



NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

The County of Ventura Resource Management Agency (RMA) Planning Division, as the designated Lead Agency, has reviewed the following project:

1. **Entitlement:** Major Modification to Conditional Use Permit (CUP) 5001 (Case No. PL13-0101)
2. **Applicant:** Agromin, Attn.: Mr. Bill Camarillo, 201 Kinetic Drive, Oxnard, CA 93030
3. **Location:** 6859 Arnold Road, Oxnard Area
4. **Assessor's Parcel Nos.:** 231-0-040-315, 231-0-080-085, and 231-0-080-070
5. **Parcel Size:** 17.42 Acres (Modified Permit Boundary is 11.44 Acres)
6. **General Plan Designation:** Agricultural
7. **Zoning Designation:** Agricultural Exclusive 40 Acre Minimum Lot Size (AE-40 ac)
8. **Responsible and/or Trustee Agencies:** Los Angeles Regional Water Quality Control Board, RMA Environmental Health Division
9. **Project Description:**

The Applicant requests a Major Modification to CUP 5001-1 (Case No. PL13-0101) for a time extension to allow for the continued operation of a composting (Large Scale Commercial Organics Processing Operation) and soil amendment facility (which includes wholesale activities) until December 31, 2030. The Composting Facility will require the following upgrades:

- Revise the boundary of CUP 5001-1 from approximately 9.77 acres to 11.44 acres. The western portions of Assessor Parcel Numbers (APN) 231-0-040-315, 231-0-080-085 and 231-0-080-070 are within the coastal zone and are excluded from the CUP. The applicant proposes the addition of approximately 3.19 acres of APN 231-0-040-315 to the CUP area to accommodate an additional fire access road and compost expansion area.
- Increase maximum onsite feedstock and active compost storage volume limit from 10,000 cubic yards to 12,500 cubic yards. Feedstock and active compost stored onsite would consist of up to 12,500 cubic yards of green material (wood, paper, agricultural waste). The Applicant is not proposing to increase the limitation on green material feedstock accepted in a single year above the currently allowed 93,000 tons per year.

- Construct fire access roads that would align with the modified CUP boundary, to provide internal circulation. The fire access roads will also contain storm runoff, which would ultimately drain to an on-site retention basin. Two new fire hydrants would be installed on APN 231-0-080-085; one fire hydrant would be located approximately 50 feet west of the existing masonry bagging/packaging building and a second hydrant 140 feet north of the existing scale house. Three fire water tanks would be removed from the site once the fire hydrant system becomes operational.
- Other proposed facility changes include the following: construction of a storm water management system comprised of a single, 0.6-acre stormwater retention basin and other related improvements to retain the 85th percentile 24-hour rain event; application of soil cement on a 0.7-acre area to be used for active composting to reduce the potential for infiltration of leachate and storm water runoff; authorization of the continued use of one onsite trailer (540-square feet in size) on APN 231-0-080-085 for storage; installation of a 30-foot high mesh litter screen along Arnold Road on the eastern boundary of APNs 231-0-080-085, and 231-0-080-070;; addition of 23 parking spaces; and installation of a berm along the new CUP boundary within APN 231-080-070.
- Permit the relocation compost and soil amendments activities from APN 231-0-040-165 to the southeast portion of the site on APN 231-0-080-085. Concrete block bunkers, associated compost, and amendments will be relocated to APN 231-0-080-085. Mixing operations will move to an existing asphalt concrete surface south of the existing masonry building. Storage of bagged amendments will be moved into the existing masonry building.
- The Agromin facility currently employs eight employees. The project would increase the number of employees to nine full- and four part-time/seasonal employees.

Wastewater service will be provided by onsite portable toilets. Water is supplied to the site by the Port Hueneme Water Agency. Access to the project site is an existing driveway off Arnold Road.

In accordance with Section 15070 of the California Code of Regulations, the RMA Planning Division determined that this proposed project may have a significant effect on the environment, however mitigation measures are available that would reduce the impacts to less than significant levels. As such, a Mitigated Negative Declaration has been prepared and the applicant has agreed to implement the mitigation measures.

List of Potentially Significant Environmental Impacts Identified:

Impacts to Public Health are reduced to less than level with the implementation of Mitigation Measure **PH MM-1 Storm Water Application Restrictions.**

Impacts to Water Resources – Groundwater Quality (WPD) are reduced to less than level with the implementation of Mitigation Measure **WR MM-1 Prevention of Infiltration of Leachate and Storm Water at Active Composting Areas and Retention Basins.**

The public review period is from April 10, 2023 to May 10, 2023. The Initial Study/Mitigated Negative Declaration is available for public review on-line at <https://vcrma.org/en/divisions/planning> (select “CEQA Environmental Review”) or at the County of Ventura, RMA, Planning Division, 800 South Victoria Avenue, Ventura, California from 8:00 am to 4:30 pm Monday through Friday. The public is encouraged to submit written comments to John Oquendo, no later than 5:00 p.m. on May 10, 2023, to the address listed above. Alternatively, you may e-mail your comments to the case planner at John.Oquendo@ventura.org.

Following the review period, consideration of the project will be given at a Planning Commission public hearing to be held **at a date to be determined** in the Board of Supervisors Hearing Room, 800 South Victoria Avenue, Ventura, CA 93009.


Jennifer Trunk, Manager
Residential Permit Section
Ventura County Planning Division

March 30, 2023
Date



County of Ventura Planning Division

800 South Victoria Avenue, Ventura, CA 93009-1740 • (805) 654-2488 • <http://www.ventura.org/rma/planning>

Initial Study for Major Modification to Agromin Composting and Soil Amendment Facility

Section A – Project Description

1. **Project Case Number:** Major Modification to Conditional Use Permit (CUP) No. 5001-1 (Case No. PL13-0101)
2. **Name of Applicant:** Bill Camarillo, Agromin, 201 Kinetic Drive, Oxnard, CA 93030
3. **Project Location and Assessor’s Parcel Numbers:** The 17.42-acre property is located at 6859 Arnold Road, west of the intersection of Arnold Road and Casper Road, in the unincorporated area of Ventura County (Attachments 1 and 2). The Tax Assessor’s parcel numbers (APNs) of the parcels that constitute the project site are 231-0-040-315, 231-0-080-085, and 231-0-080-070 (Attachment 3).
4. **General Plan Land Use Designation and Zoning Designation of the Project Site:**
 - a. **General Plan Land Use Designation:** Agricultural
 - b. **Zoning Designation:** AE-40ac (Agricultural Exclusive, 40-acre minimum lot size) and CA-40ac-sdf (Coastal Agriculture, 40-acre minimum lot size, slope/density formula)

Location in Relation to the Project Site	Zoning	Land Uses/Development
North	AE-40ac	Sod production
East	AE-40ac	Row crop cultivation
	OS-160ac (Open Space, 160-acre minimum lot size)	Open space (waterfowl ponds)
South	COS-10ac-sdf (Coastal Open Space, 10-acre minimum lot size, slope/density formula)	Open space and row crop cultivation
West	CA-40ac-sdf (Coastal Agriculture, 40-acre minimum lot size, slope/density formula)	Row crop cultivation

5. **Description of the Environmental Setting:** The project site is bordered on the north, west, and east by agricultural uses. Land south of the project site includes a coastal wetland defined as an Environmentally Sensitive Habitat Area (ESHA) pursuant to the Ventura County Coastal Zoning Ordinance (2022, § 8172-1). An

existing earthen berm, approximately 16 feet high and 15 feet wide, is located along the southwest boundary of the proposed Conditional Use Permit (CUP) area. This berm physically separates the existing composting operation from the wetland. Arnold Road is located to the east of the project site. An agricultural ditch on the east side of Arnold Road drains into Oxnard Drainage Canal #3 south of the project site. A freshwater/brackish water salt marsh wetland is located across Arnold Road approximately 100 feet to the southeast of the project site. This wetland is included in a game preserve and is partially on Naval Base Ventura County (NBVC) Point Mugu (Oxnard, 2009). The Pacific Ocean and Ormond Beach are located approximately 1,500 feet to the south of the project site. The nearest residence is located approximately one mile north of the project site (Attachments 1 and 2).

The area within the existing CUP area is heavily disturbed from the operation of a compostable materials handling facility. The facility currently accepts green material, including source separated residential landscaping materials, green material separated from municipal solid waste at materials recovery facilities, and agricultural and commercial landscaping green material.

The Agromin Facility produces three primary products, which are transferred to a retail facility on APN 231-0-040-165 which is within the City of Oxnard. These products include stabilized cured compost (may include blending on-site with other materials to meet customer specifications), mulch, and chipped wood. The Agromin Facility does not accept commercial/agricultural food material, bio-solids (wastewater treatment derived sludge), manure or mixed material (mixed with non-organics, processed industrial materials, demolition or construction debris or plastics, or greater than one percent physical contaminants [human-made inert material, including glass, metal and plastic]). CUP 5001-1 (the CUP under which the facility currently operates) limits the total volume of feedstock and compost allowed to be on-site to 10,000 cubic yards.

- 6. Project Description:** The Applicant requests a Major Modification to CUP 5001-1 (Case No. PL13-0101) for a time extension to allow for the continued operation of a composting (Large Scale Commercial Organics Processing Operation) and soil amendment facility (which includes wholesale activities) until December 31, 2030. The Composting Facility will require the following upgrades:

- Revise the boundary of CUP 5001-1 from approximately 9.77 acres to 11.44 acres. The western portions of Assessor Parcel Numbers (APN) 231-0-040-315, 231-0-080-085 and 231-0-080-070 are within the coastal zone and are excluded from the CUP. The applicant proposes the addition of approximately 3.19 acres of APN 231-0-040-315 to the CUP area to accommodate an additional fire access road and compost expansion area.
- Increase maximum onsite feedstock and active compost storage volume limit from 10,000 cubic yards to 12,500 cubic yards. Feedstock and active compost stored onsite would consist of up to 12,500 cubic yards of green material (wood,

paper, agricultural waste). The Applicant is not proposing to increase the limitation on green material feedstock accepted in a single year above the currently allowed 93,000 tons per year.

- Construct fire access roads that would align with the modified CUP boundary, to provide internal circulation. The fire access roads will also contain storm runoff to the CUP boundary, which would ultimately drain to an on-site retention basin. Two new fire hydrants would be installed on APN 231-0-080-085; one fire hydrant would be located approximately 50 feet west of the existing masonry bagging/packaging building and a second hydrant 140 feet north of the existing scale house. Three fire water tanks would be removed from the site once the fire hydrant system becomes operational.
- Other proposed facility changes include the following: construction of a storm water management system comprised of a single, 0.6-acre stormwater retention basin and other related improvements to retain the 85th percentile 24-hour rain event; application of soil cement on a 0.7-acre area to be used for active composting to reduce the potential for infiltration of leachate and storm water runoff; authorization of the continued use of one onsite trailer (540-square feet in size) on APN 231-0-080-085 for storage; installation of a 30-foot high mesh litter screen along Arnold Road on the eastern boundary of APNs 231-0-080-085, and 231-0-080-070,; addition of 23 parking spaces; and installation of a berm along the new CUP boundary within APN 231-080-070.
- Permit the relocation compost and soil amendments activities from APN 231-0-040-165 to the southeast portion of the site on APN 231-0-080-085. Concrete block bunkers, associated compost, and amendments will be relocated to APN 231-0-080-085. Mixing operations will move to an existing asphalt concrete surface south of the existing masonry building. Storage of bagged amendments will be moved into the existing masonry building.
- The Agromin facility currently employs eight employees. The project would increase the number of employees to nine full- and four part-time/seasonal employees.

Wastewater service will be provided by onsite portable toilets. Water is supplied to the site by the Port Hueneme Water Agency. Access to the project site is an existing driveway off of Arnold Road.

7. **List of Responsible and Trustee Agencies:** Los Angeles Regional Water Quality Control Board, RMA Environmental Health Division
8. **Methodology for Evaluating Cumulative Impacts:** “Cumulative impacts” refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time [California Environmental Quality Act (CEQA) Guidelines, 2014c, § 15355].

To analyze the proposed project's contribution to cumulative environmental impacts, this Initial Study relies on both the list method in part (e.g., for the analysis of impacts on biological resources) and the projection (or plans) method in part (e.g., for the analysis of cumulative traffic impacts). With regard to the list method, this Initial Study evaluated the proposed project's contribution to cumulative impacts associated with related past, present, and reasonably foreseeable probable future projects [CEQA Guidelines, 2015c, § 15064(h)(1)] – mainly those located within 5 miles of the project site and with the potential to contribute to the impact that is evaluated in this Initial Study. Attachment 5 includes a list of the pending projects within the County of Ventura and cities of Port Hueneme and Oxnard. Although all of the projects were considered in the evaluation of cumulative impacts, the cumulative impacts analysis paid particular attention to pending projects within Oxnard, Port Hueneme, and the Oxnard Plain as shown on the attached cumulative project map for the south half of the County of Ventura (Attachment 6). With regard to the projection method, this Initial Study includes an analysis of whether the project would be consistent with the requirements of a plan, regulation, or program specified by law or adopted by a public agency with jurisdiction over the affected resource, which in itself has been subject to environmental review pursuant to the CEQA Guidelines [§ 15064(h)(3)]. For instance, to address the potential cumulative adverse impacts of traffic on the Regional Road Network (RRN), County staff evaluated the proposed project in light of the Ventura County Traffic Impact Mitigation Fee (TIMF) Ordinance 4246 and policies of the Ventura County 2040 General Plan's Circulation, Transportation, and Mobility Element (2020a), which require that the Transportation Department of the Public Works Agency collect a TIMF for certain development projects. For example, Policy CTM-1.7 states that "The County shall require discretionary development that would generate additional traffic pays its pro rata share of the cost of added vehicle trips and the costs of necessary improvements to the Regional Road Network pursuant to the County's Traffic Impact Mitigation Fee Ordinance."

9. **Previous Environmental Review:** The project site was originally developed as the Del Norte Mushroom facility, which was in operation from 1960 to 1992. The facility also incorporated outdoor windrow composting as a major component of the overall mushroom growing operation. On May 7, 1998, the Ventura County Planning Commission approved CUP 5001, and adopted a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) for the operation of a composting and soil amendment facility on the project site. The MND identified that the project could have a potentially significant impact on biological resources.

In 2016, an Initial Study in support of an EIR was prepared for the Agromin Composting and Soil Amendment Facility, which analyzed a project that consisted

of the continued operation of the food and green material composting and soil amendment facility, a revised CUP boundary, an increase of onsite feedstock and compost storage from 10,000 cubic yards to 17,500 cubic yards, installation and operation of a BioReactor to process food material, and the installation of facility improvements such as a fire access road, three stormwater retention basins, and fire hydrants. The Draft EIR for the Agromin Composting and Soil Amendment Facility was circulated for public review in October 2017. Food material processing at the site ceased on April 22, 2018. A Recirculated Draft EIR [State Clearing House No. 2016101062] was recirculated for public review in December 2018 to address public and agency concerns and the revised project based on the change to the Project in April 2018.

