal Planner, at the development permit stage:
  - The size of a 15-gallon replacement tree can be increased to 24-inch box and count as two replacement trees.
  - An alternative site(s) will be identified for additional tree planting. Alternative sites may include local parks or schools or installation of trees on adjacent properties for screening purposes to the satisfaction of the Director of the Department of Planning, Building, and Code Enforcement. Contact Jaime Ruiz, PRNS Landscape Maintenance Manager, at 975-7214 or Jaime.Ruiz@sanjoseca.gov for specific park locations in need of trees.
  - A donation of $300 per mitigation tree to Our City Forest for in-lieu off-site tree planting in the community. These funds will be used for tree planting and maintenance of planted trees for approximately three years. Contact Rhonda Berry, Our City Forest, at (408) 998-7337 x106 to make a donation. A donation receipt for off-site tree planting shall be provided to the Planning Project Manager prior to issuance of a development permit.

Tree Protection Measures

The following tree protection measures will be included in the project in order to protect the trees to be retained during construction activities.

Standard Measures BIO-1.1

- Pre-construction treatments:
  - The contractor shall retain a consulting arborist. The demolition superintendent shall meet with the consulting arborist before beginning work to discuss work procedures and tree protection.
  - Fence all trees to be retained to completely enclose the TREE PROTECTION ZONE prior to demolition, grubbing or grading. Fences shall be 6-foot chain link or equivalent as approved by consulting arborist. Fences are to remain until all demolition and grading is completed.
  - Prune trees to be preserved to clean the crown and to provide clearance. All pruning shall be completed or supervised by a Certified Arborist and adhere to the Best Management Practices for Pruning of the International Society of Arboriculture.

- During Demolition, Grading and Construction:
  - No grading or other work shall occur within the TREE PROTECTION ZONE. Any modifications must be approved and monitored by the consulting arborist.
  - Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the consulting arborist.
  - Supplemental irrigation shall be applied as determined by the consulting arborist.
  - If injury should occur to any tree during demolition, it shall be evaluated as soon as possible by the consulting arborist so that appropriate treatments can be applied.
  - No excess soil, chemicals, debris, equipment, or other materials shall be dumped or stored within the TREE PROTECTION ZONE.
  - Any additional tree pruning needed for clearance during demolition must be performed or supervised by an Arborist and not by demolition personnel.

4.4.2.6 *Santa Clara Valley Habitat Conservation Plan (HCP)*

To promote the recovery of endangered species while accommodating planned development, infrastructure and maintenance activities, the Local Partners, consisting of the City of San Jose, Santa Clara Valley Transportation Authority, Santa Clara Valley Water District, Santa Clara County and the cities of Gilroy and Morgan Hill, are preparing a joint Habitat Conservation Plan/Natural Community Conservation Plan (Habitat Plan). The Santa Clara Valley Habitat Plan (Plan) is being developed in association with the U.S. Fish & Wildlife Service (USFWS), California Department of Fish & Game (CDFG), and the National Marine Fisheries Service (NMFS) and in consultation with stakeholder groups and the general public to protect and enhance ecological diversity and function within more than 500,000 acres of southern Santa Clara County.

The Santa Clara Habitat Plan Planning Agreement outlines the Interim Project Process to ensure coordination of projects approved or initiated in the Planning Area before completion of the Habitat Plan to help achieve the preliminary conservation objectives of the plan, and not preclude important conservation planning options or connectivity between areas of high habitat values. The Interim Project Process requires the local participating agencies to notify the wildlife agencies (CDFG and USFWS) of projects that have the potential to adversely impact Covered Species, natural communities, or conflict with the preliminary conservation objectives of the Habitat Plan. The Wildlife Agencies comments on Interim Projects should recommend mitigation measures or project alternatives that would help achieve the preliminary conservation objectives of the Habitat Plan.

The project site is located within the Baylands area which is not included within the HCP Planning Area; therefore, the project site does not meet the threshold that requires an interim HCP project referral. **(Less Than Significant Impact)**

4.4.3 <u>Conclusion</u>

The proposed project, with the implementation of the above mitigation measures, would not result in any significant impacts to biological resources that cannot be reduced to a less than significant level. **(Less Than Significant Impact with Mitigation)**

4.5 CULTURAL RESOURCES

4.5.1 Setting

The project site is not located within an area mapped for recorded archaeological sites or within an area of moderate to high potential for cultural resources based on the most recent City of San José Archaeological Sensitivity Map.

4.5.2 Environmental Checklist and Discussion of Impact

CULTURAL RESOURCES						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	☐	☐	☒	☐	☐	1,3
2) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☒	☐	☐	1,3
3) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☒	☐	☐	1,3
4) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐	☐	1,3

4.5.2.1 *Discussion of Impacts*

According to the City of San José's Archaeological Sensitivity Map, the project site has a low potential for the discovery of archaeological resources and is not considered archaeologically sensitive.

In addition, the project site's historic use as a landfill limits any possibility of cultural resources being present on the site. No state and/or federal historically or architecturally significant structures, landmarks, or points of interest are located in or adjacent to the project site.

The project is not anticipated to impact archaeological resources. However, in the event any resources are found during grading, their disturbance would be a significant impact.

Standard Measures CUL-1.1: The following standard measures are included in the project in the event prehistoric resources are encountered during excavation or grading.

- Should evidence of prehistoric cultural resources be discovered during construction, work within 50 feet of the find shall be stopped to allow adequate time for evaluation and mitigation by a qualified professional archaeologist. The material shall be evaluated and if significant, a mitigation program including collection and analysis of the materials at a

recognized storage facility shall be developed and implemented under the direction of the City's Environmental Principal Planner.

- Pursuant to Section 7050.5 of the Health and Safety Code, and Section 5097.94 of the Public Resources Code of the State of California in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. **(Less Than Significant Impact)**

4.5.3 Conclusion

The proposed project would not result in significant cultural resources impacts. **(Less Than Significant Impact)**

4.6 GEOLOGY AND SOILS

The following section is primarily based upon a Geotechnical Report prepared for the proposed project by *ENGEO Incorporated* in March 2010. The report is provided in Appendix C of this Initial Study.

4.6.1 Setting

The project site is located at the southern end of the San Francisco Bay where the bay margin meets the northwest-trending Santa Clara Valley. The Santa Clara Valley is surrounded by the Santa Cruz Mountains to the west and the Diablo Mountain Range to the east. The existing project site topography is a man-made landform as a result of past landfilling operations. Existing elevations on the site vary with two central peaks which slope down on all sides of the property.

4.6.1.1 *Seismicity*

The San Francisco Bay region is dominated by strike-slip faulting associated with the San Andreas Fault system. The major active components of the San Andreas Fault system near the site are the Hayward Fault (five miles east), the Calaveras Fault (eight miles east), the Monte Vista – Shannon (twelve miles south) and the San Andreas Fault (fourteen miles west). The inferred trace of the potentially active Silver Creek Fault is about a half mile southwest of the site. Seismic hazards resulting from a nearby moderate to major earthquake may include ground shaking, liquefaction, and lateral spreading. The project site is located on soils having moderate shrink/swell susceptibility and is subject to settlement. Liquefaction-induced settlement on the site is approximately one to two inches during a large seismic event. The project site is not within the Alquist-Priolo Earthquake Fault Zone and no known fault traces cross the site.

4.6.1.2 *Soils*

The project area is on recent alluvium that overlies Plesitocene Older alluvium. This alluvium is largely derived from and is overlying the Moicene marine sandstones and shales which form the hills to the east.

Beginning in 1938, the project site was the location of a landfill, and as such has accepted municipal waste and other refuse. Recent subsurface exploration generally revealed stiff to hard, moderately plastic clay fill (from approximately six to nineteen feet thick) overlying refuse. Refuse thickness was generally ten to twenty feet thick and consisted of clay soil mostly mixed with paper, wood, and glass (as well as plastic, wire, metal, tires, and asphalt).

4.6.2 Environmental Checklist and Discussion of Impact

GEOLOGY AND SOILS						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:						
a) Rupture of a known earthquake fault, as described 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.)	☐	☐	☒	☐	☐	1,2,7
b) Strong seismic ground shaking?	☐	☐	☒	☐	☐	1,2,7
c) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	☐	1,2,7
d) Landslides?	☐	☐	☒	☐	☐	1,2,7
2) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	☐	1,2,7
3) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐	☐	1,2,7
4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐	☐	1,2,7
5) 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?	☐	☐	☐	☒	☐	1,2,7

The project proposes the construction of multiple buildings and structures on the project site, as well as grading.

4.6.2.1 *Seismicity Impacts*

As previously discussed, the project site is located in a seismically active region, and therefore, strong ground shaking would be expected during the lifetime of the future development on the site. While no active faults are known to cross the project site, ground shaking on the site could damage future buildings and other structures, and threaten the welfare of future employees.

Implementation of the below standard measures would reduce and/or avoid seismic hazards to the proposed project.

Standard Measures GEO-1.1: The project proposes to implement the following standard measures to avoid and/or reduce seismic hazard impacts:

- Future development on the project site shall be designed and constructed in conformance with the 2007 California Building Code guidelines for Seismic Site Class D to avoid or minimize potential damage from seismic shaking and seismic-related hazards, including liquefaction, on the site. Potential impacts associated with exposure to the proposed project, therefore, would be reduced or avoided by conformance with the standards specified in the California Building Code for Seismic Site Class D. For this reason, the future development on the project site would not be subject to significant impacts from seismic-related hazards.

- A detailed design-level geotechnical investigation shall be completed prior to issuance of building permits, and the project design and construction shall follow the specific recommendations of the investigation. The design-level investigation shall include identification of appropriate foundation systems for the proposed structures, as well as site preparation and pavement design. **(Less Than Significant Impact)**

4.6.2.2 *Soils Impacts*

The primary geotechnical concern for the project site is the settlement of underlying refuse. This will occur in two distinct forms: the short-term immediate settlement due to compression of the refuse and the long-term settlement due to decomposition of the refuse material. Given the varying nature of the underlying refuse, long-term settlement rates will vary depending on decomposition rates, refuse composition, and thickness of the waste.

Impact GEO-1: Construction of the proposed facility could result in adverse impacts due to short-term and long-term settlement of underlying refuse. **(Significant Impact)**

MM GEO-1: The proposed project will include one of two types of foundations as indicated in the *Geotechnical Report* to reduce impacts associated with long-term settlement due to decomposition of underlying refuse:

> <u>Grid Foundation</u>: A shallow foundation option consisting of "floating" grids connected by control joints and hinged slabs, which may actively accommodate anticipated differential settlement without the need to drive piles.
>
> Or,

Pile Foundation: A deep foundation option using precast concrete piles driven to a depth of approximately 100 feet depending on the size used.

The selected foundation will be subject to review and approval by the City Geologist prior to issuance of grading permits. If pile driving is selected, RWQCB oversight and approval will be required in order to drive piles in municipal solid waste.

4.6.2.3 *Erosion and Sedimentation Impacts*

The proposed project includes excavation, site grading, earthmoving, and other construction related activities that could disturb and expose soils to erosive winds and rain, which can result in off-site deposition of sediments. The project will implement standard grading and best management practices that would prevent substantial erosion and siltation during grading and earthmoving. These measures are listed in *Section 4.9.2.1 Hydrology and Water Quality, SM HYD-2*. Incorporation of these measures would reduce any soil erosion impacts to a less than significant level. **(Less Than Significant Impact)**

4.6.3 Conclusion

Impacts to the proposed facility from short-term and long-term settlement would be minimized through the implementation of the mitigation measures described above. **(Less Than Significant Impact with Mitigation)**

The City will require these standard measures as conditions of project approval, which will would reduce geologic impacts to the proposed project to a less than significant level. **(Less Than Significant Impact)**

4.7 GREENHOUSE GAS EMISSIONS

The following section is based on an Air Quality Impact Assessment Report prepared by *Sierra Research* in November 2010. This report is located in Appendix A of this document.