The proposed project has been revised to reduce the proposed onsite feedstock and compost storage from 17,500 cubic yards to 12,500 cubic yards. Additionally, installation of the BioReactor and food material processing is no longer proposed, and the number of retention basins has been reduced from three to one. Preparation of this Initial Study analyzed potential impacts pursuant to the current *Ventura County Initial Study Assessment Guidelines* (2011) and available information, including the Ventura County 2040 General Plan and General Plan Background Report. This Initial Study assumes the Agromin Composting and Soil Amendment Facility would continue to operate on this project site until December 31, 2030.

Section B – Initial Study Checklist and Discussion of Responses¹

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
RESOURCES:								
1. Air Quality (VCAPCD)								
Will the proposed project:								
a) Exceed any of the thresholds set forth in the air quality assessment guidelines as adopted and periodically updated by the Ventura County Air Pollution Control District (VCAPCD), or be inconsistent with the Air Quality Management Plan?	N	X	PS-M	PS	N	X	PS-M	PS
b) Be consistent with the applicable General Plan Goals and Policies for Item 1 of the Initial Study Assessment Guidelines?	N	X	PS-M	PS	N	X	PS-M	PS

RESOURCES:

1. Air Quality (VCAPCD) Impact Discussion:

1a. The Applicant does not expect overall composting to increase compared to historical levels²; therefore, emissions from composting are not anticipated to increase. Emissions from the additional 25 vehicle trips per day (see impact discussion 27a(1)-a of this Initial Study) would not be anticipated to exceed thresholds. Therefore, based on information provided by the Applicant, air pollutant emissions would be below the 25 pounds per day threshold for reactive organic compounds and oxides of nitrogen as described in the Ventura County Air Quality Assessment Guidelines. Therefore, the project would not have a significant impact on regional air quality.

Local Air Quality Impacts

Based on information in the project application, the project would result in local air quality impacts (odors and fugitive dust) but those impacts would be less than significant. This conclusion is based on the requirement that the Permittee comply with all applicable Ventura County Air Pollution Control District (VCAPCD) Rules and Regulations,

¹ The threshold criteria in this Initial Study are derived from the *Ventura County Initial Study Assessment Guidelines* (April 26, 2011). For additional information on the threshold criteria (e.g., definitions of issues and technical terms, and the methodology for analyzing each impact), please see the *Ventura County Initial Study Assessment Guidelines*.

² The historical levels referred is based upon the 12,500 cubic yards maximum storage volume allowed on site as the facility is operated as a Green Material Composting Operation.

conditions of VCAPCD Permit to Operate and Authority to Construct No. 07369-150 which governs the project site, CUP conditions, Arnold Road Facility Dust Suppression Protocol (June 2020) (Attachment 7), and the Odor Impact Minimization Plan (May 2020) (Attachment 8). These requirements would reduce air quality emissions from the project site. Therefore, the proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, regarding air quality.

1b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies referenced for Item 1 of the Ventura County Initial Study Assessment Guidelines (refer to the Hazards and Safety Element, Section 7.10 Air Quality).

Mitigation/Residual Impact(s)

Compliance with the project conditions would ensure success of the ongoing programs and efforts to minimize fugitive dust, particulate matter, and creation of ozone precursor emissions that may result from composting materials stockpiled and stored onsite, and all other activities associated with project composting. Therefore, potential impacts on air quality would be less than significant and no additional mitigation is required.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
2A. Water Resources – Groundwater Quantity (WPD)								
Will the proposed project:								
1) Directly or indirectly decrease, either individually or cumulatively, the net quantity of groundwater in a groundwater basin that is overdrafted or create an overdrafted groundwater basin?		X				X		
2) In groundwater basins that are not overdrafted, or are not in hydrologic continuity with an overdrafted basin, result in net groundwater extraction that will individually or cumulatively cause overdrafted basin(s)?		X				X		
3) In areas where the groundwater basin and/or hydrologic unit condition is not well known or documented and there is evidence of overdraft based upon declining water levels in a well or wells, propose any net increase in groundwater extraction from that groundwater basin and/or hydrologic unit?		X				X		
4) Regardless of items 1-3 above, result in 1.0 acre-feet, or less, of net annual increase in groundwater extraction?		X				X		
5) Be consistent with the applicable General Plan Goals and Policies for Item 2A of the Initial Study Assessment Guidelines?		X				X		

2. Water Resources

A. Groundwater Quantity Impact Discussion:

2A-1 through -4. Water for the project is supplied by the Port Hueneme Water Agency. Implementation of the proposed project would result in an estimated water demand of 20 acre-feet/year (AFY). The project Will Serve letter (dated July 18, 2013) from the Port Hueneme Water Agency states they are committed to supplying up to 20 acre-feet/year (AFY) of water to the Agromin facility. The Port Hueneme Water Agency indicated in

August 2020 that the Will Serve letter remains in effect and that water is available to serve the facility.

An Urban Water Management Plan (UWMP) was prepared for the Port Hueneme Water Agency in 2015 which demonstrates availability of a 20-year supply of both local groundwater and imported State Water. The Port Hueneme Water Agency completed the 2020 UWMP in July 2021 to compare water supply and demand through the year 2045. Groundwater is provided under contract by United Water Conservation District (UWCD) and pumping is limited by allocation within the Fox Canyon Groundwater Management Agency (FCGMA). Some of the aquifers pumped by UWCD within the Oxnard plain aquifer are currently in overdraft and listed as high priority due to overdraft by the California Department of Water Resources pursuant to the Sustainable Groundwater Management Act. The UWMP addresses the possibility that groundwater supplies may be subject to restrictions in the future and finds that, based on its analysis of the PHWA's current/projected water supply sources, PHWA will need to seek additional water supply sources by 2035 in order to meet demands in 2040 and 2045.

The project would not require extraction of groundwater on the project site. However, increased water demand could increase groundwater extractions by the Port Hueneme Water Agency to provide water supply to the project. Extractions of groundwater in accordance with the Fox Canyon Groundwater Management Agency allocation system do not have the potential to cause or contribute to long-term overdraft because the Fox Canyon aquifer is a managed and regulated groundwater source. Therefore, the proposed project would have a less-than-significant impact on groundwater resources and would not result in a cumulatively considerable contribution to a significant cumulative impact on groundwater resources.

2A-5. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies referenced for Item 2A of the Ventura County Initial Study Assessment Guidelines (refer to the Water Resources Element, Section 9.1 Water Supply).

Mitigation/Residual Impact(s)

Potential impacts on groundwater extraction will be less-than-significant and no additional mitigation is required.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
2B. Water Resources - Groundwater Quality (WPD)								
Will the proposed project:								
1) Individually or cumulatively degrade the quality of groundwater and cause groundwater to exceed groundwater quality objectives set by the Basin Plan?			X				X	
2) Cause the quality of groundwater to fail to meet the groundwater quality objectives set by the Basin Plan?		X				X		
3) Propose the use of groundwater in any capacity and be located within two miles of the boundary of a former or current test site for rocket engines?	X				X			
4) Be consistent with the applicable General Plan Goals and Policies for Item 2B of the Initial Study Assessment Guidelines?		X				X		

B. Groundwater Quality Impact Discussion:

2B-1, -2. The proposed compost expansion area will cover approximately 3.19 acres on APN 231-0-040-315. This area is located on sandy silt soils (RJR Engineering Geotechnical Report, December 12, 2012; Attachment 15) and is approximately 100 feet north of designated wetlands. The State Water Resources Control Board Waste Discharge Requirement (WDR) for Commercial Composting Operations (Order WQ 2020-0012-DWQ adopted April 7, 2020, which amended Order WQ 2015-0121-DWQ), requires soil hydraulic conductivity for working areas in compost operations (Tier II facility) to be 1.0×10^{-5} centimeters/second or less. Compostable materials may contain nutrients, metals, salts, pathogens, and oxygen-reducing compounds that can degrade water quality if allowed to migrate into groundwater or surface water. Composting typically results in release of water from the feedstock material as biological decomposition occurs, and water is applied to maintain optimal moisture content. The released and applied water becomes leachate and if sufficient in volume will drain from the compost pile. Precipitation that falls on, or water that is applied to the compost piles may also result in liquid draining from the compost piles. These liquids (leachate and storm run-off) may contain nutrients, metals, salts, pathogens, and/or oxygen reducing compounds that may contaminate underlying groundwater aquifers. Additionally, composting nutrient rich feedstocks on more permeable soil has the potential to create elevated nitrate concentrations in

groundwater (RWQCB, 2015). All existing composting structures have concrete flooring which provides a semi-impervious barrier to protect groundwater. Approximately 1.0 acres on APN 231-0-040-315 would be utilized as an expansion area for active composting. Given the high hydraulic conductivity of the soil and the shallow subsurface aquifer, it is unlikely that the soils in the proposed expansion composting area would meet the permeability requirement in their native state. Rainwater, applied water, and leachate, passing through the compost could infiltrate into and deliver contaminant to shallow groundwater. This shallow groundwater could cause seepage of pollutants into the marsh and estuary. The Applicant has developed a Containment Area for Composting Processing Operations Plan, Agromin, (dated May 2020) (Attachment 10). The potential to degrade groundwater quality can be reduced to less-than-significant if the expansion area where active composting is to be conducted is treated with a soil cement mixture to meet the hydraulic conductivity requirements as established in the Containment Area for Composting Processing Operations Plan identified as Mitigation Measure WR MM-1. Sanitation would continue to be provided by onsite portable toilets as approved by the Environmental Health Division. The proposed project does not have the potential, either individually or cumulatively, to degrade the quality of the groundwater and cause groundwater to fail to meet the groundwater quality objectives set by the Basin Plan and would have a less-than-significant impact on groundwater quality and would not result in a cumulatively considerable contribution to a significant cumulative impact on groundwater quality.

2B-3. The project site is not located within 2 miles of a former rocket engine test site.

2B-4. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies referenced for Item 2B of the *Ventura County Initial Study Assessment Guidelines* (refer to the Water Resources Element, Section 9.2 Water Quality).

Mitigation/Residual Impact(s)

Impacts to groundwater quality would be less than significant with implementation of the Containment Area for Composting Processing Operations Plan (Attachment 10) and compliance with State Water Resources Control Board Waste Discharge Requirements under Mitigation Measure WR MM-1.

WR MM-1 Prevention of Infiltration of Leachate and Storm Water at Active Composting Areas and Retention Basins (WR MM-1) :

Purpose: The purpose of this condition of approval is to ensure the implementation of Mitigation Measure WR MM-1 of the Mitigated Negative Declaration for the Project. In order to ensure that the increase in the volume of feedstock and compost on-site will not result in an increased potential for groundwater contamination.

Requirement: In compliance with the General Waste Discharge Requirements for Composting Operations, hydraulic conductivity shall be reduced to less than 1.0×10^{-5} centimeters per second in proposed active composting areas and reduced to less than 1.0×10^{-6} centimeters per second in the storm water retention basins.

Active composting areas shall be lined with soil cement with a cement content of at least 12 percent consistent with recommendations provided by Earth Systems (2016), or an equivalent system demonstrated to meet the 1.0×10^{-5} centimeters per second hydraulic conductivity standard.

Retention basins shall be lined with a 40 mil geomembrane liner system (60 mil if high-density polyethylene) underlain by a compacted clay or a geosynthetic clay liner, or an equivalent liner system demonstrated to meet the 1.0×10^{-6} centimeters per second hydraulic conductivity standard.

Soil cement within active composting areas shall be inspected weekly for any damage that would compromise meeting the hydraulic conductivity standard and repaired within two working days.

Documentation: A copy of the approved site plan depicting compliance with the Prevention of Infiltration of Leachate and Storm Water at Active Composting Areas and Retention Basins Mitigation Measure.

Timing: Prior to the issuance of a Zoning Clearance for construction, the Permittee shall submit detailed plans (i.e. site plan, plan view, elevation views) of each active compost area and stormwater retention areas to the Planning Division for review and approval. The Permittee shall implement the Prevention of Infiltration of Leachate and Storm Water at Active Composting Areas and Retention Basins requirement prior to Zoning Clearance for Use Inauguration.

Monitoring and Reporting: The Planning Division maintains all documentation and reporting related to the implementation of the Leachate and Storm Water requirement. The Planning Division, the Ventura County Environmental Health Division and the Ventura County Public Works Agency have the authority to inspect the site to confirm the Leachate and Storm Water requirement has been implemented consistent with the requirements of § 8114-3 of the Ventura County Non-Coastal Zoning

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
2C. Water Resources - Surface Water Quantity (WPD)								
Will the proposed project:								
1) Increase surface water consumptive use (demand), either individually or cumulatively, in a fully appropriated stream reach as designated by SWRCB or where unappropriated surface water is unavailable?		X				X		
2) Increase surface water consumptive use (demand) including but not limited to diversion or dewatering downstream reaches, either individually or cumulatively, resulting in an adverse impact to one or more of the beneficial uses listed in the Basin Plan?		X				X		
3) Be consistent with the applicable General Plan Goals and Policies for Item 2C of the Initial Study Assessment Guidelines?		X				X		

C. Surface Water Quantity Impact Discussion:

2C-1, -2. Water for the project would be supplied by the Port Hueneme Water Agency. Port Hueneme Water Agency uses a combination of groundwater and imported surface water. Groundwater is provided under contract by United Water Conservation District (UWCD). Imported surface water is provided to Calleguas Municipal Water District (CMWD) by the Metropolitan Water District of Southern California (MWD) through the California Aqueduct. The project Will Serve letter (dated July 18, 2013) from the Port Hueneme Water Agency states they are committed to supplying up to an estimated 20 AFY of water to the Agromin facility. The Port Hueneme Water Agency indicated in August 2020 that the Will Serve letter remains in effect and that water is available to serve the facility.

The volume of surface water provided is subject to many types of water transfers originating at the California Aqueduct, however no local surface water supplies are collected and sold. The surface water supplies purveyed by the Port Hueneme Water Agency are limited by the entitlement held by that agency. The “entitlement” to water supplies generated by the State Water Project (SWP) held by an agency is a percentage of the total available yield (i.e., the total water deliveries) of the SWP. This yield is a fixed value that may change through refinements in system analysis or the installation of new facilities. In any case, the proposed project would not have any measurable effect on the

surface waters tapped by the SWP because Port Hueneme Water Agency is not exceeding their entitlement to this supply. The proposed project would have a less than significant project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to the quantity of surface water.

2C-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies referenced for Item 2C of the *Ventura County Initial Study Assessment Guidelines* (refer to the Water Resources Element, Section 9.1 Water Supply).

Mitigation/Residual Impact(s)

Potential impacts on surface water consumption would be less-than-significant and no additional mitigation is required.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
2D. Water Resources - Surface Water Quality (WPD)								
Will the proposed project:								
1) Individually or cumulatively degrade the quality of surface water causing it to exceed water quality objectives as contained in Chapter 3 of the three Basin Plans?		X				X		
2) Directly or indirectly cause storm water quality to exceed water quality objectives or standards in the applicable MS4 Permit or any other NPDES Permits?		X				X		
3) Be consistent with the applicable General Plan Goals and Policies for Item 2D of the Initial Study Assessment Guidelines?		X				X		

D. Surface Water Quality Impact Discussion:

2D-1 and 2D-2. The construction of the proposed improvements would involve soil disturbance of greater than one acre and would be subject to the requirements of the State Water Resources Control Board’s National Pollutant Discharge Elimination Permit (NPDES) statewide *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order No 2010-0014-DWQ) unless the project can demonstrate that it qualifies for a waiver to this permit. In compliance with this permit, a Stormwater Pollution Prevention Plan (SWPPP) would be required to be

prepared and Best Management Practices (BMPs) implemented during construction. BMPs would include Erosion Control BMPs and Sediment Control BMPs to reduce erosion and retain sediment on the site and Good Housekeeping BMPs to reduce risk of spills. Additionally, in accordance with the Los Angeles Regional Water Quality Control Board's Ventura Countywide Municipal Stormwater NPDES Permit (MS4 Permit) Order R4-2010-0108, "Development Construction Program" Subpart 4.F, the Applicant would be required to implement BMPs designed to ensure compliance and implementation of an effective combination of erosion and sediment control measures to protect surface water quality during construction.

Approximately 1.1 acres (47,916 sf. square feet) of impervious surfaces would be added to the project site, which would increase stormwater runoff. The Applicant is proposing to retain storm flow to a 100-year undeveloped peak flow condition through the installation of a 0.6-acre retention basin. During operation of the facility, the Applicant would be required to maintain coverage under the State Water Resources Control Board's statewide NPDES *General Permit for Storm Water Discharges Associated with Industrial Activities* (Order WQO-2014-0057). The project's ongoing composting operations are subject to compliance with all water quality provisions in accordance with State Water Resources Control Board's statewide NPDES *General Waste Discharge Requirements for Commercial Composting Operations* (Order WQ 2020-0012-DWQ, which amended Order WQ 2015-0121-DWQ). Pursuant to the requirements of these NPDES permits, compost operations would be designed to contain stormwater on the project site. Process areas would be protected from inundation from a 25-year, 24-hour rainfall event. An existing earthen berm approximately 16 feet high and 15 feet wide separates the composting operation from a coastal wetland and Drainage Canal #3, located south of the project area. One proposed retention basin, an elevated fire access roadway, and an elevated berm along the southern and western CUP boundary that extends to the northwest part of the project site, would retain stormwater on the site and hydraulically block any runoff from draining south and west. Surface runoff within the facility is also collected and applied to the compost windrows. During the rainy season, sandbags would be utilized to prevent inundation of the project site during storm events, particularly along Arnold Road at the facility entrance. According to the Containment Area Plan (Attachment 10), a minimum of 200 pre-filled and 1,000 empty sandbags would be stored on site at all times. Once a storm event begins, the project site would be constantly monitored to ensure there is no discharge leaving or entering the project site.

Based on the design of the facility and compliance with the applicable NPDES permits, the proposed project would not individually or cumulatively degrade the quality of surface water causing it to exceed water quality objectives or standards contained in Chapter 3 of the Los Angeles Regional Water Quality Control Board's Basin Plan, applicable MS4 Permit, or any other NPDES permits. Therefore, the proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to surface water quality.

2D-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies referenced for Item

2D of the *Ventura County Initial Study Assessment Guidelines* (refer to the Water Resources Element, Section 9.2 Water Quality).

Mitigation/Residual Impact(s)

The proposed project is subject to a discretionary permit (NCZO §8105-5) that must comply with Ventura County’s stormwater regulations, the County’s MS4 Permit, and the NPDES permit objectives. Potential impacts on surface water quality would be less-than-significant and no additional mitigation is required.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
3A. Mineral Resources – Aggregate (Plng.)								
Will the proposed project:								
1) Be located on or immediately adjacent to land zoned Mineral Resource Protection (MRP) overlay zone, or adjacent to a principal access road for a site that is the subject of an existing aggregate Conditional Use Permit (CUP), and have the potential to hamper or preclude extraction of or access to the aggregate resources?	X				X			
2) Have a cumulative impact on aggregate resources if, when considered with other pending and recently approved projects in the area, the project hampers or precludes extraction or access to identified resources?					X			
3) Be consistent with the applicable General Plan Goals and Policies for Item 3A of the Initial Study Assessment Guidelines?	X				X			

3. Mineral Resources

A. Aggregate Impact Discussion:

3A-1, 3A-2. The project site is not located within a Mineral Resources Protection (MRP) Overlay Zone or located within or adjacent to areas with known mineral deposits. According to the County map of mineral resource zones (Figure 8-9 of the Ventura County 2040 General Plan Update Background Report), the project site is located in MRZ-1 which are areas where adequate geologic information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.

The project site is not located adjacent to a principal access road for a site that is the subject of an aggregate extraction CUP. Therefore, the proposed project does not have the potential to create a project-specific impact or result in a cumulatively considerable contribution to a cumulative impact, related to the extraction of or access to aggregate resources.

3A-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies referenced for Item 3A of the *Ventura County Initial Study Assessment Guidelines* (refer to Conservation and Open Space Element, Section 6.5 Soil and Mineral Resources).

Mitigation/Residual Impact(s)

Because no significant impacts on mineral resources have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
3B. Mineral Resources – Petroleum (Plng.)								
Will the proposed project:								
1) Be located on or immediately adjacent to any known petroleum resource area, or adjacent to a principal access road for a site that is the subject of an existing petroleum CUP, and have the potential to hamper or preclude access to petroleum resources?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 3B of the Initial Study Assessment Guidelines?	X				X			

B. Petroleum Impact Discussion:

3B-1. The project site is not located within, or immediately adjacent to, any known petroleum resource area, or adjacent to a principal access road for a site that is the subject of an existing petroleum CUP. Therefore, the proposed project does not have the potential to hamper or preclude access to petroleum resources, would not impact these resources, and would not result in a cumulatively considerable contribution to a significant cumulative impact related to petroleum resources.

3B-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies referenced for Item

3B of the *Ventura County Initial Study Assessment Guidelines* (refer to Conservation and Open Space Element, Section 6.6 Oil and Gas Resources).

Mitigation/Residual Impact(s)

Because no significant impacts on mineral (petroleum) resources have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
4. Biological Resources								
4A. Species								
Will the proposed project, directly or								
1) Impact one or more plant species by reducing the species' population, reducing the species' habitat, fragmenting its habitat, or restricting its reproductive capacity?	X				X			
2) Impact one or more animal species by reducing the species' population, reducing the species' habitat, fragmenting its habitat, or restricting its reproductive capacity?		X				X		

4. Biological Resources

A. Species Impact Discussion:

4A-1, A-2. As discussed in the Initial Study Biological Assessment (September 9, 2013) (Attachment 11), the area within the existing CUP boundary is heavily disturbed, lacks native habitat, and does not support special status plant species. The modified CUP boundary would remove all areas within the designated coastal zone (1.52 acres) and expand northerly onto APN 231-0-040-315 (3.19 acres). No sensitive plant communities or native vegetation occurs on land to be included in the modified CUP boundary. The proposed project would not directly affect special status plant species.

The Ormond Beach wetland-dune complex adjacent to the southern boundary of the CUP is widely recognized as being biologically rich. According to the December 2018 Recirculated Draft Environmental Impact Report [State Clearing House No. 2016101062], eight special status plant species occur or have potential to occur in the vicinity of the CUP boundary: salt marsh bird's-beak, estuary seablite, Ventura marsh milk-vetch, Coulter's Goldfields, Mexican malacothrix, red sand verbena, California sea-blite, Southwestern spiny rush. Additionally, six of the eight special status plant species occur or have potential to occur in the coastal salt marsh south of the CUP boundary. A disturbed southern coastal salt marsh is located directly south and southwest of the CUP

boundary but is physically separated by an existing earthen berm approximately 16 feet high and 15 feet wide. Proposed improvements include elevating the fire access road along the western CUP boundary and construction of an onsite retention basin to control stormwater runoff. These improvements are shown in the project site plans in Attachment 4 of this Initial Study. Because of the degraded or developed nature of the project site, together with existing and proposed impoundments that prevent surface run-off from entering the adjacent coastal salt marsh, there is no potential for special-status plant species to occur and no indirect, or contribution to cumulatively considerable impacts will result from the proposed project.

4A-2. The area within the proposed CUP boundary does not contain sensitive plant communities or native vegetation that would support special status animal species. The proposed project would have no direct impacts on special status animal species. However, the proposed project could have indirect effects on special status animal species. According to the December 2018 Recirculated Draft Environmental Impact Report, eighteen special-status species have a moderate to high potential to occur within 0.5 miles of the project site. These include globose dune beetle, senile tiger beetle, sandy beach tiger beetle, wandering skipper, western snowy plover, loggerhead shrike, California least tern, American bittern, white-faced ibis, tri-colored blackbird, white-tailed kite, peregrine falcon, California horned lark, northern harrier, Cooper's hawk, Belding's savannah sparrow, light-footed clapper rail and southern California saltmarsh shrew. These species do not occur on the project site due to the lack of suitable habitat, ongoing composting operations, active bird deterrence measures and the perimeter berm.

Ormond Beach, located approximately 800 feet south of the CUP boundary, and NBVC Point Mugu, the western boundary of which is located approximately 500 feet south of CUP boundary, provide nesting habitat for a variety of birds including the following special status shorebirds:

1. Western Snowy Plover (WSP) (federally threatened, state species of special concern). U.S Fish and Wildlife Service (USFWS) designated WSP critical habitat (unit CA 39) begins directly south of Oxnard Drainage Canal #3, approximately 650 feet to the south of the CUP boundary.³ Critical habitat unit CA 39 can support up to 50 breeding pairs of WSP (USFWS 2012). WSP nest on open, sandy beaches proximal to the ocean. Offspring must feed on their own on the exposed beach as soon as they hatch, making the chicks vulnerable to predation. During the 2014 breeding season, WSP population averages varied from a high of 70 in March as migrating flocks came through the area to six in May as birds chose their nesting territories. The first three nests were recorded on March 31st and a total of ten WSP nest attempts were located and documented over the season. Of these, five nests hatched at least one chick for a hatching success of 50 percent (Barringer 2015). Nesting season extends from early February through late September in southern California.

³ Sub-unit 39 does not include the CLT and WSP colonies directly to the east on Ormond Beach (from Arnold road to Mugu lagoon (Ormond Beach East), that are under the management of NBVC Pt. Mugu.

2. California Least Tern (CLT) (federally and state endangered). During the 2014 breeding season, adult CLTs were first observed flying over Ormond Beach on May 23rd and CLT nests were first located on May 30th. A total of 22 nests were initiated at Ormond Beach in 2014. All nests were located within the fenced northern survey area. Of these, only four nests hatched a total of seven eggs and no fledglings were directly observed during weekly visits. The primary reason for nest failure was abandonment prior to hatching. Adult CLTs seemed to have abandoned the Ormond Beach nesting area altogether by July 2 even though eggs on nests were still present (Barringer 2015). CLT also prefer open sandy areas but can nest further inland. Their offspring feed typically on small fish brought to them by adult birds; juveniles are more vulnerable to predation as fledglings (more than 20 days old). Because CLT nest close to shoreline areas where prey is abundant, the birds are often forced to concentrate their colonies in areas that are too small, making them more vulnerable to predation and disturbance.

As discussed in the December 2018 Recirculated Draft Environmental Impact Report, Ormond Beach and NBVC Point Mugu are in the southern portion of Recovery Unit 5 for the Western snowy plover. Recovery Unit 5 includes areas from northern San Luis Obispo County to southern Ventura County. The Western Snowy Plover Recovery Plan includes recovery goals for each nesting area within each Recovery Unit. Ormond Beach has a recovery goal of 50 nesting birds, and NBVC Point Mugu has a recovery goal of 110 nesting birds. A similar designation of Recovery Units has not been created for California least terns, but recovery goals for down-listing and delisting criteria for the species are addressed in the USFWS 1985 California Least Tern Recovery Plan and 2006 California Least Tern 5-year Review Summary and Evaluation.

As discussed in the December 2018 Recirculated Draft Environmental Impact Report, predation has been shown to be a substantial limiting factor for populations of WSP and CLT. The loss of a substantial percentage of nests, chicks, and fledglings reduces the recruitment of individuals into the adult population, leading to a shift of the age class distribution of the population towards older individuals that may have lower reproductive potential. Predation of WSP and CLT eggs, chicks, and fledglings by gulls, common ravens, and other potential aerial predatory species subsidized by anthropogenic food sources, including landfills and other solid waste management activities, may be detrimental to the recovery of WSP and CLT. In general, predators subsidized by anthropogenic food resources are more likely to cause the extinction of a less common species (e.g., threatened and endangered species) because these predators are not dependent on prey populations, and their numbers do not decrease as prey populations decline.

Other special status bird species observed nesting in the southern salt marsh habitat include the Belding's savannah sparrow (state endangered) and light-footed clapper rail (federally and state endangered). More specifically, recorded occurrences include areas located to the south of the Oxnard Drainage Canal #3, approximately 650 feet south of the CUP boundary, and the light-footed clapper rail also occurs approximately 500 feet south of the project boundary at NBVC Point Mugu. The Belding's savannah sparrow and light-footed clapper rail nest unexposed in dense salt marsh vegetation; they are cryptic and relatively hidden from view from scavenger birds. Scavenging birds are not an

important predator of the nests of Belding's savannah sparrow and light-footed clapper rail (USFWS, 2009; Powel 2006). Outside NBVC Point Mugu, the Belding's savannah sparrow and light-footed clapper rail are not subject to an ongoing monitoring program.