4.7.1 Setting

4.7.1.1 *Background Information*

This section provides a general discussion of global climate change and focuses on emissions from human activities that alter the chemical composition of the atmosphere. The discussion on global climate change and greenhouse gas emissions is based upon the California Global Warming Solutions Act of 2006 [Assembly Bill (AB) 32], the 2006 and 2009 Climate Action Team (CAT) reports to Governor Schwarzenegger and the Legislature, and research, information and analysis completed by the International Panel on Climate Change (IPCC), the United States Environmental Protection Agency (EPA), California Air Resources Board (CARB), and the CAT.

Global climate change refers to changes in weather including temperatures, precipitation, and wind patterns. Global temperatures are modulated by naturally occurring and anthropogenic (generated by mankind) atmospheric gases such as carbon dioxide, methane, and nitrous oxide.[13] These gases allow sunlight into the Earth's atmosphere but prevent heat from radiating back out into outer space and escaping from the earth's atmosphere, thus altering the Earth's energy balance. This phenomenon is known as the greenhouse effect.

Naturally occurring greenhouse gases include water vapor,[14] carbon dioxide, methane, nitrous oxide, and ozone. Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but are for the most part solely a product of industrial activities.

Agencies at the international, national, state, and local levels are considering strategies to control emissions of gases that contribute to global warming. There is no comprehensive strategy that is being implemented on a global scale that addresses climate change; however, in California a multi-agency "Climate Action Team," has identified a range of strategies and the Air Resources Board, under AB 32, has approved the *Climate Change Scoping Plan*. AB 32 requires achievement by 2020 of a statewide greenhouse gas emissions limit equivalent to 1990 emissions, and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions. The ARB and other state agencies are currently working on regulations and other initiatives to implement the *Scoping Plan*. By 2050, the state plans to reduce emissions to 80 percent below 1990 levels.

[13] IPCC, 2007: Summary for Policymakers. In: *Climate Change 2007: The Physical Science Bases*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at: http://ipcc.ch/.

[14] Concentrations of water are highly variable in the atmosphere over time, with water occurring as vapor, cloud droplets and ice crystals. Changes in its concentration are also considered to be a result of climate feedbacks rather than a direct result of industrialization or other human activities. For this reason, water vapor is not discussed further as a greenhouse gas.

4.7.1.2 *BAAQMD Air Quality CEQA Thresholds of Significance*

According to the adopted BAAQMD *Air Quality CEQA Thresholds of Significance* (June 2010), has established 10,000 metric tons of carbon dioxide equivalents as the threshold of significance for greenhouse gas emissions from a stationary source project. If a project would result in operational-related greenhouse gas emissions of 1,100 metric tons of carbon dioxide equivalents a year or more or 4.6 metric tons of carbon dioxide equivalents per service population per year, it would make a cumulatively considerable contribution to greenhouse gas emissions and result in a cumulatively significant impact to global climate change. BAAQMD does not have an adopted threshold of significance for construction related greenhouse gas emissions.

4.7.1.3 *Local Policies*

Various policies in the City's General Plan have been adopted for the purpose of avoiding or mitigating climate change impacts resulting from planned development within the City.

- Solid Waste Goal #2: Extend the life span of existing landfills by promoting source reduction, recycling, composting, and transformation of solid wastes.

- Solid Waste Goal #5: Achieve a high level of public awareness of solid waste issues and alternatives to landfilling.

- Air Quality Policy #6: Continue to actively enforce the City's ozone-depleting compound ordinance and supporting policy to ban the use of chloroflurocarbon compounds in packaging and in building construction and remodeling to help reduce damage in the global atmospheric ozone layer.

- Energy Policy #9: the City should encourage the development of renewable energy sources and alternative fuels and cooperate with other public and quasi-public agencies.

In addition, the San José Green Vision adopted in October 2007, is a 15-year plan to transform the City into a world center of Clean Technology, promote cutting-edge sustainable practices, and demonstrate that the goals of economic growth, environmental stewardship and fiscal responsibility are inextricably linked. The 10 goals of the Green Vision are as follows:

1. Create 25,000 Clean Tech jobs as the World Center of Clean Tech Innovation;
2. Reduce per capita energy use by 50 percent;
3. Receive 100 percent of our electrical power from clean renewable sources;
4. Build or retrofit 50 million square feet of green buildings;
5. Divert 100 percent of the waste from our landfill and convert waste to energy;
6. Recycle or beneficially reuse 100 percent of our wastewater (100 million gallons per day);
7. Adopt a General Plan with measurable standards for sustainable development;
8. Ensure that 100 percent of public fleet vehicles run on alternative fuels;
9. Plant 100,000 new trees and replace 100 percent of our streetlights with smart, zero-emission lighting; and
10. Create 100 miles of interconnected trails.

The City of San José has also adopted a Green Building Policy, which fosters long-term social, economic, and environmental sustainability in public building and development. The Green Building

Policy goals center on five main categories: sustainable sites, energy and atmosphere, water efficiency, materials and resources, and indoor environmental quality.

In October 2008, the City Council adopted the Private Sector Green Building Policy (Policy 6-32) that establishes baseline green building standards for private sector new construction and provides a framework for the implementation of these standards. This policy requires that applicable projects achieve minimum green building performance levels using the Council adopted standards. The proposed project would be subject to this policy.

In addition, the City of San José is currently preparing a *Greenhouse Gas Reduction Strategy* for San José that will identify current and projected greenhouse gas emissions and measures for local government and the community to implement to reduce and avoid greenhouse gas emissions. The Greenhouse Gas Reduction Strategy will include community input and is anticipated to be completed in 2011.

4.7.2 Environmental Checklist and Discussion of Impacts

GREENHOUSE GAS EMISSIONS						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	☐	1,5
2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	☐	1,5

4.7.2.1 *Greenhouse Gas Emissions from the Project*

Given the overwhelming scope of global climate change, it is not anticipated that a single development project would have an individually discernable effect on global climate change. It is more appropriate to conclude that the greenhouse gas emissions generated by the proposed project would combine with emissions across the state, nation, and globe to cumulatively contribute to global climate change.

Greenhouse gas emissions from the proposed project would include emissions from constructing and operating the project. The greenhouse gas emissions from the project include:

- construction emissions from equipment and vehicles used for demolition, grading, and construction;
- emissions from combustion of fossil fuels for vehicle trips to and from the project site and on-site vehicles;
- emissions from the manufacture and transport of building materials;

- emissions produced from operating backup generators, CHP engines and flares.

Estimated Generated Greenhouse Gas Emissions

Operational Emissions

Combustion of biogas in the project's CHP engines and flares, diesel fuel in the backup generators, on-site loaders, and on- and off-site vehicles would result in the emissions of carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). These greenhouse gas emissions would combine with the emission from the same greenhouse gas emission from the combustion of fossil fuels from all sources (e.g., home natural gas heaters, coal-fired power plants) through the global environment.

It is estimated that the project's net annual operational greenhouse gas emissions would be approximately 4,534 metric tons of CO_2 equivalents a year. The project would be below the BAAQMD threshold of significance for a stationary facility of 10,000 metric tons of CO_2 equivalents of greenhouse gas emissions. For this reason, the project is considered to have a less than significant greenhouse gas emissions impact. **(Less Than Significant Impact)**

Construction (Short-Term) Emissions)

BAAQMD does not have an adopted threshold of significance for construction-related greenhouse gas emissions. Construction of the project would involve emissions associated with equipment and vehicles used to import soil, to grade the site, and to construct the proposed AD facility buildings, grade the site, as well as emissions associated with manufacturing materials used to construct the project. As part of the Air Quality Impact Assessment construction emissions associated with construction equipment and vehicle activity were estimated. There are, however, no reliable methods to estimate construction-related emissions associated with the manufacturing of project materials.

Construction of the proposed project was calculated to generate up to approximately 1,034 metric tons of CO_2 equivalent emissions. The best management practices outlined in Section 4.3 Air Quality are proposed to reduce the project's reduce air quality impacts, as well as greenhouse gas emissions, during construction.

4.7.3 Conclusion

The proposed project, in conformance with applicable General Plan policies and the City's Private Sector Green Building Policy, would not have a significant greenhouse gas emissions impact. **(Less Than Significant Impact)**

4.8 HAZARDS AND HAZARDOUS MATERIALS

The following section is based on field investigations prepared for the site by a *SES Engineers* and *WorleyParsons Group,* a draft Field Workplan prepared by *Golder Associates*, and a memorandum prepared by *Napp Fukuda, Sustainablity & Compliance Manager, City of San Jose*. Copies of these reports, prepared in September 2007, May 2010, August 2010, and April 2011, are included in Appendix D of the Initial Study. The following discussion presents a summary of the findings and conclusions of the reports.

4.8.1 Setting

4.8.1.1 *Historic Overview*

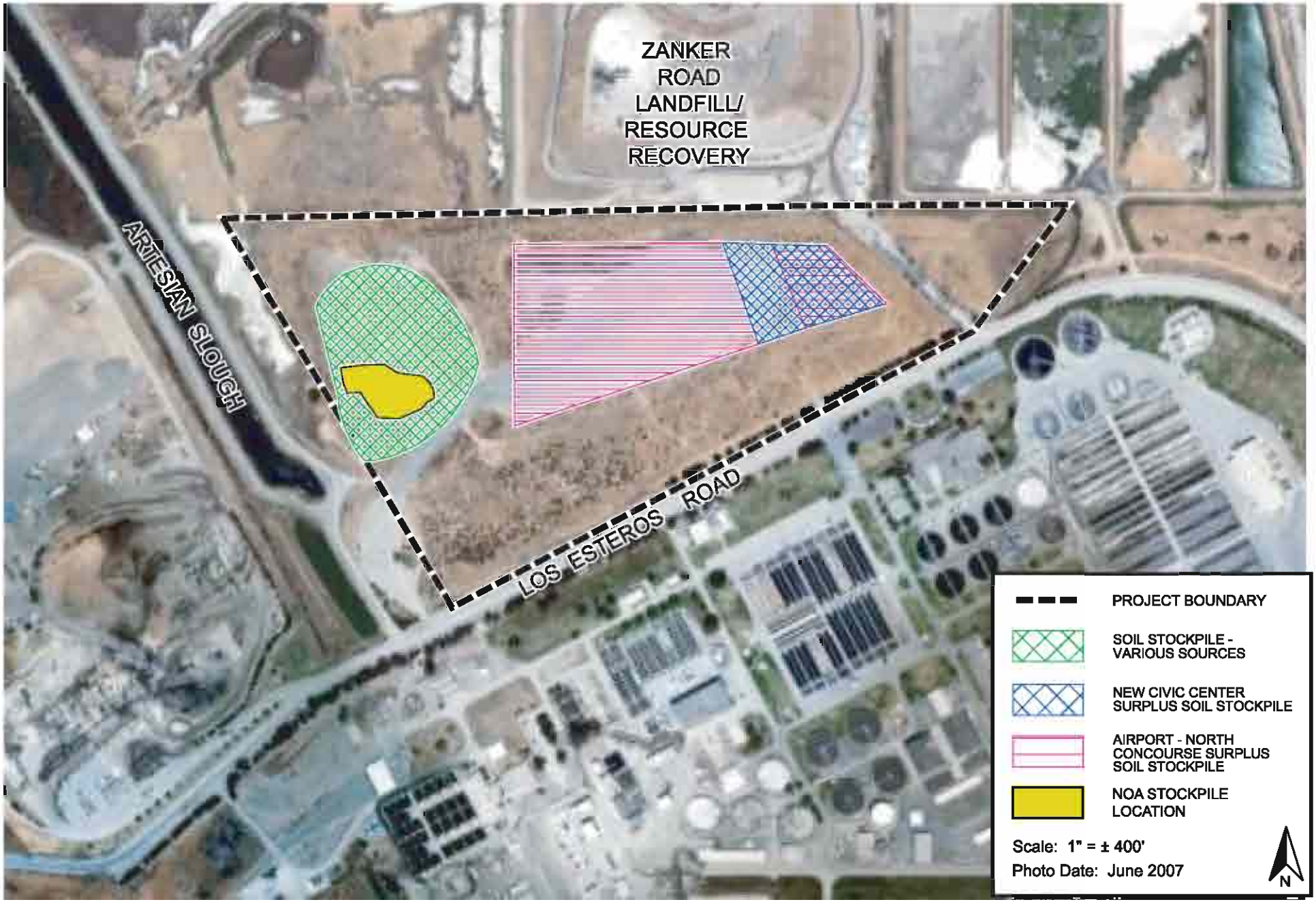
The project site is a former landfill used for solid waste disposal from approximately 1938 until 1977. On-site burning of waste material occurred on the site until about 1953. After 1953, land disposal was completed through trench cut and fill methods. Waste quantity and type are poorly documented; however, disposal reportedly consisted of a mix of municipal solid waste (MSW), inert debris (asbestos), and possibly septic pumpings. The project site is designed as an hazardous substances release site.