Because aerial predatory species are attracted to anthropogenic food sources, including landfills and other solid waste management activities, attraction of these birds to the project site is of particular concern as they may prey on WSP and CLT. The proposed project would increase the cubic yards of feedstock and active compost allowed on the project site at any one time, from the current CUP limit of 10,000 cubic yards to 12,500 cubic yards. Food material would not be processed on the project site. Food material receipt and composting was terminated in April 2018 following expiration of the Enforcement Agency Notification for the Covered Aerated Static Pile system. As discussed in the Predatory Bird Management Plan (June 2020), food material is the primary attractant to gulls and ravens which may adversely affect adjacent breeding populations of WSP and CLT. Because the project would not include processing of food material, the primary attractant for scavenging birds which could prey on WSP or CLT would not be present on the project site. Therefore, the proposed project would not increase natural predation compared to existing conditions. The proposed project is not anticipated to result in indirect impacts to WSP and CLT.

Additionally, the Applicant is committed to implementing a Predatory Bird Management Plan (Attachment 12). As part of the plan, a monitoring program would be implemented to quantify attraction of predatory birds to the project site. Based on the results on the monitoring, predatory bird deterrent measures would be implemented. The objective of the Predatory Bird Management Plan is to ensure compatibility with conservation efforts outlined in the USFWS 2007 Recovery Plan for Western Snowy Plovers and the USFWS 1985 California Least Tern. The Predatory Bird Management Plan relies on adaptive management to identify the most successful abatement techniques for use at this particular site. Deterrent methods that are unsuccessful, either because they are potentially harmful to the special status species or because the species has adapted to certain abatement measures, would be replaced with new strategies or a combination of existing deterrent strategies. The Predatory Bird Management Plan would use the following approach and techniques:

- Bird wires with Mylar flags will continue to be strung over the exposed compost piles and on the Organic Materials Blending Area Building.
- Netting would also be employed to exclude gulls from small, confined areas, but may not be feasible if non-targeted bird species get entangled.
- Noisemaker shells fired from pistols and/or shotguns would be used as a temporary dispersal tool, however potential impacts on special-status species from this deterrent strategy is not conclusive and proposed monitoring would assess any potential impacts.
- Hand-held lasers would be used to move birds from one area of the project site to another, however they are less effective during bright daylight at moving birds entirely away from facilities, or for extended periods of time.
- Daily deployment of captive Harris's hawks (*Parabuteo unicinctus*) to disperse avian scavengers for extended periods of time.

The use of handheld lasers must comply with the Federal Aviation Administration Modernization and Reform Act of 2012, Title III, Subtitle A, Section 311, which prohibits a person from knowingly aiming a beam of a laser pointer at an aircraft in the special aircraft jurisdiction of the United States, or at the flight path of such an aircraft. The use of noisemaker shells fired from pistols or shotguns could in themselves result in disturbance to nesting or foraging special status birds in the vicinity of the site. Further evaluation of this strategy is necessary to determine the effectiveness as a deterrent. The theoretical end result is that these deterrent methods would reduce predatory bird levels, and at any given time, only a few searching scavengers would be present at the facility and would be unsuccessful at finding food sources.

Indirect impacts to special-status animal species from squirrels and rats would be addressed through the Vector Control Plan (May 2020) (Attachment 9). State law requires that operators of composting facilities “take adequate steps to control or prevent the propagation, harborage or attraction of flies, rodents, or other vectors and to minimize bird problems” (CCR, Title 27 § 20810). The proposed Vector Control Plan includes measures for controlling rodent populations at the facility, including maintaining a trash-free area; removing excess compost/waste materials from along the walls of buildings; storing finished materials on pallets; keeping onsite landscaping trimmed to reduce cover for rodents; and, utilizing traps if necessary. No anti-coagulants will be used to control rodent populations. The proposed Vector Control Plan includes the following rodent control methods:

- Trash and debris management and removal
- Removal of excess compost from along the walls of buildings
- Prohibiting stacking of building material within buildings and structures
- Storing of finished material on pallets
- Landscape management
- Rodent trapping, including prohibition on use of rodenticides (anti-coagulants) as trap bait

Because the project would not attract additional predators to the site compared to existing baseline conditions, and a Predatory Bird Management Plan and Vector Control Plan would be implemented to further reduce predators and rodents on the site, the proposed project would have less-than-significant direct or indirect impacts and a less-than-significant contribution to cumulatively considerable impacts on sensitive animal communities.

Mitigation/Residual Impact(s)

Because no significant impacts on sensitive plant or animal species have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
4B. Ecological Communities - Sensitive Plant Communities								
Will the proposed project:								
1) Temporarily or permanently remove sensitive plant communities through construction, grading, clearing, or other activities?		X				X		
2) Result in indirect impacts from project operation at levels that will degrade the health of a sensitive plant community?		X				X		

B. Sensitive Plant Communities Impact Discussion:

4B-1 and 4B-2. As discussed in the Initial Study Biological Assessment (September 9, 2013) (Attachment 11), the area within the existing CUP boundary is heavily disturbed, lacks native habitat, and does not support sensitive plant communities. The modified CUP boundary would remove all areas within the designated coastal zone (1.52 acres) and expand northerly onto parcel 231-0-040-315 (3.19 acres). The proposed compost expansion area would be located in an area not previously a part of the approved CUP; however, no sensitive plant communities or native vegetation occurs on land to be included in the modified CUP boundary. The new area to be included within the CUP boundary consists of vacant land that is heavily disturbed and lacks natural habitat. Excavation and grading for the proposed water lines and proposed retention basin would occur in previously disturbed areas. No exotic weeds would be intentionally introduced since the proposed project does not include landscaping, and landscaping is not required for large-scale composting operations (NCZO section 8107-36.4.2). The adjacent coastal salt marsh is a sensitive and locally important community that provides transitional habitat along the margins of bays, lagoons, and estuaries from Point Conception to the Mexican border. An earthen berm, approximately 16 feet high and 15 feet wide, is located along the CUP southern boundary and physically separates development from the coastal salt marsh area. Proposed improvements include elevating the fire access road, constructing a berm along the western CUP boundary that would also extend to the northwest part of the project site, and constructing an onsite retention basin to prevent stormwater runoff from entering the adjacent coastal salt marsh. Indirect impacts on sensitive plant communities from construction of the fire access road and berm and other improvements are anticipated to be less-than-significant. Therefore, the proposed project would have less-than-significant direct or indirect impacts and a less-than-significant contribution to cumulatively considerable impacts on sensitive plant communities.

Mitigation/Residual Impact(s)

Because no significant impacts on sensitive plant communities have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
4C. Ecological Communities - Waters and Wetlands								
Will the proposed project:								
1) Cause any of the following activities within waters or wetlands: removal of vegetation; grading; obstruction or diversion of water flow; change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; or any disturbance of the substratum?	X				X			
2) Result in disruptions to wetland or riparian plant communities that will isolate or substantially interrupt contiguous habitats, block seed dispersal routes, or increase vulnerability of wetland species to exotic weed invasion or local extirpation?	X				X			
3) Interfere with ongoing maintenance of hydrological conditions in a water or wetland?	X				X			
4) Provide an adequate buffer for protecting the functions and values of existing waters or wetlands?	X				X			

C. Ecological Communities – Waters and Wetlands Impact Discussion:

4C-1, 4C-2, 4C-3, and 4C-4. 4C-1, -2, -3, and -4. As discussed in the Initial Study Biological Assessment (September 9, 2013) (Attachment 11), there are no water or wetland features present within the existing or proposed CUP boundary. An agricultural ditch is located east of Arnold Road. A freshwater/brackish wetland salt marsh begins approximately 100 feet to the southeast of the project site, and across Arnold Road, within a game preserve and NBVC Point Mugu. The southern coastal salt marsh to the south of the CUP boundary, which has been substantially reduced in extent from historical

dimensions, is characterized by highly productive herbaceous salt-tolerant hydrophytes, particularly species such as pickleweed (*Salicornia sp.*).

The existing composting operation was permitted within a 100-foot buffer from the coastal salt marsh to the south, consistent with the qualified biologist’s recommendation for a 50-foot buffer between a greenhouse that was originally proposed on the project site (and which is now a parking and storage area) and the coastal salt marsh (Attachment 11, Initial Study Biological Assessment). The proposed compost expansion area would be located over 350 feet from the coastal salt marsh.

Project activities would have the potential to generate dust and other air quality contaminants. This could have impacts to water quality in adjacent wetlands; however, compliance with the Arnold Road Facility Dust Suppression Protocol (June 2020) (Attachment 7) as required by the VCAPCD would reduce impacts associated with excessive dust to a less-than-significant level. The Applicant would be required to maintain coverage under the State Water Resources Control Board’s statewide NPDES *General Permit for Storm Water Discharges Associated with Industrial Activities* (Order WQO-2014-0057). Additionally, the project’s ongoing composting operations are subject to compliance with all water quality provisions in accordance with the State Water Resources Control Board’s statewide NPDES *General Waste Discharge Requirements for Commercial Composting Operations* (Order WQ 2020-0012-DWQ, which amended Order WQ 2015-0121-DWQ). Pursuant to this NPDES permit, compost operations must be designed to contain stormwater and wastewater onsite. An earthen berm, approximately 16 feet high and 15 feet wide, is located along the CUP southern boundary and is proposed to extend along the southern and western CUP boundary to the northwest part of the project site. This berm would physically separate development on the project site from the coastal salt marsh area. The proposed retention basin and an elevated fire access road will also ensure stormwater is retained onsite. Additionally, surface runoff within the facility is collected on the project site, then recycled and sprayed on into the compost windrows. Thus, no direct or indirect contribution to cumulatively considerable impacts on waters and wetlands would occur.

Mitigation/Residual Impact(s)

Because no significant impacts on wetlands have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
4D. Ecological Communities - ESHA (Applies to Coastal Zone Only)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Temporarily or permanently remove ESHA or disturb ESHA buffers through construction, grading, clearing, or other activities and uses (ESHA buffers are within 100 feet of the boundary of ESHA as defined in Section 8172-1 of the Coastal Zoning Ordinance)?		X				X		
2) Result in indirect impacts from project operation at levels that will degrade the health of an ESHA?		X				X		

D. Ecological Communities – ESHA (Applies to Coastal Zone Impact Discussion):

4D-1 and 4D-2. As discussed in the Initial Study Biological Assessment (September 9, 2013) (Attachment 11), Ormond Beach consists of several hundred acres of salt marsh and brackish or freshwater wetlands, coastal dunes and scrub, and upland areas that provide habitat for special status species that are considered Environmentally Sensitive Habitat Areas (ESHAs) under the Local Coastal Plan. Coastal Act section 30240 requires ESHA be protected against any significant disruption of habitat values, and only uses dependent on those resources be allowed in those areas. In 2011, the California Coastal Commission generated digital coastal zone data layers from the USGS paper coastal maps. This new information identified the coastal zone boundary crossed over the existing CUP boundary encompassing approximately 1.52 acres within the designated coastal zone. Pursuant to NCZO Section 8174-4, a composting facility is not allowed in the coastal zone. The CUP boundary would be modified to eliminate all areas within the coastal zone. The Ventura County Coastal Area Plan Wetlands Policy 1 and Coastal Zoning Ordinance Article 2, Definitions, requires a minimum 100-foot buffer area to be established adjacent to all wetlands. Consistent with the existing qualified biologist’s recommendation for a 50-foot buffer, a parking area and a proposed retention basin (0.6 acres) would be located a minimum of 50 feet from the coastal salt marsh (Attachment 11, Initial Study Biological Assessment). No composting operations would occur in this area. An existing earthen berm physically separates development from ESHA. The project would be conditioned to require the Applicant to install fencing along the southern and western CUP boundary, which would ensure that all facility operations are confined to the CUP boundary and outside the ESHA and coastal zone. Indirect impacts on ESHA from construction of the fire access road, berm and other improvements are anticipated to be less-than-significant. Therefore, the proposed project would result in less-than-significant direct, indirect, or cumulatively considerable impacts on ESHA.

Mitigation/Residual Impact(s)

Because no significant impacts on ESHA have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
4E. Habitat Connectivity								
Will the proposed project:								
1) Remove habitat within a wildlife movement corridor?	X				X			
2) Isolate habitat?	X				X			
3) Construct or create barriers that impede fish and/or wildlife movement, migration or long term connectivity or interfere with wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction?	X				X			
4) Intimidate fish or wildlife via the introduction of noise, light, development or increased human presence?		X				X		

E. Habitat Connectivity Impact Discussion:

4E-1, 4E-2, and 4E-3. The project site is surrounded by agricultural uses to the north, west, and east. The southern portion of the site is surrounded by land previously used for agricultural uses but is no longer in production. A coastal salt marsh extends southward, and a freshwater/brackish wetland salt marsh begins approximately 100 feet to the southeast of, and across Arnold Road. The area within the existing and proposed CUP boundary is heavily disturbed, lacks native habitat, and does not support special status animal species.

As discussed in the Initial Study Biological Assessment (September 9, 2013) (Attachment 11), no wildlife movement corridors are present within the proposed project site, however, the presence of suitable foraging, breeding, and nesting habitat along the two miles of shoreline between Port Hueneme and NBVC Point Mugu constitutes a wildlife movement corridor. Ormond Beach's large size and mix of habitats make it prime nesting habitat for western snowy plover and the endangered California least tern. Numerous restoration projects at NBVC Point Mugu have brought a considerable acreage of wetland under enhanced tidal influence. Consequently, this single marsh may represent 20% - 25% of the available coastal marsh habitat in southern California. Restoration efforts underway at Ormond Beach together with Point Mugu wetlands, will provide a contiguous coastal

wetland area that stretches approximately nine miles along the shoreline (California Coastal Conservancy Ormond Beach Wetlands Restoration Project, 2009).

The Agromin facility is located approximately 1,500 feet north of Ormond Beach. The proposed retention basin, compost expansion area, and other improvements would be located in previously disturbed areas and would be confined to the modified CUP boundary. Further, an existing earthen berm physically separates the facility from the salt marsh area to the south. Thus, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, regarding the removal of habitat within a wildlife movement corridor.

4E-4. The proposed project would involve temporary indirect impacts associated with construction including noise and increased human presence that could affect migrating wildlife. However, the project site already produces noise and contains a human presence. Therefore, the proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to indirect impacts on wildlife movement.

Mitigation/Residual Impact(s)

Because no significant impacts on habitat connectivity have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
4F. Will the proposed project be consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies referenced for Item 4 of the Initial Study Assessment Guidelines (refer to Conservation and Open Space Element, Section 6.1 Biological Resources)?		X				X		

F. Impact Discussion:

4F. The proposed project has been evaluated for consistency with the following policies from the Conservation and Open Space Element of the Ventura County General Plan:

COS-1.1 Protection of Sensitive Biological Resources. The County shall ensure that discretionary development that could potentially impact sensitive biological resources be evaluated by a qualified biologist to assess impacts and, if necessary, develop mitigation measures that fully account for the impacted resource. When feasible, mitigation measures should adhere to the following priority: avoid impacts, minimize impacts, and compensate for impacts. If the impacts cannot be reduced to a less than significant level,

findings of overriding considerations must be made by the decision-making body.

- COS-1.2 **Consideration of Sensitive Biological Resources.** The County shall identify sensitive biological resources as part of any land use designation change to the General Plan Land Use Diagram or zone designation change to the Zoning Ordinance that would intensify the uses in a given area. The County shall prioritize conservation of areas with sensitive biological resources.
- COS-1.10 **Evaluation of Potential Impacts of Discretionary Development on Wetlands.** The County shall require discretionary development that is proposed to be located within 300 feet of a wetland to be evaluated by a County-approved biologist for potential impacts on the wetland and its associated habitats pursuant to the applicable provisions of the County's Initial Study Assessment Guidelines.
- COS-1.11 **Discretionary Development Sited Near Wetlands.** The County shall require discretionary development to be sited 100 feet from wetland habitats, except as provided below. The 100-foot setback may be increased or decreased based upon an evaluation and recommendation by a qualified biologist and approval by the decision making body based on factors that include, but may not be limited to, soil type, slope stability, drainage patterns, the potential for discharges that may impair water quality, presence or absence of endangered, threatened or rare plants or animals, direct and indirect effects to wildlife movement, and compatibility of the proposed development with use of the wetland habitat area by wildlife. Discretionary development that would have a significant impact on a wetland habitat shall be prohibited unless mitigation measures are approved that would reduce the impact to a less than significant level. Notwithstanding the foregoing, discretionary development that would have a significant impact on a wetland habitat on land within a designated Existing community may be approved in conjunction with the adoption of a statement of overriding considerations by the decision-making body

Biological resources on the project site have been evaluated by a qualified biologist (Attachment 11, Initial Study Biological Assessment). As discussed above in Section 4C, freshwater/brackish wetland salt marsh begins approximately 100 feet to the southeast of the project site, and across Arnold Road, within a game preserve and NBVC Point Mugu. The existing composting operation was permitted within a 100-foot buffer from the coastal salt marsh to the south, consistent with the qualified biologist's recommendation for a 50-foot buffer between a greenhouse that was originally proposed on the project site (and which is now proposed as a parking and storage area) and the coastal salt marsh. The proposed compost expansion area would be located over 350 feet from the coastal salt marsh. An existing earthen berm, approximately 16 feet high and 15 feet wide, is located along the southwest boundary of the proposed CUP area. This berm physically separates

the existing composting operation from the wetland. Proposed improvements include the construction of a retention basin, an elevated fire access road along the western CUP boundary, and an elevated berm along the southern and western CUP boundary that also extends to the northwest part of the project site, for the purpose of retaining stormwater onsite so it would not be discharged to the wetland. Thus, no direct, indirect, or contribution to cumulatively considerable impacts on wetlands would occur. Therefore, the project would be consistent with the policies in the Conservation and Open Space Element.

Mitigation/Residual Impact(s)

Because no significant impacts related to conflict with General Plan goals and policies have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
5A. Agricultural Resources – Soils (PIng.)								
Will the proposed project:								
1) Result in the direct and/or indirect loss of soils designated Prime, Statewide Importance, Unique or Local Importance, beyond the threshold amounts set forth in Section 5a.C of the Initial Study Assessment Guidelines?								
2) Involve a General Plan amendment that will result in the loss of agricultural soils?								
3) Be consistent with the applicable General Plan Goals and Policies for Item 5A of the Initial Study Assessment Guidelines?								

5. Agricultural Resources

A. Soils Impact Discussion:

5A-1. The project site was permitted as a composting facility as early as 1998 (CUP 5001) and does not contain any soils classified as “Prime,” having “Statewide Importance,” “Unique,” or having “Local Importance.” According to the California Important Farmland Finder and County Important Farmland Mapping (Figure 9-2 of the Ventura County 2040 General Plan Update Background Report), all parcels that comprise the project site are designated as “Other Land.” The “Other Land” designation includes land not included in any other farmland mapping category. Common examples include low density rural

developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is also mapped as Other Land.

The area proposed for new uses has been historically disturbed by the previous mushroom farm or current composting facility. Therefore, the proposed project would not have a project specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to agricultural soil resources.

5A-2. The proposed project does not involve a General Plan amendment. Therefore, the project would have no impact.

5A-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2000) that replaced policies for Item 5A of the *Ventura County Initial Study Assessment Guidelines* (refer to Agricultural Element Section 8.1, Agricultural Land Preservation).

Mitigation/Residual Impact(s)

Because no significant impacts on agricultural soils have been identified, no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
5B. Agricultural Resources - Land Use Incompatibility (AG.)								
Will the proposed project:								
1) If not defined as Agriculture or Agricultural Operations in the zoning ordinances, be closer than the threshold distances set forth in Section 5b.C of the Initial Study Assessment Guidelines?		X				X		
2) Be consistent with the applicable General Plan Goals and Policies for Item 5b of the Initial Study Assessment Guidelines?		X				X		

B. Land Use Incompatibility (Ag. Dept.) Impact Discussion:

5B-1. The project site is surrounded on the north, west, and east by agricultural uses. The proposed project involves the continued operation and modification of an existing composting facility. Offshore winds can carry particulate matter and fugitive dust from the Agromin site eastward and damage crops.

On September 21, 2000, the Non-Coastal Zoning Ordinance (NCZO) was amended in response to state-mandated efforts to increase recycling and divert waste from landfills. Two new use categories were added, Organics Processing Operations and Waste Handling, Waste Disposal, and Recycling Facilities. Development standards adopted for these new land use categories added NCZO Section 8107-36.4.1(e), which requires composting facilities to be set back a minimum of 300 feet from any agricultural production unless the Applicant can demonstrate that potential impacts have been adequately mitigated by design or terrain, and the Planning Director, in consultation with the Agricultural Commissioner, reduces or waives the setback.

The proposed project is eligible for a waiver or deviation from the distance standard using the following criteria that are set forth in the *Ventura County Initial Study Assessment Guidelines* (page 50):

- a 300-foot or 150-foot setback on a small legal parcel will preclude its reasonable use; and
- the non-agricultural use is a continuing industrial use with no substantial changes in existing land use compatibility

The existing 19.22-acre compost facility is a continued industrial use that has been in existence since 1998. The project includes expansion of onsite feedstock and compost storage from 10,000 cubic yards to 12,500 cubic yards, construction of facility improvements, and if approved, would extend operation of the facility until December 31, 2030.

On April 14, 2016, the Applicant met with the Agricultural Commissioner and requested the 300-foot setback be waived. On July 19, 2016, Henry Gonzales, (previous Ventura County Agricultural Commissioner), reviewed the proposed "Agromin Arnold Road Facility Dust Suppression Protocol" and agreed to waive the 300-foot setback on the condition that the Applicant install a +30-foot high mesh screen on the eastern boundary and parcels 231-0-080-085 and 231-0-080-070 (County of Ventura). There is also an existing stand of mature trees (approximately 12-15 feet in height) along the Arnold Road edge of the Project which will remain in place, augment the mesh screen to be installed in this location .

Given the required installation of the 30-foot-high mesh fence and the fact there would be no substantial change from the existing permitted operations (continued processing within the maximum permissible storage capacity of Green Material Composting Operation of 12,500 cubic yards), impacts of the project related to land use incompatibility would be less-than-significant. Therefore, the proposed project would have a less-than-significant project-specific impact on agricultural soils and would not result in a cumulatively considerable contribution to a significant cumulative impact on agricultural soils.

5B-2. This proposed project is an existing operation that would not extend onto any additional agricultural soils or displace any other agricultural operations. As conditioned by the Agricultural Commissioner and the Environmental Health Division as the Local

Enforcement Agency under the Regulations for composting facilities, the proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replace the policies for Item 5B of the *Ventura County Initial Study Assessment Guidelines* (refer to Agricultural Element, Section 8.1 Agricultural Land Preservation). The applicant will be responsible for implementing the requirements from the Agricultural Commissioner and the Environmental Health Division which will include the suspension of composting activities during specified windy weather conditions and the construction of the required mesh screen.

Mitigation/Residual Impact(s)

Compliance with the project conditions would ensure success of the ongoing program and efforts to minimize fugitive dust and particulate matter that may be transferred by wind to the agricultural fields east of the project site. This impact would be less-than significant and no additional mitigation is required.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
6. Scenic Resources (PInG.)								
Will the proposed project:								
a) Be located within an area that has a scenic resource that is visible from a public viewing location, and physically alter the scenic resource either individually or cumulatively when combined with recently approved, current, and reasonably foreseeable future projects?		X				X		
b) Be located within an area that has a scenic resource that is visible from a public viewing location, and substantially obstruct, degrade, or obscure the scenic vista, either individually or cumulatively when combined with recently approved, current, and reasonably foreseeable future projects?		X			X	X		
c) Be consistent with the applicable General Plan Goals and Policies for Item 6 of the Initial Study Assessment Guidelines?	X							

6. Scenic Resources Impact Discussion:

Impact Discussion:

6a and 6b. The subject facility has been legally operating onsite since 1978 and the proposed changes will result in a 1.67 acre increase in the use of the County jurisdictional area. However, with the removal of operations on APN 231-0-040-165, the Project will result in an overall reduction 3.26 acres in site utilization. The project site is located south of Hueneme Road and west of Arnold Road. The nearest State eligible scenic highway is State Highway 1, approximately three miles to the east of the project site (Figure 6-5 of the Ventura County 2040 General Plan Update Background Report). The project site is not located in a Scenic Resources Protection (SRP) area (Figure 3-26 of the Ventura County 2040 General Plan Update Background Report). The scenic resources in the vicinity of the project site include the dunes at Ormond Beach, and the background views of the mountains to the north and east. The proposed project includes construction of a fire access road, berm, compost expansion area, fire hydrants, water pipeline, retention basin, parking spaces, and the installation of a +30-foot high mesh screen along the eastern boundary of the facility. Proposed improvements would be compatible with the existing operations already occurring on the project site and would not alter the character of the facility. The proposed development would not change the overall visual character of the site, which is currently developed with masonry buildings and operated as a commercial compost facility. The proposed project would not block views to scenic vistas or alter landforms, or otherwise adversely affect a scenic resource area. Existing public viewing locations are identified as the Ormond Beach hiking and walking trail (appx. 1,450 ft. south) and public parking area (appx. 850 ft. south) (identified in Coastal Area Plan Figure 4.1-6: Central Coastal). Future multi-modal trail segments are planned along Hueneme Road and Arnold Road (under the Ormond Beach Restoration and Access Plan), however, the activities proposed under this project will not have a visual impact though the modification existing natural landforms or obscuring views from these planned trail sections to scenic resources in the vicinity of the project. The mesh screen would not significantly impact any scenic vista in the area and are partially screened from view by existing mature trees located onsite along Arnold Road. Therefore, the proposed project would have a less-than-significant project-specific impact on scenic resources and would not result in a cumulatively considerable contribution to a significant cumulative impact related to scenic resources.

6c. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 6 of the *Ventura County Initial Study Assessment Guidelines* (refer to Conservation and Open Space Element, Scenic Resources Section 6.3).

Mitigation/Residual Impact(s)

No significant impacts on scenic resources have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
7. Paleontological Resources								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
Will the proposed project:								
a) For the area of the property that is disturbed by or during the construction of the proposed project, result in a direct or indirect impact to areas of paleontological significance?	X				X			
b) Contribute to the progressive loss of exposed rock in Ventura County that can be studied and prospected for fossil remains?	X				X			
c) Be consistent with the applicable General Plan Goals and Policies for Item 7 of the Initial Study Assessment Guidelines?	X				X			

7. Paleontological Resources Impact Discussion:

7a and 7b. Based upon a review of the Resource Management Agency Geographic Information System by County staff, the project site is located in an area of undetermined paleontological importance. A review of the Geological Map of California and the Compilation of Quaternary Surficial Deposits (California Department of Conservation 2021a) shows that the property is located in an area (Surficial Deposits) with a geologic age of Holocene to Late Pleistocene (QYI, Young Lacustrine). In addition, the geotechnical report (Attachment 15) confirms that the site is located on two feet of fill with Holocene sand and silt deposits below the upper disturbed area. Due to the geologic age of the on-site soils, there is a low probability for the discovery of paleontological resources. Additionally, as a standard requirement, the project would be subject to an accidental discovery condition of approval (described below) which would require the permittee to halt work in the event of accidental discovery of paleontological resources, retain the services of a qualified paleontological professional, and consult with the Planning Director on the disposition of such resources. Therefore, the proposed project would not create a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, to paleontological resources.

Paleontological Resources Inadvertently Discovered During Grading

Purpose: In order to reduce potential impacts on paleontological resources that may be encountered during ground disturbance or construction activities.

Requirement: If any paleontological resources are uncovered during ground disturbance or construction activities, the Permittee shall:

- a. Cease operations and assure the preservation of the area in which the discovery was made;
- b. Notify the Planning Director in writing, within three days of the discovery;
- c. Obtain the services of a paleontological consultant or professional geologist who shall assess the find and provide recommendations on the proper disposition of the site;
- d. Obtain the Planning Director's written concurrence of the recommended disposition of the site before resuming development; and
- e. Implement the agreed upon recommendations.

Documentation: The Permittee shall submit the reports prepared by the qualified paleontologist or geologist. Additional documentation may be required to demonstrate that the Permittee has implemented any recommendations set forth in the paleontological report.

Timing: Paleontological reports shall be provided to the Planning Division immediately upon completion.

Monitoring and Reporting: The Permittee shall provide any paleontological report prepared for the project sites to the Planning Division to be made part of the project file. The Permittee shall implement any recommendations made in the paleontological report to the satisfaction of the Planning Director.

7c. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 7 of the *Ventura County Initial Study Assessment Guidelines* (refer to Conservation and Open Space Element, Cultural, Historical, Paleontological and Archaeological Resources Section 6.4).