The Nine Par property is a “disposal site” (an older type of landfill without environmental controls) that is currently a non-operating inactive site. It is subject to applicable state regulations contained in California Code of Regulations (CCR) Title 27, Post-Closure Regulations. The landfill will be required to file a plan for Closure and Post-Closure maintenance and monitoring in addition to a post-closure project application that addresses all applicable requirements of CCR, Title 27, Section 20190, including the approval of the City of San Jose Local Enforcement Agency (LEA), and the 'concurrence' of the Natural Resources Agency - CalRecycle Program. Development and activities on the site will also be regulated by the San Francisco Bay Regional Water Quality Control Board through the issuance of Waste Discharge Requirements (WDR).

There is no engineered cap over the previous waste, although a general two to twelve foot layer of sandy to gravely clay exists in varying (low to medium) plasticity. This layer, with re-grading and compaction, is considered suitable as a foundation layer component and is being evaluated for acceptability as an engineered alternative cap under current regulations (CCR Title 27). As required for all landfill post closure operations, continuous monitoring of combustible gas and protection measures will be required for all enclosed structures and installation of groundwater, and perimeter gas monitoring wells will also be required in accordance with CCR Title 27.

From the late 1970’s until the late 1980’s, after municipal landfilling activities on the site had ceased, the project site was used for disposal of grit from aerator tanks and inert biosolids mixed with soil that were generated at the adjacent Water Pollution Control Plant. Filling took place in low spots and slopes on and around the then-inactive landfill. Records or surveys of these disposal activities were not kept by the Plant.

In November 2003, approximately 1,200 cubic yards of naturally occurring asbestos (NOA) containing soil were placed on the project site in what is referred to as the NOA stockpile (Figure 4.8-1). These wastes were placed, covered, and surveyed under U.S. Environmental Protection Agency oversight. Naturally occurring asbestos does not pose a health threat if left undisturbed, and



EXISTING SOIL STOCKPILES

FIGURE 4.8-1

providing a cover of clean soil or grass reduces exposure.[15]

Since 2005, approximately 250,000 cubic yards of clean soils have been stockpiled on the project site. These soils are excavation spoils from the San José Civic Center (City Hall) and San José Airport improvement projects and consist of non-engineered fill that is primarily low to moderately expansive clays with some areas covered by clayey or sandy gravels. Stockpile locations have been mapped and are shown on Figure 4.8-1. These soils were screened for contaminants per San Francisco Regional Water Quality Control Board risk-based guidelines. Materials delivered to the project site were reportedly part of a City Environmental Services Department Soil Management Program.

The non-engineered fill cover at the project site is underlain by mixed municipal waste fill including a mixture of highly decomposed organic materials, glass, wood, metal, plastic, and construction and miscellaneous debris. Although there are no records indicating the landfill accepted liquid wastes, it is possible that petroleum products from on-site machinery use and from adjacent properties may be present in the fill materials.

Drill cutting and mud from March 2010 exploratory borings through landfill waste materials were analyzed for a variety of chemical constituents to determine appropriate disposal options. Very low levels of total petroleum hydrocarbons (diesel and motor oil) and volatile organic compounds were identified and nine CAM-17[16] metals were detected. The samples did not contain detectable levels of chlorinated pesticides, polychlorinated biphenyls, or semi volatile organic compounds.

Landfill Gases

Methane is a component of refuse decomposition gases and can be explosive or flammable in a confined space environment under certain conditions. Municipal wastes were last placed at the project site over 35 years ago and the typical rate of decomposition and methane generation is long past its peak. There is no perimeter subsurface gas monitoring network currently in place at the project site, and the extent of off-site landfill gas migration, if any, towards surrounding uses is unknown. Title 27 of the California Code of Regulations (CCR) provides requirements for closure and post-closure plans for former landfills, including guidelines for preparation of Gas Monitoring and Control Plans.

Off-Site Chemical Release from the Plant

The project site is located adjacent (across Los Esteros Road) to the San José/Santa Clara Water Pollution Control Plant (Plant) chlorination facilities and liquid chlorine rail tank car berthing area. The Plant uses chlorine for wastewater disinfection and sulfur dioxide to remove residual chlorine remaining in the wastewater prior to its discharge into the San Francisco Bay. To accomplish the tertiary treatment processes, the Plant uses up to 14,000 pounds (seven tons) of liquid chlorine per day. Chlorine and sulfur dioxide are classified as acutely hazardous materials in Title 40 of the CCR. Both chlorine and sulfur dioxide are delivered to the Plant in 90-ton railcars and then transferred

[15] U.S. Environmental Protection Agency, "Naturally Occurring Asbestos "NOA". April 22, 2010. Accessed May 6, 2010. <http://www.epa.gov/asbestos/pubs/clean.html>

[16] CAM -California Administrative Manual, which is presently known as CCR or California Code of Regulations. CAM 17 refers to a list of heavy metals identified in the manual including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

from the railcars in a liquid form through double-contained pipelines, containing leak-detectors, to evaporators located inside buildings. Methane is also present on the Plant site as a component of digester gas which is generated during the anaerobic digestion process during the primary and biological treatments at the Plant. The Plant has a developed emergency response system, including warning sirens and an evacuation plan. The Plant is in the process of converting to less toxic chemicals which will involve using sodium hypochlorite (liquid bleach) for disinfection. Sodium bisulfate will be substituted for sulfur dioxide for dechlorination. Sulfur dioxide will still be needed as a backup for dechlorination. These chemicals are delivered in full tank truck loads of 4,800 gallons.

Other Hazards

The project is not located within an airport land use plan or in the vicinity of a private air strip. The project site is not included in a City emergency evacuation plan or located on or adjacent to a City emergency evacuation route. There are no wildlands near the project site.

4.8.2 Environmental Checklist and Discussion of Impact

HAZARDS AND HAZARDOUS MATERIALS						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐	☐	1,2,3,8, 9
2) 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?	☐	☒	☐	☐	☐	1,2,3,8, 9
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	☐	1,2,3,8, 9
4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐	☐	1,2,3,8

HAZARDS AND HAZARDOUS MATERIALS						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐	1,3
6) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	☐	1,3
7) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	☐	1,3
8) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒	☐	1,3

4.8.2.1 *Discussion of Impacts*

The project proponent has completed a draft Field Workplan based on the preliminary site investigation that was completed on the project site. The Field Workplan outlines the technical approach to be used to confirm the landfill boundaries on the project site and to further characterize the chemical nature of surficial gas emission, soil, groundwater, landfill gas, and leachate at the site to ensure the health and safety of the proposed development. The Final Workplan will be reviewed and approved as part of the Post Closure End Use activity by the LEA, CalRecycle, and Regional Water Quality Control Board.

Hazards on the project site related to development of the proposed project include possible vapor intrusion into new buildings and work areas and possible hazards related to the waste fill materials, soil, landfill gas, and groundwater that will be disturbed by construction workers during grading and construction. These possible impacts and mitigation based on the Field Workplan are described below.

Landfill Gas Impacts

On-site Impacts

As mentioned previously, landfill gas is a component of refuse decomposition gases and can be explosive or flammable in a confined space environment under certain conditions. Municipal wastes were last placed at the project site over 35 years ago and the rate of decomposition and methane generation is long past its peak. However, there is no active landfill gas collection or monitoring on the project site and there is a potential for landfill gas intrusion into new buildings and enclosed work areas.

Impact HAZ-1: Construction of the proposed buildings and enclosed work areas on the project site could pose a risk to construction workers and future occupants of the site due to the buildup of landfill gases emissions such as methane and petroleum. **(Significant Impact)**

MM HAZ-1.1: According to the regulatory requirements of Title 27 of the CCR, enclosed structures proposed to be built on landfills will require combustible gas infiltration protection and monitoring features. Protection measures can include a combination of below-slab membrane and venting systems, and gas cut-offs for utility trenches or conduit penetrations. Specific protection measures will be a function of building design, occupancy, and foundation requirements. Regulations also require that automatic methane gas sensor systems be installed in building interiors. These monitoring systems can be equipped with communication devices to notify response personnel in the event elevated combustible gas concentrations are present in the building interior.

As stipulated in the draft Field Workplan (Appendix E), a surface sweep and a bar-hole punch investigation will be completed to determine if there are any areas of concern for methane migration and accumulation in both the surface cover layer and in the upper portions of the cover soils. Five to ten exploratory borings will be completed through the cover soils into unsaturated waste to test for soil gas. The boring locations will be based on the results of the surface sweep and a bar-hole punch investigation. This analysis will test for methane, solvents, volatile organic compounds, and petroleum hydrocarbons.

These results will determine the specific locations for installing subsurface landfill gas monitoring. The results of this assessment will be disclosed in a final report and will be provided to the LEA/CalRecycle for review and approval as part of the Post Closure End Use and to the Director of Public Works for review prior to issuance of building permits.

MM HAZ-1.2: A Health and Safety Plan shall be prepared prior to initiation of site grading work in accordance with landfill industry guidelines and known site conditions. It shall include an assessment of potential hazards, provisions for air quality, combustible gas and dust monitoring, procedures for identifying and handling special wastes or liquids, requirements for protective clothing

and equipment, emergency response steps and recordkeeping procedures. The Health and Safety Plan shall be submitted to the Director of Planning, Building and Code Enforcement, and Director of Public Works, prior to issuance of a grading permit. **(Less than Significant Impact with Mitigation)**

Off-site Impacts

As discussed previously, the rate of decomposition and methane generation at the project site is long past its peak. Nonetheless, methane and other landfill gas constituents are most likely still present (albeit, at low concentrations and pressures) in the subsurface fill environment. Improvements to the landfill surface (low-permeability cap, hardscaping, or buildings) could promote lateral subsurface gas migration to off-site locations. This would be of concern along the south project boundary in the direction of the San José/Santa Clara Water Pollution Control Plant. The rest of the project site is bounded by other landfill areas, sloughs, or unoccupied wetlands and potential subsurface gas migration to the north, west, and east is not a safety concern.

Impact HAZ-2: Improvements to the project site could increase the risk of off-site gas migration. **(Significant Impact)**

MM HAZ-2.1: According to the regulatory requirements of Title 27 of the CCR, perimeter subsurface monitoring wells shall be installed around the waste deposit perimeter but not within refuse and shall be located at or near the site property boundary. The lateral spacing between adjacent monitoring wells shall not exceed 1,000 feet, unless it can be established to the satisfaction of the designated enforcement agency that the spacing shall be determined based upon the nature of the structure to be protected and its proximity to the refuse. The depth of the wellbore shall equal the maximum depth of waste above the permanent low seasonal water table, and the number and depths of monitoring probes within the wellbore shall be installed in accordance with the specified criteria (CCR 27 §20925(c)(1)(E)). Monitoring wells shall be drilled by a licensed drilling contractor, and meet the other requirements for monitoring wells construction.

As outlined in the draft Field Workplan (Appendix E), potential gas migration pathways from the landfill to adjacent off-site structures and other receptors will be identified in order to determine the locations of gas migration monitoring. As described in the draft Field Workplan, soil-gas, soil, and groundwater samples will be collected using a direct-push technology (DPT) rig at as many as six boring locations outside of the perimeter of the waste footprint to determine the appropriate monitoring locations. Locations of all monitoring wells shall be approved by LEA and CalRecycle as part of the Post Closure End Use activity and the Director of Public Works prior to issuance of building permits. **(Less than Significant Impact with Mitigation)**

Naturally Occurring Asbestos Stockpile Area Impacts

The project plans to import approximately 100,000 CY of soil to elevate the existing topography of the project site. This will include covering and elevating the area within the vicinity of the NOA stock pile (Figure 4.8-1). In addition, asbestos-containing building materials may be located in the landfill. Although the project does not propose excavation or soil borings in the NOA stockpile, construction activities that cause soil disturbance could expose workers to harmful air-borne particles of asbestos.

Impact HAZ-3: Implementation of the proposed project could expose construction workers of the site to a significant risk associated with the disturbance of the NOA stockpile and asbestos-containing building materials. **(Significant Impact)**

MM HAZ-3.1: The applicant shall prepare an Asbestos Dust Mitigation Plan to ensure worker safety during planned construction activities. The Asbestos Dust Mitigation Plan will be reviewed and approved by the Director of Planning, Building and Code Enforcement, and the Environmental Services Department prior to issuance of a grading permit. **(Less than Significant Impact with Mitigation)**

4.8.2.2 *Proposed Hazardous Materials Use and Storage*

Hazardous materials, such as fuel and some construction materials, would be present on the project site during construction. Adherence to state and federal requirements relative to the transport and handling of hazardous materials would ensure no impacts would occur from handling these materials.

Each project phase includes storage for the produced biogas to be later used onsite. Normally, each phase will store 600-1,200 cf of biogas, up to a maximum of 1,600 cf (for a total project storage capacity of 4,800 cf at complete buildout of Phases I-III).

The project site will also include backup generators with associated diesel fuel tanks. Only trained personnel will have access to the diesel fuel tanks and backup generators. The project will adhere to all applicable federal, state, and local requirements relative to the transport and handling of hazardous materials. The proposed AD facility will not use or store quantities of hazardous material that would pose a risk to surrounding properties.

The proposed AD facility will be permitted to accept only municipal organic wastes and will not be permitted to accept hazardous wastes. All site personnel are trained and directed to identify potentially harmful wastes that may be delivered to the site. Steps to avoid health hazards include: minimizing personnel exposure to wastes that may present a health hazard; maintaining on site first-aid supplies; and training site personnel to comply with operating provisions and safe operating procedures, including hazardous materials (HAZMAT) screening classes, as appropriate. Haulers that bring any unacceptable, prohibited wastes will be directed to a different landfill where such refuse can be accepted for disposal. In the event, prohibited wastes are unloaded they will be handled appropriated and as quickly as feasible removed and disposed of at an approved off-site facility. Based on the above discussion, the project will not create significant hazards through the use of or disposal of hazardous wastes.

4.8.3 Conclusion

Implementation of the above-listed mitigation measures will reduce potential hazards to workers from exposure to petroleum contaminated soils or asbestos to a less than significant level. **(Less Than Significant Impact with Mitigation)**

Implementation of the listed mitigation measures will reduce impacts from off-site landfill gas migration and landfill gas build-up beneath on-site structures due to the proposed project from landfill gases to a less than significant level. **(Less Than Significant Impact with Mitigation)**

4.9 HYDROLOGY AND WATER QUALITY

The following section is primarily based upon a Stormwater Control Plan prepared for the proposed project by *WorleyParsons Group, Inc.* in March 2010. The report is provided in Appendix F of this Initial Study.

4.9.1 Setting

Regulatory Overview

The discharge of stormwater from the City's municipal storm sewer system is regulated primarily under the federal Clean Water Act (CWA) and California's Porter-Cologne Water Quality Control Act. The San Francisco Bay Regional Water Quality Control Board (RWQCB) implements these regulations at the regional level. Under the CWA, the RWQCB has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications. Under Section 401 of the CWA, permits are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. When the Water Board issues Section 401 certifications, it simultaneously issues general Water Discharge Requirements for the project, under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the ACOE (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the Water Board, under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of ACOE jurisdiction may require the issuance of either individual or general waste discharge requirements (WDRs) from the Water Board.

New construction in San Jose is subject to the conditions of the Municipal Regional Stormwater NPDES Permit adopted by the RWQCB in October 2009. Additional water quality control measures were approved in October 2001 (revised in 2005), when the RWQCB adopted an amendment to the NPDES permit for Santa Clara County. This amendment, which is commonly referred to as "C3" requires all new and redevelopment projects that result in the addition or replacement of impervious surfaces totaling 10,000 sq ft or more to 1) include stormwater treatment measures; 2) ensure that the treatment measures be designed to treat an optimal volume or flow of stormwater runoff from the project site; and 3) ensure that stormwater treatment measures are properly installed, operated and maintained.

The City has developed a policy that implements Provision C.3 of the NPDES Permit, requiring new development projects to include specific construction and post-construction measures for improving the water quality of urban runoff to the maximum extent feasible. The City's Post-Construction Urban Runoff Management Policy (6-29) established general guidelines and minimum Best Management Practices (BMPs) for specified land uses, and includes the requirement of regular maintenance to ensure their effectiveness. Later, the City adopted the Post-Construction Hydromodification Management Policy (8-14) to manage development related increases in peak runoff flow, volume and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation or other impacts to local rivers, streams and creeks. Implementation of these Policies will reduce potential water quality impacts to less than significant levels.

Drainage

The project site is undeveloped and covered with pervious surfaces. The project site is located within the Santa Clara Valley Water District's Coyote Watershed. The nearest waterway to the project site

is Artesian Slough, which is used by the Plant as an outfall channel, and located west of the site. Artesian Slough conveys water to the San Francisco Bay. The Guadalupe River, Alviso Slough, Guadalupe Slough, Chicago Marsh, Grey Goose Slough, Artesian Slough, and Coyote Creek are within two miles of the site. Surface water and groundwater in the vicinity of the project site drain toward San Francisco Bay.

Surface water from the Bay within one mile of the site is used by boaters as well as the Cargill Salt Company in salt evaporation ponds north of the site. The Bay surface water also supports wildlife in the adjacent San Francisco Bay National Wildlife Refuge and wetlands.

The existing total drainage area for the project site is approximately 41 acres. Currently, the project site drains in four distinct sub-basins, generally separated by the twin high-points. The northernmost sub-basin drains an area of approximately 13.18 acres. The easternmost sub-basin drains an area of approximately 1.89 acres. The southernmost sub-basin drains an area of approximately 20.84 acres. The westernmost sub-basin drains an area of approximately 2.14 acres.

Flooding

The project area has historically been affected by freshwater flooding from two separate watercourses: Coyote Creek and the Guadalupe River. The project area is also subject to tidal (salt water) flooding from the San Francisco Bay. The project site is within the tidal flood zone.

The 100-year flood is the standard design level of protection set by the Federal Emergency Management Agency (FEMA), which is responsible for administration of the National Flood Insurance Program (NFIP). The 100-year flood, sometimes referred to as the one-percent flood, has a one percent probability of occurring in any one year. The occurrence of a 100-year flood does not change the probability of a 100-year flood occurring in succeeding years. According to the FEMA Flood Insurance Rate Maps, the project site is located within Zone AE with a flood elevation of 12 feet above mean sea level (msl).[17] Zone AE is an area of the 100-year flood where base flood elevations and flood hazards have been determined.

The existing site topography is a man-made landform as a result of past landfilling operations. Existing elevations on the site vary with two central peaks which slope down on all sides of the property. Adjacent areas around the site are existing wetlands and overflow lands to the north of the property and existing outfall channels to the west, including the Artesian Slough, that convey water to the San Francisco Bay.

The range of elevations along the perimeter varies from approximately four to fifteen feet msl. Twin existing high-points on the western and eastern sides of the project site both occur at approximately 33 feet msl.

The project site is not located within a mapped Tsunami Inundation Area.[18] The project site is not located within a mapped Dam Failure Inundation Area.[19]

[17] Federal Emergency Management Agency. *Flood Insurance Rate Map. 006085C0062H & 06085C0055H*. Map. May 18, 2009.
[18] California Emergency Management Agency, California Geological Survey, and University of Southern California, *Tsunami Inundation Map: Milpitas Quadrangle*. Map. July 31, 2009.
[19] Association of Bay Area Governments. *Dam Failure Inundation Area*. Map. March 2007.

4.9.2 Environmental Checklist and Discussion of Impact

HYDROLOGY AND WATER QUALITY						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐	☐	1,2,3,10
2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐	☐	1,2,10
3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	☐	☐	☒	☐	☐	1,2,10
4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site?	☐	☐	☒	☐	☐	1,2,10
5) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	☐	1,10
6) Otherwise substantially degrade water quality?	☐	☒	☐	☐	☐	1,10
7) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒	☐	1,2,10

HYDROLOGY AND WATER QUALITY						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
8) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐	☐	1,2,10
9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐	☐	1,2,10
10) Be subject to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐	1

4.9.2.1 *Drainage and Water Quality Impacts*

The existing drainage of the proposed project is approximately 41 acres in size. The site currently contains no impervious surfaces. As shown in Table 4.9-1, the proposed project will add 1,229,560 square feet (sq. ft.) of impervious surface for a total impervious surface of 1,229,560 sq. ft. (approximately 28 acres).

Table 4.9-1:
Pervious and Impervious Surfaces Comparison

Area	Existing Condition (sf)	%	Project/Post-Construction (sf)	%	Difference (sf)	%
Building Footprint	-	-	343,545	28	343,545	-
Parking	-	-	20,985	1.7	20,985	-
Sidewalks, Patios, Paths	-	-	1,275	0.1	1,275	-
Roadways	-	-	202,703	16.4	202,703	-
Landscaping	-	-	661,052	53.8	661,052	-
Total	**-**	**-**	**1,229,560**	**100**	**1,229,560**	**-**
Impervious	-	-	568,505	46.2	-	-
Pervious	1,229,560	100	661,052	53.8	-	-
Total	**1,229,560**	**100**	**1,229,560**	**100**	**-**	**-**

The proposed project, therefore, would increase the amount of impervious surfaces on-site, thereby, increasing the amount of runoff from the site. Stormwater may include pollutants such as motor vehicle lubricants, coolants, roof debris, litter, and debris.

The project shall comply with the City of San Jose's Grading Ordinance, including erosion and dust controls during site preparation, and with the City of San Jose's Zoning Ordinance requirement of keeping adjacent streets free of dirt and mud during construction.

The project will disturb more than 10,000 sq. ft. of impervious surfaces. The project, therefore, is subject to the NPDES Provision C.3 for post-construction runoff and City Policy 6-29 which requires the use of BMPs and numeric sizing for Treatment Control Measures (TCM).