Mitigation/Residual Impact(s)

No significant impacts on paleontological resources have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
8A. Cultural Resources - Archaeological								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Demolish or materially alter in an adverse manner those physical characteristics that account for the inclusion of the resource in a local register of historical resources pursuant to Section 5020.1(k) requirements of Section 5024.1(g) of the Public Resources Code?		X				X		
2) Demolish or materially alter in an adverse manner those physical characteristics of an archaeological resource that convey its archaeological significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for the purposes of CEQA?		X				X		
3) Be consistent with the applicable General Plan Goals and Policies for Item 8A of the Initial Study Assessment Guidelines?		X				X		

8. Cultural Resources

A. Archaeological Impact Discussion:

8A-1 and 8A-2. Any archaeological resources that may have previously existed on the project site may have been destroyed as part of the previous composting operations, which occurred from 1960 to the present. The Ventura County Resource Management Agency received a Cultural Resources Record Search Quick Check from the Sout Central Coastal Information Center (SCCIC) on October 1, 2015 indicating that the project site had been previously surveyed and cultural resources were not found. A full archaeological records search of the SCCIC in 2017 indicted that there are no previously recorded cultural resources on the project site, but three cultural resources were previously recorded within 0.25 mile of the project site. Grading and trenching would be confined to the installation of a stormwater retention basin, fire access road, fire hydrants, parking area, and soil cement treatment at the proposed compost expansion area. Excavation to accommodate the fire access roads, fire hydrants, and water pipelines would be no deeper than eight feet below grade. The proposed retention basin will be at a depth of approximately one foot and the soil cement treatment for the proposed compost expansion area is based on a cement treatment depth of 18 inches.

The project site does not include any cultural resources included in the California Register of Historical Resources and is not mapped as “Sensitive” or “Very Sensitive” in the Resource Management Agency Geographic Information System. The project site has been disturbed since about 1960 due to the past mushroom farm and composting

operations. Therefore, historic resources or archaeological resources as defined in Section 15064.5 of the State CEQA Guidelines are not anticipated to be encountered. In accordance with Public Resources Code Section 21080.3.1 et seq. On August 4, 2016, a formal request was sent to Native American representatives for consultation regarding the proposed project's potential impact to tribal cultural resources. As of September 5, 2016, no comments or requests for consultation were received from notified Tribal representatives. Therefore, the proposed project would have a less-than-significant impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, to archaeological resources.

Although it is unlikely that the proposed project would encounter and have an adverse impact on archaeological resources, the proposed project would be subject to the following condition of approval such that, in the unlikely event that ground disturbance activities reveal the presence of subsurface resources, the Applicant will be required to: (1) stop all work that has the potential to adversely affect archaeological resources; (2) retain a qualified archaeologist to assess the significance of the find and provide recommendations on the disposition of the resources; and (3) implement any and all measures to protect and curate the resources, subject to the Planning Division's approval.

Archaeological Resources Inadvertently Discovered During Grading

Purpose: In order to mitigate potential impacts on archaeological resources discovered during ground disturbance.

Requirement: The Permittee shall implement the following procedures:

- a. If any archaeological or historical artifacts are uncovered during ground disturbance or construction activities, the Permittee shall:
 - (1) Cease operations and assure the preservation of the area in which the discovery was made;
 - (2) Notify the Planning Director in writing, within three days of the discovery;
 - (3) Obtain the services of a County-approved archaeologist who shall assess the find and provide recommendations on the proper disposition of the site in a written report format;
 - (4) Obtain the Planning Director's written concurrence of the recommended disposition of the site before resuming development; and
 - (5) Implement the agreed upon recommendations.
- b. If any human burial remains are encountered during ground disturbance or construction activities, the Permittee shall:
 - (1) Cease operations and assure the preservation of the area in which the discovery was made;
 - (2) Immediately notify the County Coroner and the Planning Director;

- (3) Obtain the services of a County-approved archaeologist and, if necessary, Native American Monitor(s), who shall assess the find and provide recommendations on the proper disposition of the site in a written report format;
- (4) Obtain the Planning Director's written concurrence of the recommended disposition of the site before resuming development; and
- (5) Implement the agreed upon recommendations.

Documentation: If archaeological remains are encountered, the Permittee shall submit a report prepared by a County-approved archaeologist including recommendations for the proper disposition of the site. Additional documentation may be required to demonstrate that the Permittee has implemented any recommendations set forth in the archaeologist's report.

Timing: If any archaeological remains are uncovered during ground disturbance or construction activities, the Permittee shall provide the written notification to the Planning Director within three days of the discovery. The Permittee shall submit the archaeological report to the Planning Division immediately upon completion of the report.

Monitoring and Reporting: The Permittee shall provide the archaeological report to the Planning Division to be made part of the Project file. The Permittee shall implement any recommendations made in the archaeological report to the satisfaction of the Planning Director. The archaeologist shall monitor all ground disturbance activities within the area in which the discovery was made, in order to ensure the successful implementation of the recommendations made in the archaeological report. The Planning Division has the authority to conduct site inspections to ensure that the Permittee implements the recommendations set forth in the archaeological report, consistent with the requirements of § 8114-3 of the Ventura County Non-Coastal Zoning Ordinance.

8A-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 8A of the *Ventura County Initial Study Assessment Guidelines* (refer to Conservation and Open Space Element, Cultural, Historical, Paleontological and Archaeological Resources Section 6.4).

Mitigation/Residual Impact(s)

No significant impacts on archeological resources have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
8B. Cultural Resources – Historic (PInG.)								
Will the proposed project:								
1) Demolish or materially alter in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources?	X				X			
2) Demolish or materially alter in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code?	X				X			
3) Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA?	X				X			
4) Demolish, relocate, or alter an historical resource such that the significance of the historical resource will be impaired [Public Resources Code, Sec. 5020(q)]?	X				X			

B. Historical Impact Discussion:

8B-1 through 8B-3. The project site is not listed or determined eligible for listing as a historical site on the California Register of Historic Resources or the National Register of Historic Places or identified in a historic survey as worthy of designation as a county landmark or Site of Merit. Therefore, the proposed project would not create a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, to historic resources.

8B-4. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the polices for Item 8B of the

Ventura County Initial Study Assessment Guidelines (refer to Conservation and Open Space Element, Cultural, Historical, Paleontological and Archaeological Resources Section 6.4).

Mitigation/Residual Impact(s)

No significant impacts on historic resources have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
9. Coastal Beaches and Sand Dunes								
Will the proposed project:								
a) Cause a direct or indirect adverse physical change to a coastal beach or sand dune, which is inconsistent with any of the coastal beaches and coastal sand dunes policies of the California Coastal Act, corresponding Coastal Act regulations, Ventura County Coastal Area Plan, or the Ventura County General Plan Goals, Policies and Programs?	X				X			
b) When considered together with one or more recently approved, current, and reasonably foreseeable probable future projects, result in a direct or indirect, adverse physical change to a coastal beach or sand dune?					X			
c) Be consistent with the applicable General Plan Goals and Policies for Item 9 of the Initial Study Assessment Guidelines?	X				X			

9. Coastal Beaches and Sand Dunes Impact Discussion:

9a and b. The existing CUP boundary includes parcels 231-0-080-085 and 231-0-080-070. Composting facilities are not permitted in the coastal zone. Therefore, all composting operations have been removed from areas within the coastal zone and that the applicant is proposing to modify the CUP boundary as part of this permit request to remove land within the coastal zone. The easterly portion of these parcels are located within the coastal zone. The Applicant is proposing to modify the CUP boundary to remove land within the coastal zone. Fencing would be installed along the modified western CUP boundary to confine all compost operations to the non-coastal areas of the site.

The project site is approximately 1,500 feet from the dunes located along Ormond Beach. The proposed project would not impede sand transport and does not involve the construction of a shoreline protective structure. Therefore, the proposed project would not result in a project-specific impact, or result in a cumulatively considerable contribution to a significant cumulative impact, to coastal beaches or sand dunes

9c. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 9 of the *Ventura County Initial Study Assessment Guidelines* (refer to Conservation and Open Space Element, Section 6.2 Coastal Resources).

Mitigation/Residual Impact(s)

No significant Impacts on coastal beaches and sand dunes have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
10. Fault Rupture Hazard (PWA)								
Will the proposed project:								
a) Be at risk with respect to fault rupture in its location within a State of California designated Alquist-Priolo Special Fault Study Zone?	X							
b) Be at risk with respect to fault rupture in its location within a County of Ventura designated Fault Hazard Area?	X							
c) Be consistent with the applicable General Plan Goals and Policies for Item 10 of the Initial Study Assessment Guidelines?	X				X			

HAZARDS:

10. Fault Rupture Impact Discussion:

The California Supreme Court in a December 2015 opinion (*California Building Industry Association v. Bay Area Air Quality Management District*) confirmed that CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, a CEQA analysis focuses on the potential for the proposed project to exacerbate risk related to fault rupture hazards. Any discussion of potential impacts of seismic and geologic hazards on the proposed project is provided

for informational purposes only and is neither required by CEQA nor subject to its requirements.

10a and b. There are no known active or potentially active faults extending through the project site based on State of California Earthquake Fault Zones in accordance with the Alquist-Priolo Earthquake Fault Zoning Act, and Ventura County General Plan Hazards Protection Map – Figure 7-1. Furthermore, no habitable structures are proposed within 50 feet of a mapped trace of an active fault. In addition, the project would not exacerbate risk of fault rupture occurring at the project site. Hazards from fault rupture are site-specific in nature and therefore inherently non-cumulative. Therefore, there would be no impact related to potential fault rupture hazards, either at the project level or cumulatively.

10c. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 10 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.4 Geologic and Seismic Hazards).

Mitigation/Residual Impact(s)

Therefore, project-specific impacts would be less than significant and would not result in a cumulatively considerable impact with regard to risk of exposure to fault rupture within an Alquist-Priolo Fault Zone and/or Fault Hazard Area. Residual impacts would be less than significant.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
11. Ground Shaking Hazard (PWA)								
Will the proposed project:								
a) Be built in accordance with all applicable requirements of the Ventura County Building Code?		X			X			
b) Be consistent with the applicable General Plan Goals and Policies for Item 11 of the Initial Study Assessment Guidelines?		X			X			

11. Ground Shaking Hazard Impact Discussion:

As discussed previously, CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, a CEQA analysis focuses on the potential for the proposed project to exacerbate risk related to ground shaking hazards. Any discussion of potential impacts of seismic and

geologic hazards on the proposed project is provided for informational purposes only and is neither required by CEQA nor subject to its requirements.

Impact Discussion:

11a. The property would be subject to moderate to strong ground shaking from seismic events on local and regional fault systems. The geotechnical report prepared for the proposed project by RJR Engineering Group, dated December 12, 2012 (Attachment 15), indicates that for a 50 year time period, a 10 percent probability is present for ground shaking to exceed an acceleration of 0.59 g. However, the proposed project would not exacerbate the risk of ground shaking occurring. The County of Ventura Building Code adopted from the California Building Code, dated 2019, Chapter 16, Section 1613 requires that structures subject to this Code be designed to withstand this level of ground shaking. However, the project does not include construction of any buildings or structures that would require compliance with the building code. Project access roads and other improvements would be constructed to County design standards. Compliance with County design standards would reduce the effects of ground shaking to less-than-significant.

Hazards from ground shaking affect each project individually; and no cumulative ground shaking hazard would occur as a result of other approved, proposed, or probable projects in combination with the proposed project.

11b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the polices for Item 11 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.4 Geologic and Seismic Hazards).

Mitigation/Residual Impact(s)

Therefore, project-specific impacts would be less than significant (i.e. the project does not exacerbate existing overall ground shaking hazards) and would not result in a cumulatively considerable impact with regard to ground shaking hazards. Residual impacts would be less than significant.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
12. Liquefaction Hazards (PWA)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
a) Expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving liquefaction because it is located within a Seismic Hazards Zone?		X						
b) Be consistent with the applicable General Plan Goals and Policies for Item 12 of the Initial Study Assessment Guidelines?		X			X			

12. Liquefaction Hazards Impact Discussion:

As discussed previously, CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, a CEQA analysis focuses on the potential for the proposed project to exacerbate risk related to liquefaction. Any discussion of potential impacts of seismic and geologic hazards to the proposed project is provided for informational purposes only and is neither required by CEQA nor subject to its requirements.

12a. The site is located within a potential liquefaction zone based on the County liquefaction map (Figure 11-2 of the Ventura County 2040 General Plan Update Background Report). A site-specific geotechnical study was conducted by RJR Engineering Group, dated December 12, 2012 (Attachment 15). The report indicates for peak ground accelerations, the amount of potential liquefaction settlement would be on the order of four to five inches. Project access roads and improvements (installation of soil cement, stormwater berm, parking area) would be constructed to County design standards. Compliance with County design standards would reduce the effects of liquefaction to less-than-significant. Compliance with County design standards would reduce the hazard resulting from liquefaction to less than significant.

Hazards from liquefaction affect each project individually; and no cumulative liquefaction hazard would occur as a result of other approved, proposed, or probable projects in combination with the proposed project.

12b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 12 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.4 Geologic and Seismic Hazards).

Mitigation/Residual Impact(s)

Therefore, project-specific impacts would be less than significant (i.e. the project does not exacerbate existing overall liquefaction hazards) and would not result in a cumulatively considerable impact with regard to liquefaction hazards. Residual impacts would be less than significant.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
13. Seiche and Tsunami Hazards (PWA)								
Will the proposed project:								
a) Be located within about 10 to 20 feet of vertical elevation from an enclosed body of water such as a lake or reservoir?	X							
b) Be located in a mapped area of tsunami hazard as shown on the County General Plan maps?	X							
c) Be consistent with the applicable General Plan Goals and Policies for Item 13 of the Initial Study Assessment Guidelines?	X				X			

13. Seiche and Tsunami Hazards Impact Discussion:

As discussed previously, CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, a CEQA analysis focuses on the potential for the proposed project to exacerbate risk of inundation from seiche and tsunamis. Any discussion of potential impacts of seismic and geologic hazards on the proposed project is provided for informational purposes only and is neither required by CEQA nor subject to its requirements.

13a. The project site is not located adjacent to a closed or restricted body of water based on aerial imagery review (google aerial imagery dated 2021, aerial imagery is under the copyrights of TerraMetrics) and is not subject to inundation from seiche. In addition, the project would not exacerbate risk of inundation from seiche.

13b. The project is not mapped within a tsunami inundation zone or evacuation area based on the County tsunami map (Figure 11-9 of the Ventura County 2040 General Plan Update Background Report) and the California Department of Conservation California Tsunami Maps and Data. Therefore, the proposed project would not be subject to inundation from tsunami. In addition, the project would not exacerbate risk of inundation from tsunami.

Hazards from seiche and tsunami affect each project individually; and no cumulative seiche and tsunami hazard would occur as a result of other approved, proposed, or probable projects in combination with the proposed project.

13c. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 13 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.2 Flood Hazards).