Drainage Plan

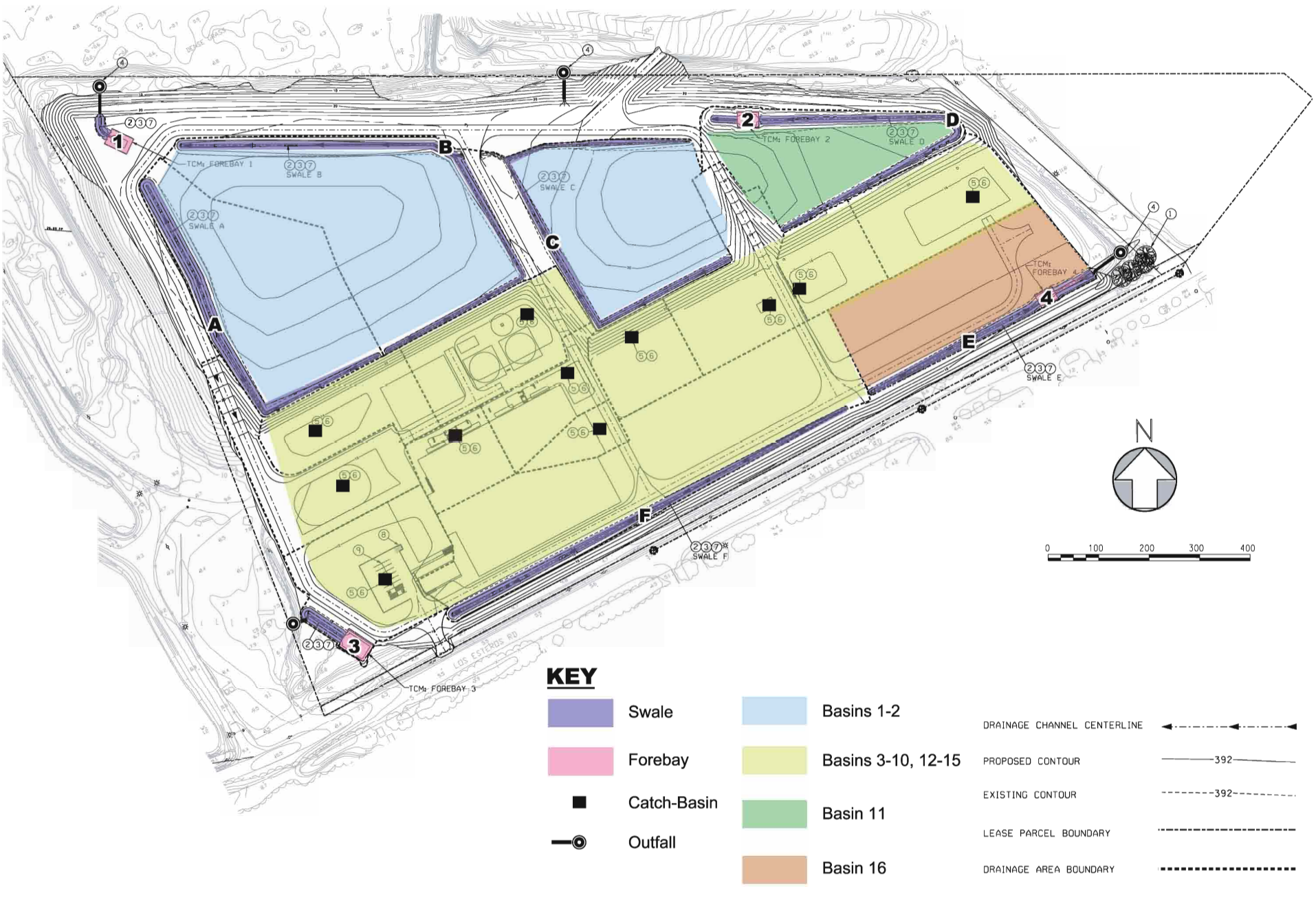
The project site will implement Best Management Practices (BMPs) to reduce non-point pollution sources. The project proposes a combination of stormwater BMPs and will implement a stormwater control plan to address Provision C.3 of the NPDES permit and City Policy 6-29. The proposed project is also subject to drainage standards, minimum-slope requirements, etc., through the CCR, Title 27 requirements for a Post Closure End Use activity. The project will conform to stormwater/urban runoff regulations and Title 27 requirements in place at the time the Special Use Permit is issued.

The proposed stormwater control plan (Figure 4.9-1[20]) includes a series of vegetated swales, forebays, and storm drains designed to avoid and reduce impacts from stormwater run-off from the project site to a less-than-significant level. The stormwater runoff collected in storm drains and discharged from drainage collection areas (basins) will first be channeled into open forebays, where all large sediment particles will settle out and can be removed as needed. The second water quality treatment will occur as each forebay continues to drain into one of six vegetated swales. This system will, therefore, provide two levels of water treatment before the stormwater is released at a controlled flow rate into the existing catch basin and wetlands to the west of the project site. The rate of outflow being discharged to the existing water and wetlands will be limited so as to avoid exceeding the prevailing pre-developed flow. Both the vegetated swales and forebays are sized and designed in accordance with Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) to handle 100 year storm flows and, therefore, will not be overwhelmed and release untreated water into the adjacent wetlands (also refer to *Section 4.4.2.2 Biological Resources*).

In addition, the volume of runoff released from the site in any particular area is not expected to be substantially greater than existing conditions, as the outfall areas will distribute runoff to four release locations. Surface runoff from the site would continue to be directed off-site to marsh and slough areas (which is not anticipated to trigger the need for 401 or 404 regulatory permits). Figure 4.9-1 shows some stormwater flow exiting the site and entering the Plant stormwater system. If final calculations show that the system lacks capacity, the stormwater plan will be modified prior to Public Work clearance.

The proposed development would not change drainage patterns substantially compared to the existing drainage conditions. A combination of the BMPs and TMCs will be included in the final site design to improve the water quality of stormwater runoff to comply with Provision C.3 and City Policy 6-29. The project site contains adequate space to allow a combination of these measures to be utilized.

[20] The current site plan (Figure 3.0-1) identifies the driveway connecting the project site to the adjacent ZRRROL facility further west than shown on the Drainage Plan in Figure 4.9-1. The location of the driveway does not affect the proposed on-site drainage approach.



PROPOSED DRAINAGE MAP

FIGURE 4.9-1

Impact HYD-1: The proposed project will increase impervious surfaces on the site and may introduce pollutants into post-project stormwater. **(Significant Impact)**

MM HYD-1: Implementation of the following mitigation measures, consistent with NPDES Permit and City Policy requirements, will reduce water quality impacts to surface water quality from the increase in impervious surfaces on the site to less than significant levels:

- Prior to the issuance of a Special Use Permit, the applicant must provide details of specific proposed Best Management Practices (BMPs) and Treatment Control Measures (TMCs), including, but not limited to, bioswales, disconnected downspouts, landscaping to reduce impervious surface area, and inlets stenciled "No Dumping – Flows to Bay" to the satisfaction of the Director of Planning, Building and Code Enforcement.

- The project shall comply with Provision C.3 of NPDES permit Number CAS0299718, which provides enhanced performance standards for the management of stormwater from new development.

- The project shall comply with applicable provisions of the following City Policies – 1) Post-Construction Urban Runoff Management Policy (6-29) which establishes guidelines and minimum BMPs for all projects and 2) Post-Construction Hydromodification Management Policy (8-14) which provides for numerically sized (or hydraulically sized) TCMs.

- The project shall comply with CCR, Title 27 drainage and erosion standards and minimum-slope requirements, through the requirements for a Post Closure End Use activity. **(Less than Significant Impact with Mitigation)**

Short-Term Water Quality Impacts during Construction

Construction of the proposed project, as well as grading and excavation activities may result in temporary impacts to surface water quality. Construction of the project buildings and parking areas would also result in a disturbance to the underlying soils, thereby increasing the potential for sedimentation and erosion. Construction of the proposed water main in Los Esteros and Zanker Roads could potentially result in significant impacts to adjacent wetlands due to sedimentation or unintentional fill. When disturbance to underlying soils occurs, the surface runoff that flows across the site may contain sediments that are ultimately discharged into the storm drainage system.

Impact HYD-2: Construction of the proposed project could cause a significant temporary increase in the amount of contaminants in stormwater runoff during construction. **(Significant Impact)**

MM HYD-2: Implementation of the following mitigation measures, consistent with NPDES Permit and City Policy requirements, along with Biological Resources Mitigation Measures 1.1 to 1.2, will reduce potential construction impacts to surface water quality to less than significant levels:

Construction Measures

The following mitigation measures, based on RWQCB Best Management Practices, are included in the proposed project to ensure compliance with NPDES permit requirements to reduce construction related water quality impacts:

- During construction, burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
- During construction, earthmoving or other dust-producing activities will be suspended during periods of high winds.
- During construction, all exposed or disturbed soil surfaces will be watered at least twice daily to control dust as necessary.
- During construction, stockpiles of soil or other materials that can be blown by the wind will be watered or covered.
- During construction, all trucks hauling soil, sand, and other loose materials will be covered and/or all trucks will be required to maintain at least two feet of freeboard.
- During construction, all paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites will be swept daily (with water sweepers).
- During construction, vegetation in disturbed areas will be replanted as quickly as possible.
- Prior to construction grading for the proposed land uses, the applicant will file a "Notice of Intent" (NOI) to comply with the General Permit administered by the Regional Board and will prepare a Stormwater Pollution Prevention Plan (SWPPP) which addresses measures that would be included in the amendment to minimize and control construction and post-construction runoff. The following measures would be included in the SWPPP:

  - Preclude non-stormwater discharges to the stormwater system.
  - Effective, site-specific Best Management Practices for erosion and sediment control during the construction and post-construction periods.
  - Coverage of soil, equipment, and supplies that could contribute non-visible pollution prior to rainfall events or perform monitoring of runoff.
  - Perform monitoring of discharges to the stormwater system.

  (Less than Significant Impact with Mitigation)

Flooding Impacts

The floor of the proposed facilities will be at approximately 13-feet msl and the elevation of the proposed compost maturation and finishing area will be approximately 30-feet msl. The subject site is located within the 100-year flood hazard area in Flood Zone AE. The project would not expose people or structures to flooding because it must (1) elevate the lowest floor above the flood level, (2)

obtain an Elevation Certificate (FEMA Form 81-31) for each proposed structure, based on construction drawings, prior to issuance of a building permit. Consequently, an Elevation Certificate based on finished construction is required for each built structure prior to issuance of an occupancy permit. Building support utility systems such as HVAC, electrical, plumbing, air conditioning equipment, including ductwork, and other service facilities must be elevated above the base flood elevation or otherwise protected from flood damage. The project will not block flood flows. The proposed project would result in less than significant flooding impacts. **(Less than Significant Impact)**

4.9.3 Conclusion

Implementation of the proposed BMPs will reduce post-construction and construction water quality impacts of the proposed project to a less than significant level. **(Less Than Significant Impact with Mitigation)**

Incorporation of the listed requirements into the project design will reduce flooding impacts to the proposed project to a less than significant level. **(Less Than Significant Impact)**

4.10 LAND USE

4.10.1 Setting

4.10.1.1 *On-Site Land Uses*

The project site is situated on a 96-acre parcel, of which 41 acres is considered the project site. The site is part of the San Jose/Santa Clara Water Pollution Control Plant (the Plant) buffer lands. The project site is currently unused and contains a portion of the non-operating inactive Nine Par Landfill. An existing driveway for the ZRRROL crosses the east side of the site.

4.10.1.2 *Surrounding Land Uses*

The project site is located in an area of north San José, east of the residential Alviso Village, that contains a mix of public/quasi-public, industrial, and open space land uses, including a wastewater treatment plant, inactive recycled water pumping facility, solid waste recycling facilities and landfills, marshlands, salt evaporation ponds, electrical transmission lines, and related public facilities (refer to Figure 2.0-3).

The ZRRROL is adjacent to and north of the project site. This facility sorts, processes, and composts greenwaste and crushes concrete from construction demolition. The landfill on the site is used for the disposal of non-putrescible solid waste (no food waste or greenwaste).

The San José/Santa Clara Water Pollution Control Plant, which provides tertiary sewage treatment for eight communities in Santa Clara County, is located south of the project site across Los Esteros Road. This facility includes a series of tanks and other outdoor structures for waste water treatment, an administration building, and an electrical substation. A railroad spur allows for transport of water treatment chemicals to the Plant. Ponds used to dry sewage sludge from the Plant are east of the project site.