Mitigation/Residual Impact(s)

Therefore, project-specific impacts would be less than significant (i.e. the project does not exacerbate existing Seiche and Tsunami hazards) and would not result in a cumulatively considerable impact with regard to Seiche and Tsunami hazards. Residual impacts would be less than significant.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
14. Landslide/Mudflow Hazard (PWA)								
Will the proposed project:								
a) Result in a landslide/mudflow hazard, as determined by the Public Works Agency Certified Engineering Geologist, based on the location of the site or project within, or outside of mapped landslides, potential earthquake induced landslide zones, and geomorphology of hillside terrain?	X							
b) Be consistent with the applicable General Plan Goals and Policies for Item 14 of the Initial Study Assessment Guidelines?	X				X			

14. Landslide/Mudflow Hazard Impact Discussion:

As discussed previously, CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, a CEQA analysis focuses on the potential for the proposed project to exacerbate risk of landslide/mudflow. Any discussion of potential impacts of seismic and geologic hazards to the proposed project is provided for informational purposes only and is neither required by CEQA nor subject to its requirements.

14a. The project site is not located in a mapped landslide, located within a hillside, and is not located in a potential seismically induced landslide zone (Figure 11-3 of the Ventura

County 2040 General Plan Update Background Report), and the proposed project is therefore not expected to result in impacts related to landslide/mudflow hazards.

Landslide/mudslide hazards affect each project individually; and no cumulative landslide/mudslide hazard would occur as a result of other approved, proposed, or probable projects in combination with the proposed project.

14b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 14 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element Section 7.4 Geologic and Seismic Hazards).

Mitigation/Residual Impact(s)

Therefore, project-specific impacts would be less than significant (i.e. the project does not exacerbate existing overall landslide or mudflow hazards) and would not result in a cumulatively considerable impact with regard to landslide or mudflow hazards. Residual impacts would be less than significant.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
15. Expansive Soils Hazards (PWA)								
Will the proposed project:								
a) Expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving soil expansion because it is located within a soils expansive hazard zone or where soils with an expansion index greater than 20 are present?		X						
b) Be consistent with the applicable General Plan Goals and Policies for Item 15 of the Initial Study Assessment Guidelines?		X			X			

15. Expansive Soils Hazards Impact Discussion:

As discussed previously, CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, a CEQA analysis focuses on the potential for the proposed project to exacerbate risk of soil expansion. Any discussion of potential impacts of seismic and geologic hazards on the proposed project is provided for informational purposes only and is neither required by CEQA nor subject to its requirements.

15a. The geotechnical report prepared for the proposed project by RJR Engineering Group, dated December 12, 2012 (Attachment 15), indicates an expansion index for the near surface soils are medium. Project access roads and other improvements (soil cement, stormwater control improvements, and parking area) would be constructed to County design standards and would take into consideration the expansion potential of on-site soils. Based on the expansion index of the on-site soils, the hazard associated with adverse effects of expansive soils would be less-than-significant.

Hazards from expansive soils affect each project individually; and no cumulative expansive soils hazard would occur as a result of other approved, proposed, or probable projects in combination with the proposed project.

15b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 15 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.4 Geologic and Seismic Hazards).

Mitigation/Residual Impact(s)

Therefore, project-specific impacts would be less than significant (i.e. the project does not exacerbate existing overall subsidence hazards) and would not result in a cumulatively considerable impact with regard to subsidence hazards. Residual impacts would be less than significant.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
16. Subsidence Hazard (PWA)								
Will the proposed project:								
a) Expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving subsidence because it is located within a subsidence hazard zone?		X						
b) Be consistent with the applicable General Plan Goals and Policies for Item 16 of the Initial Study Assessment Guidelines?		X			X			

16. Subsidence Hazard Impact Discussion:

As discussed previously, CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, a CEQA analysis focuses on the potential for the proposed project to exacerbate risk of inundation related to subsidence. Any discussion of potential impacts of seismic and

geologic hazards on the proposed project is provided for informational purposes only and is neither required by CEQA nor subject to its requirements.

16a. The project site is located within a probable subsidence hazard zone as delineated on the County and USGS subsidence maps (Ventura County, 2021a). Project access road and other improvements (Soil cement composting pads, stormwater management improvements, and expanded parking area) would be constructed to County design standards which would take into consideration the subsidence potential on the project site. Therefore, impacts related to subsidence hazard would be less than significant.

Hazards from subsidence affect each project individually; and no cumulative subsidence hazard would occur as a result of other approved, proposed, or probable projects in combination with the proposed project.

16b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the polices for Item 16 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.4 Geologic and Seismic Hazards).

Mitigation/Residual Impact(s)

Therefore, project-specific impacts would be less than significant (i.e. the project does not exacerbate existing overall subsidence hazards) and would not result in a cumulatively considerable impact with regard to subsidence hazards. Residual impacts would be less than significant.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
17a. Hydraulic Hazards – Non-FEMA (PWA)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Result in a potential erosion/siltation hazard and flooding hazard pursuant to any of the following documents (individually, collectively, or in combination with one another): <ul style="list-style-type: none"> • 2007 Ventura County Building Code Ordinance No.4369 • Ventura County Land Development Manual • Ventura County Subdivision Ordinance • Ventura County Coastal Zoning Ordinance • Ventura County Non-Coastal Zoning Ordinance • Ventura County Standard Land Development Specifications • Ventura County Road Standards • Ventura County Watershed Protection District Hydrology Manual • County of Ventura Stormwater Quality Ordinance, Ordinance No. 4142 • Ventura County Hillside Erosion Control Ordinance, Ordinance No. 3539 and Ordinance No. 3683 • Ventura County Municipal Storm Water NPDES Permit • State General Construction Permit • State General Industrial Permit • National Pollutant Discharge Elimination System (NPDES)? 	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 17A of the Initial Study Assessment Guidelines?	X				X			

17. Hydraulic Hazards

A. Non-FEMA Hazards Impact Discussion:

17A-1. As shown on the Site Plans (Attachment 4), the proposed project would result in the installation of 0.24 acres of impervious area associated with the fire access road and the soil treatment area for active composting within the proposed compost expansion area. The runoff would be directed to an onsite retention basin that would be designed to retain the increase in flow that would result from this new impervious area. Additionally, the proposed berm and elevated fire access road would further contain runoff onsite. Because runoff would not be discharged off-site, the proposed project would not result in

project-related impacts related to non-FEMA flooding or contribute to cumulative impacts related to flooding.

17A-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 17A of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.2 Flood Hazards).

Mitigation/Residual Impact(s)

No significant Impacts on non-FEMA hydraulic hazards have been identified, therefore no mitigation measures are necessary

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
17b. Hydraulic Hazards – FEMA (WPD)								
Will the proposed project:								
1) Be located outside of the boundaries of a Special Flood Hazard Area and entirely within a FEMA-determined 'X-Unshaded' flood zone (beyond the 0.2% annual chance floodplain: beyond the 500-year floodplain)?	X							
2) Be located outside of the boundaries of a Special Flood Hazard Area and entirely within a FEMA-determined 'X-Shaded' flood zone (within the 0.2% annual chance floodplain: within the 500-year floodplain)?	X							
3) Be located, in part or in whole, within the boundaries of a Special Flood Hazard Area (1% annual chance floodplain: 100-year), but located entirely outside of the boundaries of the Regulatory Floodway?								
4) Be located, in part or in whole, within the boundaries of the Regulatory Floodway, as determined using the 'Effective' and latest available DFIRMs provided by FEMA?								
5) Be consistent with the applicable General Plan Goals and Policies for Item 17B of the Initial Study Assessment Guidelines?								

B. FEMA Hazards Impact Discussion:

17B-1 through 17B-4. The project site is located within Special Flood Hazard Zone AE according to the current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) (Panels 06111C0918F 06111C0919F dated January 29, 2021). Zone AE represent areas with a 1 percent annual chance of flooding (i.e., 100-year floodplain) with base flood elevations determined. According to the FEMA FIRM the elevation of the floodplain is 8 feet above mean sea level. Based on topographic mapping conducted in 2015, the Agromin facility entrance elevation is 7.7 feet above mean sea level. Therefore, flood waters could flow into the facility from surrounding land uses during a 100-year storm event. Based on the difference in elevation, the depth of floodwater on the project site would be minimal (approximately 0.3 feet) should floodwaters reach the site. However, an earthen berm, approximately 16 feet high and 15 feet wide, is located along the CUP southern boundary and physically separates development from Oxnard Drainage Canal #3 located south of the project site. Proposed improvements include elevating the proposed fire access road, constructing a berm along the western CUP boundary that would also extend to the northwest part of the project site to further separate the site from the surrounding area, and construction of an onsite retention basin. Additionally, the project does not include any structures that would redirect flood flows or increase flood elevations on the project site. The Applicant has committed to using sandbags to elevate the project site entrance above +8 feet mean sea level, should it be needed to prevent run-on of floodwater into the facility. The project would be in compliance with all applicable FEMA and County floodplain management standards. Therefore, the proposed project would result in less-than-significant project related impacts related to flooding and would not result in a cumulatively considerable contribution to a significant cumulative impact related to flooding.

17B-4. According to the FEMA FIRM, the project site is not located within a regulatory floodway. Therefore, no impacts related to regulatory floodways would occur.

17B-5. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replace the policies for Item 17B of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.2 Flood Hazards).

Mitigation/Residual Impact(s)

No significant impacts from FEMA hydraulic hazards have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
18. Fire Hazards (VCFPD)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
a) Be located within High Fire Hazard Areas/Fire Hazard Severity Zones or Hazardous Watershed Fire Areas?	X				X			
b) Be consistent with the applicable General Plan Goals and Policies for Item 18 of the Initial Study Assessment Guidelines?	X				X			

18. Fire Hazards Impact Discussion:

18a. The project site is not located within a high fire hazard area (Figure 11-11 of the Ventura County 2040 General Plan Update Background Report). Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant impact, with regard to fire hazards.

18b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replace the policies for Item 18 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.1 Wildfire Hazards).

Mitigation/Residual Impact(s)

No significant impacts from fire hazards have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
19. Aviation Hazards (Airports)								
Will the proposed project:								
a) Comply with the County's Airport Comprehensive Land Use Plan and pre-established federal criteria set forth in Federal Aviation Regulation Part 77 (Obstruction Standards)?	X				X			
b) Will the proposed project result in residential development, a church, a school, or high commercial business located within a sphere of influence of a County airport?	X				X			
c) Be consistent with the applicable General Plan Goals and Policies for Item 19 of the Initial Study Assessment Guidelines?	X				X			

19. Aviation Hazards Impact Discussion:

19a. The project site is located within the sphere of influence of the NBVC Airport. As stated in the NBVC letter, dated May 31, 2016 (Attachment 13), the project site is located within NBVC's Military Influence Area, which is a geographic delineation of the areas potentially impacted by NBVC's operations. The project site is also within the NBVC's 60-decibel isoline. The project does not include construction of tall structures or buildings or reflective surfaces that would pose a hazard to aircraft. A +30-foot high mesh screen would be installed along the eastern boundary of the facility; however, due to the height and composition of the screen it would not pose a safety hazard to aviation. The September 2015 NBVC Joint Land Use Study (JLUS) recommends that land uses within a five-mile radius from the runway centerline be subject to additional regulations to prevent attractants of birds and wildlife that could increase risks to flight safety. The Agromin facility is located 8,500 feet from the NBVC Point Mugu runway and within the area subject to the NBVC Point Mugu Bird and Wildlife Aircraft Strike Hazards (BASH) Subzone. The NBVC Natural Resources Program indicates that gulls and corvids, birds most likely attracted to the Agromin composting facility, have not been found to be a significant contributor to BASH incidents at NBVC to date. Additionally, food material is the primary attractant to gulls and ravens and is no longer processed at the facility. The CUP would allow for the continued composting of green material. Processing of food waste would not occur on the project site and the project would not have the potential to attract avian scavengers such as gulls and ravens. It should be noted that on April 29, 2019 food material handling at the site was ceased. Therefore, the proposed project would have no project-specific impacts on aviation hazards, and the proposed project would not result in a cumulatively considerable contribution to significant aviation hazards.

19b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 19 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section, 7.8 Military Compatibility).

Mitigation/Residual Impact(s)

No significant impacts on aviation hazards have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
20a. Hazardous Materials/Waste – Materials (EHD/Fire)								
Will the proposed project:								
1) Utilize hazardous materials in compliance with applicable state and local requirements as set forth in Section 20a of the Initial Study Assessment Guidelines?		X				X		
2) Be consistent with the applicable General Plan Goals and Policies for Item 20a of the Initial Study Assessment Guidelines?		X				X		

20. Hazardous Materials/Waste

A. Hazardous Materials Impact Discussion:

20a-1. The proposed project includes the continued use and storage of hazardous materials typically associated with equipment maintenance and composting activities. The existing business maintains an active permit to operate (permit number FA0006733) issued by the Ventura County Environmental Health Division (EHD)/Certified Unified Program Agency (CUPA). A Hazardous Materials Business Plan (HMBP) for the reportable materials was electronically submitted to the California Environmental Reporting System (CERS) and approved on January 27 2023 (CERS ID 10335433). Improper storage, handling, and disposal of potentially hazardous materials may result in the creation of adverse impacts on the environment. Compliance with applicable state and local regulations would reduce potential project specific impacts to less-than-significant levels, and the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact regarding the use of hazardous materials.

20a-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 20A of

the *Ventura County Initial Study Assessment* (refer to Hazards and Safety Element, Section 7.5 Hazardous Materials).

Mitigation/Residual Impact(s)

No significant impacts from hazardous materials/waste (EHD/Fire) have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
20b. Hazardous Materials/Waste – Waste (EHD)								
Will the proposed project:								
1) Comply with applicable state and local requirements as set forth in Section 20b of the Initial Study Assessment Guidelines?		X				X		
2) Be consistent with the applicable General Plan Goals and Policies for Item 20b of the Initial Study Assessment Guidelines?		X				X		

B. Hazardous Waste Impact Discussion:

20b-1. The proposed project would generate hazardous waste typically associated with equipment maintenance. Improper storage, handling, and disposal of these wastes could result in the creation of adverse impacts on the environment. All project components and structures are designed in conformance with compliance with California Code of Regulations (CCR), Title 22, Division 4.5.; California Health and Safety Code, Division 20, Chapter 6.5.; and Ventura County Ordinance Code, Division 4, Chapter 5 (Hazardous Substances), Article 1, (Certified Unified Program Agency). Based on the above discussion, project-specific impacts resulting from the use or disposal of hazardous materials or hazardous waste would be less than significant with the inclusion of the conformance requirements discussed above, and the proposed project would not result in a cumulatively considerable impact.

20b-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 20B of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.5 Hazardous Materials).