A Plant facility (South Bay Water Recycling Fill Station), located adjacent to the west boundary of the site, dispensed recycled (non-potable) water to construction water trucks; this facility is now inactive (refer to Figure 2.0.3). East of the fill station, treated effluent from the Plant is discharged to a channel which is referred to as Artesian Slough. This slough flows into the Don Edwards San Francisco Bay National Wildlife Refuge, north of the site.

The Environmental Education Center at the Don Edwards San Francisco Bay National Wildlife Refuge is located approximately one-half mile to the north of the project site. The Center is open for school field trips from 10:00 a.m. until 5:00 p.m. on weekdays. Trails and a boardwalk through adjacent marsh areas are open during daylight hours. Salt evaporation ponds are located north of the Environmental Education Center.

The ZMPF, located west of the project site, is on the west side of the Artesian Slough channel. On-site uses include a landfill, a resource recovery area, access road, perimeter flood protection levees, private open space, and overhead electrical transmission lines. Resource recovery operations at the ZMPF consist of: acceptance and handling of mixed waste loads from general public and commercial waste haulers; sorting of recyclable materials (i.e., wood, metal, plastics) from the incoming materials; processing of some of these materials into re-usable products (such as landscaping cover,

fuel for cogeneration facilities, etc.); temporary storage of materials and finished products; shipment off-site; and on-site landfilling of some of the residual non-recyclable materials.

The residential area of Alviso, referred to in the Alviso Master Plan as the Alviso Village, is roughly bounded by Spreckles Avenue, Grand Boulevard, and North First Street and ranges from three-quarter mile to two miles from the project site. Residences primarily consist of one and two story single family houses. The closest residence to the project site is approximately 4,000 feet to the southwest at the intersection of Spreckles Avenue and Grand Boulevard. George Mayne Elementary School, a kindergarten to fifth grade school in the Santa Clara Unified School District, is approximately 5,200 feet southwest of the project site. A public library and youth center are located adjacent to the school.

Undeveloped land located northeast of the elementary school and south of the Alviso Village is approved for industrial development. Further southeast of this undeveloped industrial land are developed industrial office parks.

4.10.1.3 *General Plan and Zoning*

The site is located within the Alviso Master Plan Area. The Alviso Master Plan, adopted in 1998, is incorporated into the San José 2020 General Plan as the Alviso Planned Community. Under the Master Plan, the land use designation of the project site is *Public/Quasi-Public (PQP).* The *Public/Quasi-Public* designation identifies public land uses such as libraries, community centers, schools, fire stations, post offices, and the Water Pollution Control Plant and its buffer lands.

The property is currently zoned LI – *Light Industrial*, which is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. "Recycling Processing Facilities" are allowed under the LI – *Light Industrial* designation of the San José Zoning Code (Section 20.50.100) with a Special Use Permit.

The project site is not located within an adopted Habitat Conservation Plan (HCP) or other approved local, regional, or state habitat conservation plan, although, a draft HCP is currently in the planning stages with an estimated adoption for 2011. The project site is located within the Baylands area which is not included within the HCP Planning Area; therefore, the project site is not subject to the draft HCP. Additional details regarding the HCP is discussed in *Section 4.4.2.6 Santa Clara Valley Habitat Conservation Plan.*

Surrounding Land Use Designations

The project site is bounded to the west and north by lands designated as *Private Open Space* with a *Solid Waste Disposal Site Overlay.* Lands to the northwest, south and east of the project site are managed by the Plant and are designated for *Public/Quasi-Public* uses. The southern end of the Don Edwards San Francisco Bay National Wildlife Refuge to the north is designated *Public Park/Open Space*.

4.10.2 Environmental Checklist and Discussion of Impact

LAND USE						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Physically divide an established community?	☐	☐	☒	☐	☐	1,2
2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐	1,2
3) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐	☐	1,2

4.10.2.1 *Discussion of Impacts*

Impacts to Residents in the Alviso Village

The proposed AD Facility will not divide an established community and the site is not adjacent to any residential uses. The closest residential use is located approximately 4,000 feet from the project site. The separation distance between existing residences and both the proposed operation and the proposed truck access route (to and from Highway 237 on Zanker Road) would limit land use compatibility impacts to existing residences associated with noise (see *Section 4.11 Noise*). The project design also includes biofilters which would precude objectionable odors from impacting residents (see *Section 4.3 Air Quality)*. **(Less Than Significant Impact)**

Impacts to Sensitive Bayland Areas

The closest sensitive land uses to the site are the baylands north of the property. The effects of the proposed project on the habitat and wildlife are discussed in detail in *Section 4.4 Biological Resources*. The project, as proposed, would not allow for waste handling outside of the enclosed buildings and litter control will be implemented to keep materials from reaching marsh areas.

Though the project would create a new use at the project site, the change in itself would not create conflicts such that the Don Edwards San Francisco Bay National Wildlife Refuge would not be suitable for wildlife use or for public education or recreational uses due to a substantial increase in noise, public health or public safety impacts, or impacts to wildlife. For these reasons, the proposed project would not be incompatible with the ongoing recreational, educational and resources management uses at the adjacent Don Edwards San Francisco Bay National Wildlife Refuge. **(Less Than Significant Impact)**

Planned Bay Trail

In 2002, the San José City Council approved a Master Plan covering planned segments of the Bay Trail within the City of San José. The Bay Trail route within San José is intended to be a year-round, assessable trail that would serve recreation and commuter needs. The Master Plan includes design guidelines for various trail segments within the Alviso area. The Master Plan includes a Class I Shared Use Trail (separated from traffic lanes) on the south side of Los Esteros Road (across the street from the project site), the west side of Zanker Road, and north of the substation. In the vicinity of the proposed project, the planned trail would be for pedestrian use only and would be located on the opposite side of the roadway from the site entrance. Bike lanes (Class II) along the outside edge of the paved roadways are also planned on both sides of Zanker Road and Los Esteros Road. The proposed project would not limit or preclude development of the planned trail segment on the south side of Los Esteros Road or the installation of bike lanes on both sides of Los Esteros Road. The project would increase traffic that will cross the bike lanes, but the vehicles would be using existing driveways. **(Less Than Significant Impact)**

Compatibility with Plant Activities

The City of San José Plant lands, including the waste water treatment plant, sludge ponds, and recycled water distribution facilities adjacent to and in the vicinity of the project site are not sensitive land uses. In addition, the primary function areas of the Plant, including the administration building, are located on the south side of Los Esteros Road, set back over 390 feet from the proposed AD buildings. The closest building/structure at the Plant is located opposite the proposed Phase II development, set back approximately 260 feet from Los Esteros Road and screened by landscape plantings. The proposed project is industrial in character and compatible with the uses of the Plant facility, in terms of noise, dust, litter, and activity levels. **(Less Than Significant Impact)**

4.10.2.2 *Consistency with the General Plan and Alviso Master Plan*

Historically, the area of Alviso north of Los Esteros Road and the Plant was used for solid waste disposal near the edge of San Francisco Bay. The General Plan and Alviso Master Plan recognize the continuing use of this area for waste processing and recycling, while establishing policies to limit impacts to nearby Baylands and maintain an open character.

The collection and processing of the City's municipal solid waste including organic materials is a municipal (public) service that, in San José, is provided by private companies under a franchise granted by the City. The proposed privately-owned and operated composting facility that will process the waste from nearby communities is an allowed use under the *Public/Quasi-Public* designation as described in the Alviso Master Plan and City of San José's General Plan. A General Plan amendment is not proposed or required as part of this project. No rezoning is intended or proposed as part of this project. Based upon the above discussion, the proposed project is consistent with the Alviso Master Plan and City of San José's General Plan. **(Less Than Significant Impact)**

Other Land Use Impacts

The proposed project would not affect farmland or agricultural uses in any way or physically divide an established community. Further, the project does not conflict with an adopted habitat conservation plan (HCP) or natural community conservation plan (NCCP). **(Less Than Significant Impact)**

4.10.3 Conclusion

The proposed project would not result in any land use significant impacts. **(Less Than Significant Impact)**

4.11 MINERAL RESOURCES

4.11.1 Setting

Extractive resources known to exist in and near the Santa Clara Valley include cement, sand, gravel, crushed rock, clay, and limestone. Santa Clara County has also supplied a significant portion of the nation's mercury over the past century. Pursuant to the mandate of the Surface Mining and Reclamation Act of 1975 (SMARA), the State Mining and Geology Board has designated: the Communications Hill Area (Sector EE), bounded generally by the Southern Pacific Railroad, Curtner Avenue, State Route 87, and Hillsdale Avenue, as containing mineral deposits which are of regional significance as a source of construction aggregate materials.

Neither the State Geologist nor the State Mining and Geology Board has classified any other areas in San José as containing mineral deposits which are either of statewide significance or the significance of which requires further evaluation. Therefore, other than the Communications Hill area cited above, San José does not have mineral deposits subject to SMARA.

The project site is outside of the Communications Hill area.

4.11.2 Environmental Checklist and Discussion of Impact

MINERAL RESOURCES						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒	☐	1
2) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒	☐	1

4.11.2.1 *Discussion of Impacts*

The project site is outside of the Communications Hill area, and will not, therefore, result in a significant impact from the loss of availability of a known mineral resource.

4.11.3 Conclusion

There would be no impact to mineral resources by the proposed AD facility. **(No Impact)**

4.12 NOISE

The following section is primarily based upon a Noise Study Report prepared for the proposed project by *Illingworth & Rodkin, Inc*., in May 2010. The report is provided in Appendix G of this Initial Study.

4.12.1 Setting

4.12.1.1 *Regulatory Overview*

The Noise Element of the City of San José's 2020 General Plan identifies noise and land use compatibility standards for various land uses. Two policies (Policy 11 and Policy 12) presented in the Noise Element are applicable to the project. Policy 11, which states that when located adjacent to existing or planned noise sensitive residential and public/quasi-public land uses, nonresidential land uses shall mitigate noise generation to meet a 55 DNL[21] guideline at the property line. Policy 12, which states that noise studies should be required for land use proposals where known or suspected peak event noise sources occur which may impact adjacent existing or planned land uses.

The City of San José Zoning Ordinance has also adopted noise standards for the operation of recycling facilities. The maximum allowable noise level at the closest property line in a residential area is 55 dBA[22]. The City of San José does not specify whether the 55 dBA criteria is in terms of an average (L_{eq})[23], maximum (L_{max})[24], or DNL noise level. For previous noise studies completed in the City of San José, the standard has been assumed to be an hourly L_{eq} limit if project operations would take place during daytime hours only, and a DNL limit if project operations would take place during daytime and nighttime hours. This would be consistent with the General Plan policies.

The City's Zoning Ordinance also applies specific noise standards to Residential, Commercial and Industrial zoning districts which limit the sound pressure level generated by any use or combination of uses at any property line as shown in Table 4.12-1.

Table 4.12-1:
City of San José Zoning Code Noise Standards

Land Use Types	Maximum Noise Level in Decibels at Property Line
Residential, open space, industrial or commercial uses adjacent to a property used or zoned for residential purposes	55
Open space, commercial, or industrial use adjacent to a property used or zoned for commercial purposes or other non-residential uses	60
Industrial use adjacent to a property used or zoned for industrial or use other than commercial or residential purposes	70

[21] DNL stands for Day-Night Level and is a 24-hour average of noise level, with 10dB penalties applied to noise occurring between 10:00pm and 7:00am.
[22] A decibel (dB) is a unit describing the amplitude of sound. Human hearing decreases at extremely low and high frequencies, which is taken into account by the "A-weighted" decibel scale, expressed as "dBA."
[23] *Equivalent Noise Level, Leq* – The average A-weighted noise level during the measurement period.
[24] *Lmax* - The maximum A-weighted nose level during the measurement period.

4.12.1.2 *Existing Noise Environment*

The nearest noise sensitive receptors are located in the residential community of Alviso, approximately three-fourths mile southwest of the project site, and the Don Edwards San Francisco Bay National Wildlife Refuge (NWR) and Environmental Education Center, located to the northwest. The predominant noise sources at noise sensitive receivers adjacent to the project site are jet aircraft and vehicular traffic. Additionally, noise resulting from existing operations on the ZMPF landfill and other nearby industrial facilities is audible.

4.12.2 Environmental Checklist and Discussion of Impact

NOISE						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project result in:						
1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐	☐	1,2,3,11
2) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	☐	1,2,11
3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐	1,2,11
4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐	1,2,11
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐	1,2,3
6) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐	1,2,3

4.12.2.1 *Discussion of Impacts*

Noise Quality Impacts during Construction

Importation of soil fill for grading purposes would occur over five to seven weeks, and include 100,000 cubic yards of imported soil. Phase I construction of the AD facility is anticipated to take place over a period of about one year (52-weeks) once the grading is implemented.

Noise impacts from construction activities depend on the various pieces of construction equipment, the timing and length of noise generating activities, the distance between the noise generating construction activities and receptors that would be affected by the noise and shielding. Construction activities for the project would be carried out in stages. During each stage of construction, there would be a different mix of equipment operating. Construction noise levels would vary by stage and vary within stages based on the amount of equipment in operation and location where the equipment is operating. Shielding from terrain, sound walls, and structures would lower noise levels at receivers.

The nearest noise sensitive use is the Environmental Education Center at the Don Edwards San Francisco Bay NWR, located more than 2,000 feet from the project site. Maximum instantaneous construction noise levels are calculated to range from 53 to 58 dBA Lmax when activities are located in direct line of sight to the Environmental Education Center. Hourly average noise levels generated during periods of heavy construction would range from 43 to 53 dBA Leq. Noise levels due to construction activities would be 4 to 5 dBA lower at single-family homes in the residential community of Alviso, located over 4,000 feet from the project site. Construction activities would only take place during daytime hours as permitted by the City of San Jose. Maximum and average construction noise levels would typically be below levels generated by daytime ambient traffic, aircraft, and existing industrial operations in the vicinity. **(Less Than Significant Impact)**

Standard Measures NOI-1: Implementation of the following measures, consistent with City Policy requirements, will reduce potential construction impacts to noise quality to less than significant levels:

- Construction of the project and associated improvements, including the proposed water line, will be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday for any on-site or off-site work within 500 feet of any residential unit. Construction outside of these hours may be approved through a development permit based on a site-specific construction noise mitigation plan and a finding by the Director of Planning, Building and Code Enforcement that the construction noise mitigation plan is adequate to prevent noise disturbance of affected residential uses.

- The contractor shall use "new technology" power construction equipment with state-of-the-art noise shielding and muffling devices. All internal combustion engines used on the project site shall be equipped with adequate mufflers and shall be in good mechanical condition to minimize noise created by faulty or poor maintained engines or other components.

- Locate stationary noise generating equipment as far as possible from sensitive receptors. Staging areas shall be located a minimum of 200 feet from noise sensitive receptors, such as residential uses.

Noise Impacts during Operation

The proposed AD facility will operate continuously 24-hours per day, 7-days per week, 365 days per year. The facility will be open to accept inbound materials and transport outbound materials from approximately 8:00am to 6:00pm every day. In accordance with the San José Zoning Ordinance, project operations are limited to 55 dBA DNL at the closest residential property line, and 60 dBA DNL at the closest non-residential property line.

The project includes equipment with various types of fans, power generators, emergency generators, and a biofilter. The operation of the power generators would be the primary noise source. Each phase includes two power generators and one emergency generator for a total of nine generators after completion of Phase III. Emergency generators would operate intermittently, and seldom compared comparison to the continuous operation of the power generators (24 hours a day). The operation of the emergency generators would not substantially contribute to day-night average noise levels resulting from overall operations.

During busy times, truck queuing could occur at the scales, located in the northeastern portion of the site. Loaders and haul trucks would also circulate on the site. Noise levels due to project vehicle circulation would be 40 dBA DNL or less at residences, and would not measurably increase the ambient noise environment.

A credible "worst-case" scenario would assume that the AD facility will operate all three phases of the project simultaneously and operations would occur 24-hours per day. For each phase of the project, a drop-off of 6 dB per doubling of distance, and anomalous excess attenuation (assumed to be 1 dB/1000 ft) was included into the calculations of noise levels at distant receiver locations. Worst-case noise levels are calculated to be 55 dBA DNL at the closest residences and 59 dBA DNL at the Don Edwards Environmental Education Center.

With Phase I operational, average noise levels at the closest residences 4,000 feet away would be 44 dBA L_{eq}, and are calculated to be 50 dBA DNL assuming 24-hour operations. The Environmental Education Center is about 2,900 feet from the power generators and would be exposed to a noise level of 48 dBA L_{eq} during Phase I, which would result in day-night average levels of 54 dBA DNL. With Phase I and II operating simultaneously, day-night average noise levels would be 53 dBA DNL at residential receivers and 57 dBA DNL at the Environmental Education Center. With Phase I, II, and III operational; day-night average noise levels would be 55 dBA DNL at the nearest residences and 59 dBA DNL at the Environmental Education Center.

With all three phases of the project fully operational, noise levels at residences would be equal to but would not exceed the 55 dBA DNL criteria. At times when operations are reduced, noise levels would be lower. **(Less Than Significant Impact)**

The increase in activity is not expected to result in substantial increases in levels of disturbance of wildlife in surrounding areas, as the area already experiences substantial levels of noise and disturbance from the existing ZRRROL, ZMPF, and Plant facilities. Additionally, the vegetation to be planted around the perimeter of the project area will buffer sounds and movement to some extent. **(Less Than Significant Impact)**

The AD facility's operational noise levels are calculated to reach 59 dBA DNL at the Environmental Education Center, where existing daily average noise levels are 57 dBA DNL. The project's operational noise levels combined with existing daily average noise levels would increase overall noise levels at the Environmental Education Center to 61 dBA DNL, which is 4 dBA above ambient noise levels. Depending on the development phase of the project, the AD facility's operational noise levels are calculated to reach 66 to 74 dBA DNL at the project's property line.

Impact NOI-1: Operation of the proposed project could cause a significant increase in the noise levels at the nearby Environmental Education Center. **(Significant Impact)**

MM NOI-1.1: The proposed generators shall be designed so as to minimize impacts on surrounding uses, especially the Environmental Education Center located northwest of the site. Noise barriers or acoustical enclosures shall be provided to avoid substantially increasing noise levels. If rooftop-mounted equipment is used, it shall be shielded from the noise sensitive land uses by rooftop screens or perimeter parapet walls, noise control baffles, sound attenuators, or enclosures. If the equipment is mounted at ground level, mechanical equipment enclosures or noise barriers at the western and northern borders of the project shall be incorporated. These measures would provide a minimum of 5 dBA of noise reduction, lowering project operational noise levels to 54 dBA DNL and would reduce overall noise levels to 59 dBA DNL or less at the Environmental Education Center. These measures would also lower project operational noise levels at the property line from 61 to 69 dBA DNL. Therefore, project operations would not increase noise levels at noise sensitive areas by more than 3 dBA DNL. **(Less Than Significant Impact with Mitigation)**

4.12.3 Conclusion

Implementation of the above-listed mitigation measures will reduce impacts to noise levels at the Environmental Education Center to a less than significant level. **(Less Than Significant Impact with Mitigation)**

4.13 POPULATION AND HOUSING

4.13.1 Setting

According to the Association of Bay Area Governments' (ABAG) Projections 2009, within the City of San José's Sphere of Influence, the population for 2005 was 943,300 in 293,930 households. For 2020, the projected population for San José is 1,137,700 in 356,470 households. The proposed project is located in Council District 4.

4.13.2 Environmental Checklist and Discussion of Impact

POPULATION AND HOUSING						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒	☐	1, 3
2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐	1, 3
3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐	1, 3

4.13.2.1 *Discussion of Impacts*

The proposed AD facility is expected to employ approximately 15 full-time employees for Phase I of the project, and approximately 26 full-time employees at full build-out.

The project will not construct any type of housing development. The proposed AD facility would not induce population or significant job growth or displace either housing or persons.

4.13.3 Conclusion

The proposed AD facility will not result in significant population and housing impacts. **(No Impact)**

4.14 PUBLIC SERVICES

4.14.1 Setting

4.14.1.1 *Fire Service*

Fire protection to the project site is provided by the San José Fire Department (SJFD), which serves a total area of 203 square miles. The SJFD responds to all fires, hazardous materials spills, and medical emergencies (including injury accidents) in the project area. The SJFD currently has 35 fire stations located throughout the City.

The closest station to the project site is Station 25, approximately one mile west of the site, located at 1525 Wilson Way.

4.14.1.2 *Police Service*

Police protection services for the site are provided by the San José Police Department (SJPD). Officers patrolling the project area are dispatched from police headquarters located at 201 West Mission Street. The SJPD consists of approximately 1,390 sworn officers and 341 marked police cars.[25]

The SJPD has four patrol divisions (plus San José Airport), 16 patrol districts, 83 patrol beats, and 357 patrol beat building blocks (BBB). The project site is located in the BBB 42.

4.14.1.3 *Schools*

The closest schools to the proposed project include George Mayne Elementary School, Peterson Middle School, and Wilcox High School.

4.14.1.4 *Parks*

Existing parks and recreation facilities in the Alviso area include the 7.5 acre Alviso Park adjacent to George Mayne Elementary School, and an 800 square foot community center on Liberty Street.

Regional facilities in the area include the Don Edwards San Francisco Bay National Wildlife Refuge, which has 3,652 acres within the San José Sphere of Influence (19,058 acres total), and the Alviso Marina County Park (approximately 28 acres total). The Plant buffer lands also provide additional open space within the City of San Jose.

[25] Monahan, Christopher. Sergeant, San José Police Department, Office of the Chief of Police. Personal communication. February 27, 2009.

4.14.2 Environmental Checklist and Discussion of Impact

PUBLIC SERVICES						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project: 1) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:						
Fire Protection?	☐	☐	☐	☒	☐	1,3
Police Protection?	☐	☐	☐	☒	☐	1,3
Schools?	☐	☐	☐	☒	☐	1,3
Parks?	☐	☐	☐	☒	☐	1,3
Other Public Facilities?	☐	☐	☐	☒	☐	1,3

4.14.2.1 *Discussion of Impacts*

Police and Fire Services

The proposed AD facility will not result in an increase in population or activities on the site that could increase the demand for police and fire services.

Schools

The proposed AD facility would not generate students for the local public school system and therefore, would not result in any impacts on the existing schools facilities in the area; nor would it trigger the need for a new school.

Parks and Recreational Facilities

The proposed AD facility would not generate the need for additional park space within the City of San José.

4.14.3 Conclusion

The proposed AD facility would not result in significant impacts on the physical environment resulting from increased demand for public facilities or services. **(No Impact)**

4.15 RECREATION

4.15.1 Setting

The City of San José provides parklands, open space, and community facilities for public recreation and community services. The project site is located in an area of primarily low intensity industrial and public/quasi-public development. Alviso Park is the nearest recreational facility located approximately 1 mile southwest of the project site at Mayne Elementary School. The Don Edwards National Wildlife Refuge is located north and west of the project site and encompasses 30,000 acres of open bay, salt pond, salt marsh, mudflat, upland and vernal pool habitats throughout south San Francisco Bay. Alviso Marina County Park is located approximately 1.5 miles southwest of the site and Sunnyvale Baylands Park is located approximately 3 miles southwest of the site.

4.15.2 Environmental Checklist and Discussion of Impact

RECREATION						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) 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?	☐	☐	☐	☒	☐	1,2,3
2) 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?	☐	☐	☐	☒	☐	1,2,3

4.15.2.1 *Discussion of Impacts*

The proposed AD facility does not include the construction of recreational facilities. It will not result in any increase of need for recreational facilities or result in the increased use or deterioration of any existing facilities within the project vicinity.

4.15.3 Conclusion

The proposed AD facility would not result in significant impacts to recreational facilities. **(No Impact)**

4.16 TRANSPORTATION

The following section is primarily based upon a Trip Generation and Operations Analyses prepared for the proposed project by *Hexagon Transportation Consultants, Incorporated* in February 2010. The report is provided in Appendix H of this Initial Study.

4.16.1 Setting

Regional access to the project site is provided via State Route (SR) 237. SR 237 is a six-lane freeway, oriented in an east/west alignment, which provides access to US 101 and I-880. Two of the six lanes (one in each direction) are designated as high occupancy vehicle (HOV) lanes.

Local access to the site is provided by Los Esteros Road and Zanker Road. Los Esteros Road is a two-lane roadway that provides access to the site from SR 237 via North First Street and Disk Drive. Zanker Road is a two-lane roadway that provides access to the site from US 101, Montague Expressway, and SR 237. Los Esteros Road provides access to an existing paved driveway at the eastern end of the project site which connects to the adjacent ZRRROL facility. Los Esteros Road also provides access to an existing driveway in the southwestern corner of the project site which houses an inactive recycled water filling station.

4.16.2 Environmental Checklist and Discussion of Impact

TRANSPORTATION/TRAFFIC						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐	☐	1,3,10
2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐	☐	1,3,10

TRANSPORTATION/TRAFFIC						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒	☐	1
4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☒	☐	☐	1
5) Result in inadequate emergency access?	☐	☐	☒	☐	☐	1,3
6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐	☐	1,3,10

4.16.2.1 *Discussion of Impacts*

Access to the proposed facility would be provided via a driveway along the northern portion of the project site connecting to the adjacent ZRRROL facility, as well as a public/employee entrance in the southwest corner of the project site along Los Esteros Road (see Figure 3.0-1).

Traffic Impacts

Trips generated by the project would consist of deliveries of organic material to be processed, vehicles accessing the site to collect the processed organics and take them to their final destinations, employees returning to/leaving from work, and visitors to the site. The proposed project is anticipated to generate a total of 512 daily passenger-equivalent trips (a truck trip is considered to represent 1.5 passenger-vehicle trips), with 26 trips occurring during the AM peak hour and 44 trips occurring during the PM peak hour.

The proposed project generates less than 100 AM or PM weekday peak hour trips, and would not deteriorate the intersection levels of service to LOS E or worse. Therefore, based on City of San José standards, the proposed project would not create any significant traffic or intersection impacts. **(Less Than Significant Impact)**

Traffic Impacts from Construction

Construction of the proposed project would include the importation of approximately 100,000 cy of additional soil. This soil would be imported from off-site via truck transport over a five-week period. Each truck is capable of delivering approximately 20 cy of soil, and deliveries would occur six days a week from 7 AM to 7 PM. The traffic generated from these trips would be temporary, would occur

only on Zanker/Los Esteros Roads, and would not create any significant traffic impacts. **(Less Than Significant Impact)**

Impacts to Pedestrian or Bicycle Facilities

Other than temporary impacts during construction, the project would not result in conflicts with pedestrian facilities in the area. The project would not impact bicycle facilities in the project vicinity. A 20-foot future right-of-way exists along the northern side of Los Esteros Road to allow for future expansion of Los Esteros Road. The proposed project does not limit or impact this future right-of-way. As discussed in *Section 4.10 Land Use*, the proposed project would not limit or preclude development of the planned Bay Trail segment on the south side of Los Esteros Road or the installation of bike lanes on both sides of Los Esteros Road. **(Less Than Significant Impact)**

Parking

According to the City's Zoning Ordinance, the provided parking shall include one parking space per the largest employee shift (three of which shall be designated as clean air vehicle spaces) plus one space per on-site facility vehicle, plus three long-term bicycle spaces and one motorcycle space. The proposed project will provide enough parking spaces to meet the City's Zoning Ordinance requirements. **(Less Than Significant Impact)**

Emergency Access

Emergency access would be provided to the site via the southwestern driveway as well as the driveway entrance via the adjacent ZRRROL facility. The final site design is proposed to be consistent with regulatory requirements for fire truck access. **(Less Than Significant Impact)**

4.16.3 Conclusion

The proposed project would not result in significant transportation impacts. **(Less Than Significant Impact)**

4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Setting

While there is currently no water service to the project site, the San José Municipal Water System provides services to the Plant property to the south. A ten-inch vitrified clay sanitary siphon carrying recycled water is located along the southern portion of Los Esteros Road and bends into the Plant property near the southwestern corner of the project site.

The City of San Jose Department of Public Works is in the process of designing a secondary Alviso/Spreckles Force Main (Spreckles Pump Station Supplemental Force Main project). The new Spreckles Force Main is estimated to be operational in early 2013.

At this time there is no storm drain system in place at the project site, the nearest infrastructure is at the intersection of Grand Boulevard and Los Esteros Road, southwest of the project site.

4.17.2 Environmental Checklist and Discussion of Impact

UTILITIES AND SERVICE SYSTEMS						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	☐	1,
2) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐	1
3) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐	1
4) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐	☐	1
5) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐	1

UTILITIES AND SERVICE SYSTEMS						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
6) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	☐	1
7) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐	☐	1

4.17.2.1 *Discussion of Impacts*

The proposed project would not require construction of new facilities for wastewater treatment, storm drainage, water, or waste disposal because the subject site is located within the City of San Jose Urban Service Area where such facilities exist, and have the capacity to serve the proposed project.

Sanitary Sewer System

As mentioned above, the City of San Jose Department of Public Works is in the process of designing a secondary Alviso/Spreckles Force Main. The new Spreckles Force Main is estimated to be operational and available to facilitate the project's sewer line connection in early 2013. After completion of the Spreckles Force Main, a temporary direct connection to this new force main is possible. Planned provisions for a direct connection under the Spreckles project will include installation of a wye branch along the new force main near the frontage of the project site. The existing 10-inch asbestos concrete force main at the Plant facility will not allow a direct connection to the project site due to the structural condition of the force main. Once connected, the gravity force main under the Los Esteros Road right-of-way will adequately handle waste from the employee washroom facilities. The proposed project would not significantly increase or change the demand or capacity of existing sanitary sewer systems. The environmental analysis associated with the new sewer line pipe including construction has been analyzed in previous sections of this IS (Sections *4.3 Air Quality, 4.4 Biological Resources, 4.5 Cultural Resources, 4.9 Hydrology and Water Quality,* and *4.12 Noise).* **(Less Than Significant Impact)**

Storm Drain System

As discussed in *Section 4.9.2.1 Hydrology and Water Quality*, the proposed project will include a Stormwater Drainage Plan in accordance with City policies, specifically the Post-Construction Urban Runoff Management Policy (6-29). Surface runoff from the site would continue to be directed off-site to marsh and slough areas. The proposed project would not significantly increase or change the demand or capacity of existing storm drain systems. **(Less Than Significant Impact)**

Water Service

The project proposes to extend an 18-inch diameter water main from the nearest source at the corner of Spreckles Avenue and Grand Boulevard to the proposed driveway in the southwestern corner of

the project site (Figure 3.0-3). Water service will be provided by the City of San José Municipal Water Utility. The project may also included a recycled water and duel plumbing for the washroom facilities. Recycled water will be use for all planned irrigation. The proposed project would not significantly increase or change the demand or capacity of existing water service systems. The environmental analysis associated with the new water pipeline including construction has been analyzed in previous sections of this IS. **(Less Than Significant Impact)**

4.17.3 Conclusion

The proposed project will not result in any significant impacts to utilities or service systems. **(Less Than Significant Impact)**

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Would the project:						
1) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐	1,2,6,7, 8,10,11
2) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐	☐	1,2
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐	☐	1,2
4) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐	☐	1,2

4.18.1 <u>Project Impacts</u>

The project would not result in significant impacts to aesthetics, agricultural resources, cultural resources, greenhouse gas emissions, land use, mineral resources, population and housing, public services, recreation, transportation, or utilities and service systems.

With the implementation of the mitigation and avoidance measures included in the project and described in the air quality, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality and noise sections of this document (refer to *Section 4.0 Environmental Setting, Checklist, and Discussion of Impacts*), of this Initial Study, the proposed project would not result in significant environmental impacts.

4.18.2 Cumulative Impacts

A number of projects have been recently approved or are reasonably foreseeable in the City of San Jose in the vicinity of the project site. These include the development or redevelopment of residential, industrial, and commercial uses. While these individual projects may result in significant impacts in particular issue areas, it is assumed that the projects will comply with existing regulations and statutes, and will incorporate mitigation and avoidance measures to reduce potential impacts to a less than significant level, if necessary. For example, all projects are required to incorporate best management practices and comply with local and regional regulations to reduce impacts to water quality to the maximum extent feasible.

4.18.2.1 *Construction Impacts*

With mitigation and avoidance measures, the proposed project would also result in less than significant impacts from the effects of project construction on air quality, noise, transportation, and water quality. The construction of the anticipated or pending projects in the area would result in short-term impacts at various locations throughout the area. The cumulative project sites, however, are scattered throughout Alviso, their construction schedules are different, and their construction is likely to occur over the next several years. In addition, projects would generally be required to implement standard measures and controls to further reduce construction impacts to nearby sensitive receptors. Given these factors, the construction impacts associated with the pending projects would not result in a significant cumulative impact.

4.18.2.2 *Air Quality and Greenhouse Gas Emission Impacts*

Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. As described in *Section 4.3*, the total increase in average daily emissions of criteria pollutants from operation of the project is estimated to be below the significance thresholds established by the BAAQMD. Therefore, the project would not result in a cumulative air quality impact.

Similar to regulated air pollutants, GHG emissions and global climate change also represent cumulative impacts. The project's contribution to global climate change is discussed in *Section 4.7* in terms of the project's greenhouse gas emissions. The project and would not conflict with plans, policies or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.18.3 Short-term Environmental Goals vs. Long-term Environmental Goals

The proposed project involves development on former landfill site and would not commit resources in a wasteful or inefficient manner. The purpose of the project is to convert waste to energy. The project will divert municipal and commercial waste that would otherwise be landfilled and convert it to energy that will be used to run the proposed facility. The project would not induce substantial job or population growth or result in a large or irretrievable commitment of resources.

4.18.4 Direct or Indirect Adverse Effects

As noted previously, the project could result in hazardous materials and air quality impacts during construction that could have health effects on people. With the implementation of the mitigation and avoidance measures included in the project and described in the specific sections of this report (refer to *Section 4.0 Environmental Setting, Checklist, and Discussion of Impacts*) of this Initial Study, the proposed project would not result in substantial adverse effects on human beings.

4.18.5 Conclusion

The proposed project would not degrade the quality of the environment, reduce habitat for plant or animal species, or eliminate examples of periods of California history. The proposed project would not make a cumulatively considerable contribution towards a significant cumulative impact, achieve short-term goals to the disadvantage of long-term goals or cause adverse effects on human beings. **(Less Than Significant Impacts)**

Checklist Sources

1. Judgment of the professional planner completing the checklist, based on visual reconnaissance of the site, review of relevant background information, and professional judgment.

2. Project description and information.

3. *San José 2020 General Plan*, 2009 and *Zoning Ordinance*. Amended July 3, 2009.

4. California Department of Conservation, *2008 Important Farmlands Map*, July 2009.

5. Sierra Research. *Air Quality Impact Assessment Report Dry Fermentation Anaerobic Digestion Facility,* November 2010.

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9. Golder Associates Inc., Draft *Field Workplan Nine Par Landfill – Preliminary Site Investigation*. August 2010.

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12. Hexagon Transportation Consultants, Inc., *Trip Generation and Operations Analyses for the Proposed Anaerobic Digestion Facility on the Nine Par Site in San Jose, California*, May 2010.

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SECTION 6.0 LEAD AGENCY AND CONSULTANTS

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