Mitigation/Residual Impact(s)

No significant impacts from hazardous materials/waste (EHD) have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
21. Noise and Vibration								
Will the proposed project:								
a) Either individually or when combined with other recently approved, pending, and probable future projects, produce noise in excess of the standards for noise in the Ventura County General Plan Goals, Policies and Programs (Section 2.16) or the applicable Area Plan?		X				X		
b) Either individually or when combined with other recently approved, pending, and probable future projects, include construction activities involving blasting, pile-driving, vibratory compaction, demolition, and drilling or excavation which exceed the threshold criteria provided in the Transit Noise and Vibration Impact Assessment (Section 12.2)?		X				X		
c) Result in a transit use located within any of the critical distances of the vibration-sensitive uses listed in Table 1 (Initial Study Assessment Guidelines, Section 21)?		X				X		
d) Generate new heavy vehicle (e.g., semi-truck or bus) trips on uneven roadways located within proximity to sensitive uses that have the potential to either individually or when combined with other recently approved, pending, and probable future projects, exceed the threshold criteria of the Transit Use Thresholds for rubber-tire heavy vehicle uses (Initial Study Assessment Guidelines, Section 21-D, Table 1, Item No. 3)?		X				X		
e) Involve blasting, pile-driving, vibratory compaction, demolition, drilling, excavation, or other similar types of vibration-generating activities which have the potential to either individually or when combined with other recently approved, pending, and probable future projects, exceed the threshold criteria provided in the Transit Noise and Vibration Impact Assessment [Hanson, Carl E., David A. Towers, and Lance D. Meister. (May 2006) Section 12.2]?		X				X		

f) Be consistent with the applicable General Plan Goals and Policies for Item 21 of the Initial Study Assessment Guidelines?		X				X		
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21. Noise and Vibration Impact Discussion:

21a. The proposed project site is located south of Hueneme Road and west of Arnold Road. The project site is located within the CNEL 60dB(A) noise contour as mapped in the noise contour map for the NBVC Point Mugu (Figure 11-17 of the Ventura County 2040 General Plan Update Background Report). The project site is surrounded by agriculture on the west, north, and east and Ormond Beach wetland-dune complex to the south. The nearest set of railroad tracks are located approximately 1.75 miles northwest of the project site. The nearest noise sensitive receptors consist of a residence that is located approximately one-mile north of the project site and Tierra Vista Elementary school located approximately 1.9 miles north of the project site. In addition, residential areas in the City of Oxnard are located as close as 1.8 miles to the northwest and 1.9 miles to the north of the Agromin Facility.

To determine whether a project would result in a significant noise impact, the *Ventura County Initial Study Assessment Guidelines* set forth standards to determine whether the proposed use is a “Noise Sensitive Use” or a “Noise Generator.” Noise sensitive uses are dwellings, schools, hospitals, nursing homes, churches, and libraries. The proposed project does not involve construction or use of a dwelling, school, hospital, nursing home, church, or library. Noise generating uses include highways, truck routes, heavy industrial activities, and other relatively continuous noise sources. The proposed project would involve a noise generating use located on Tax Assessor’s Parcels 231-0-080-085, 231-040-315 and 231-0-080-070, due to mobile and stationary equipment onsite.

Existing operational noise is generated by the following equipment:

Fixed Equipment:

- Ingersoll Rand Air Compressor: This is an electric powered air compressor.
- Hamer FFS Bagging System: This is an electric powered bagging system consisting of a feed hopper and conveyor system located outside of the packaging building and a bagging line located inside the building. The conveyor feeds the bagging line through an access chute in the roof of the packaging building.
- ECS Compost System: This is the electric powered blower system utilized in the CASP operation.

Portable Diesel Powered Equipment:

- MORBARK 6600 Grinder 650 horsepower (HP)
- WILDCAT COUGAR Screen 140 HP
- CEC Screen 94 HP
- POWERSCREEN 3300 Screen 174 HP

On Road Trucks Operating On the Project Site:

- International Water Truck Navistar Dump Truck Off-Road Equipment:
- CATERPILLAR Excavators 54 HP
- CATERPILLAR Rubber Tired Loader 183 HP
- CATERPILLAR Rubber Tired Loader 207 HP
- CATERPILLAR Rubber Tired Loader 183 HP

21a. through 21e. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz). In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, Leq is summed over a one-hour period. The actual time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. The Day-Night average level (LDN) recognizes this characteristic by weighting the hourly Leqs over a 24-hour period. The weighting involves the addition of 10 dBA to actual nighttime (10 PM to 7 AM) noise levels, accounting for the greater amount of disturbance associated with noise during that time period. The Community Noise Equivalent Level (CNEL) is also commonly used to specify noise standards. The CNEL is identical to the LDN except that it also adds 5 dB to sound levels occurring from 7 p.m. to 10 pm. The two measures of noise exposure, LDN and CNEL, are basically equivalent; there is generally less than 1 dBA difference between their values. Noise-sensitive locations include areas where an excessive amount of noise would interfere with normal operations or activities and where a high degree of noise control may be necessary. Examples include schools, hospitals, and residential areas.

The County of Ventura General Plan limits the amount of noise generated by uses during normal operation that may affect sensitive receptors in the surrounding areas. Policy HAZ-9.2 of the Hazard and Safety Element of the General Plan states:

New noise generators, proposed to be located near any noise sensitive use, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:

- *Leq1H of 55dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.*
- *Leq1H of 50dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.*

- *Leq1H of 45dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.*

Construction-generated noise must comply with the County’s Construction Noise Threshold Criteria and Control Plan (adopted November 2005, amended July 2010). This document sets forth regulations on when construction activities can occur and how construction noise should be monitored. During daytime hours, construction work is required to comply with the County of Ventura’s construction noise thresholds. Normally, no evening or nighttime construction activity is permitted in areas having noise-sensitive receptors. However, in the event such activity is deemed necessary and is permitted, reduced noise threshold criteria are provided for construction that must occur during evening and/or nighttime hours. Emergency construction work is exempt from these construction noise thresholds.

Construction Noise

As shown in Table 1, noise levels associated with heavy equipment typically range from about 76 to 101 dBA at 50 feet from the source (Federal Transit Administration, 2018). The grading and excavation phase of project construction tends to create the highest noise levels because of the operation of heavy equipment. Continuous operation of this equipment during a nine-hour workday could cause noise levels on the project site and at adjacent receptor locations that would be above ambient levels and could exceed applicable noise standards. As shown in Table 1, noise levels during construction of the project could reach approximately 76-89 dBA at a distance of 50 feet from onsite construction equipment (project construction would not include the use of pile drivers).

**Table 1
Typical Noise Levels at Construction Sites**

Equipment Onsite	Average Noise Level at 50 Feet
Pile Driver	101 dBA
Air Compressor	81 dBA
Concrete Mixer	85 dBA
Saw	76 dBA
Scraper	89 dBA

Source: Federal Transit Administration, 2018.

Construction activities would be performed in compliance with the County’s Construction Noise Threshold Criteria and Control Plan (November, 2005). This document sets forth regulations on when construction activities can occur and how construction noise should be monitored. During daytime hours, construction work is required to comply with the County of Ventura construction noise threshold. Because construction would be temporary and would be required to comply with the County’s Construction Noise Control Plan, construction of the project would not result in adverse effects to adjacent land uses. Furthermore, as stated above, the project site is located approximately one mile south of the nearest noise sensitive receptor, which is a residential dwelling. Construction noise

generally attenuates by about 6 dB per doubling of distance. Based on the information shown in Table 1, the maximum noise level at the project site could reach up to 89 dBA during construction activities and the maximum noise level at the nearest residential dwelling is estimated to reach approximately 47 dBA during construction. However, residential uses are not considered noise sensitive during the daytime, which is when construction activities would occur. Therefore, Tierra Vista Elementary School is considered the nearest sensitive receptor. According to the December 2018 Recirculated Draft Environmental Impact Report, noise levels at Tierra Vista Elementary school would not exceed 35 dBA, which is less than the background noise associated with roadway traffic, aircraft, and agricultural equipment. Temporary construction noise levels would be below the County standards for noise generation on adjacent properties.

Operational Noise

The primary sources of operational noise from the proposed project would be the mobile equipment, trommels, grinders, and screens. The proposed project would expand the composting area on the project site but would not introduce new noise sources or require the operation of new mechanical or other noise generating equipment. The equipment that is already used on the site would be utilized to move necessary materials to the expansion area. Operational noise associated with the proposed project would be similar to existing operational noise already occurring on the project site.

Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB). Construction activities that would occur at the project site may generate low levels of groundborne vibration. Table 2 identifies various vibration velocity levels for the types of construction equipment that would operate at the project site during construction.

**Table 2
Vibration Source Levels for Construction Equipment**

Equipment	Approximate Vdb				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	87	81	79	77	75
Loaded Trucks	86	80	78	76	74
Jackhammer	79	73	71	69	67
Small Bulldozer	58	52	50	48	46

Source: Federal Transit Administration 2019

Based on the information presented in Table 2, vibration levels during temporary construction activities would be less than 75 VdB at the closest residence, which is approximately one mile from the project site. This would not exceed the ground borne velocity threshold level of 78 vibration decibels (VdB) established by the Transit Noise

and Vibration Impact Assessment for residential uses during daytime hours (Hanson, et. al., May 2006). Operation of the proposed project would not increase vibration levels compared to existing conditions. Therefore, the proposed project would have a less-than-significant project-specific impact for noise and vibration impacts on nearby sensitive uses and would not result in a cumulatively considerable contribution to a significant cumulative impact related to noise and vibration impacts on nearby sensitive uses.

21f. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 21 of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards and Safety Element, Section 7.9 Noise).

Mitigation/Residual Impact(s)

No significant impacts from noise and vibration caused by the project have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
22. Daytime Glare								
Will the proposed project:								
a) Create a new source of disability glare or discomfort glare for motorists travelling along any road of the County Regional Road Network?	X				X			
b) Be consistent with the applicable General Plan Goals and Policies for Item 22 of the Initial Study Assessment Guidelines?	X				X			

22. Daytime Glare Impact Discussion:

22a. The project would not introduce any new structures, new facilities, or reflective surfaces that would be a source of glare. Existing operations would shift to different locations on the project site as detailed on the site plans (Attachment 4) but would continue to be mostly hidden from view along Arnold Road by the vegetation bordering the site. Additionally, the proposed project would not require nighttime operations that would require new lighting on the site other than what is already in place for site security. Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant impact, with regard to glare.

22b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 22 of the *Ventura County Initial Study Assessment Guidelines* (refer to Land Use and Community Character Element, Section 2.2 Land Use Designations and Standards).

Mitigation/Residual Impact(s)

No significant Impacts on daytime glare have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
23. Public Health (EHD)								
Will the proposed project:								
a) Result in impacts to public health from environmental factors as set forth in Section 23 of the Initial Study Assessment Guidelines?			X				X	
b) Be consistent with the applicable General Plan Goals and Policies for Item 23 of the Initial Study Assessment Guidelines?		X				X		

23. Public Health Impact Discussion:

23a. The proposed project may have public health impacts related to hazardous materials and wastes. The proposed project may also have public health impacts related to breeding and/or harborage of vectors of disease, such as flies, mosquitoes, and rodents. A Vector Control Plan (May 2020; Attachment 9) would be implemented to address and eliminate potential public health impacts related to vectors. Compliance with applicable state regulations enforced by the EHD will ensure that the proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively considerable contribution to significant cumulative impacts, regarding public health. Storm water collected in the proposed retention basins (and stored in the storm water tanks, if needed) would include leachate from green material compost windrows. Storm water may contain pathogens, and improper application of this storm water may result in elevated pathogen levels in finished compost. Sale and distribution of such compost may increase human disease transmission, and is considered a significant impact. However, impacts can be reduce to a less than significant level with the implementation of operational restriction on the use of leachate under mitigation measure PH MM-1 Stormwater Application Restrictions.

23b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced policies for Item 23 of the

Ventura County Initial Study Assessment Guidelines (refer to Hazards and Safety Element, Section 7.5 Hazardous Materials).

Mitigation/Residual Impact(s)

Storm Water Application Restrictions (PH MM-1)

Purpose: The purpose of this condition of approval is to ensure the implementation of Mitigation Measure PH MM-1 of the Mitigated Negative Declaration for the Project. In order to minimize impacts related to the application of storm water from the proposed retention basins and storm water tanks to compost windrows that may produce excessive pathogens, and potentially increase human disease transmission.

Requirement: With the implementation of Mitigation Measure PH MM-1, impacts will be reduced to a less than significant level.

The following restrictions are provided to minimize the potential for pathogens in storm water to contaminate finished compost.

- Storm water shall only be applied to active compost windrows, defined as organic materials in the process of being actively decomposed and generating temperatures of at least 122 °F (see Title 14 CCR Section 17852).
- Compost windrows shall be managed to maintain 131 °F for a minimum of 15 days following application of storm water or green material used to absorb storm water (see Vector Control Plan) to comply with the pathogen reduction requirements of Title 14, Section 17868.3 of the California Code of Regulations.
- Excess storm water not used at the Agromin Facility shall be disposed of as wastewater at a facility permitted to accept storm water, and not discharged to any storm drains or waterbodies.

Documentation: The Permittee shall prepare an amendment to the Containment Area for Compost Processing Operations Plan, Agromin Oxnard Processing Facility (Sespe Consulting, Inc., 2016) incorporating the requirements of Mitigation Measure PH MM-1 for review and approval.

Timing: Prior to the issuance of a Zoning Clearance for construction, Permittee shall submit the revised Containment Area for Compost Processing Operations Plan, Agromin Oxnard Processing Facility to the Ventura County Planning Division for review and approval.

Monitoring and Reporting: The Permittee shall implement the Storm Water Application Restriction Plan to the satisfaction of the Planning Director, the Ventura County Environmental Health Division and the Ventura County Public Works Agency for term of the Conditional Use Permit. The Planning Division will maintain copies of all documentation and reporting related to the implementation of the Storm Water Application Restriction requirement. The Planning Division, the Ventura County Environmental Health Division and the Ventura County Public Works Agency have the authority to inspect the

site to confirm the Storm Water Application Restriction has been implemented consistent with the requirements of § 8114-3 of the Ventura County Non-Coastal Zoning

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
24. Greenhouse Gases (VCAPCD)								
Will the proposed project:								
a) Result in environmental impacts from greenhouse gas emissions, either project specifically or cumulatively, as set forth in CEQA Guidelines §§ 15064(h)(3), 15064.4, 15130(b)(1)(B) and -(d), and 15183.5?		X				X		

24. Greenhouse Gases Impact Discussion:

24a. The Ventura County Air Pollution Control District has not yet adopted any approach to setting a threshold of significance for land use development projects in the impact area of project greenhouse gas emissions. The County has, however, routinely applied a 10,000 metric tons carbon dioxide equivalent per year (MT CO_{2e}/year) threshold of significance to industrial projects, in accordance with CEQA Guidelines Section 15064.4(a)(2). VCAPCD has concurred with the County’s approach.

Generally, the composting operations carried out at the project site under both existing conditions and the proposed project would result in a net greenhouse gas emissions benefit because compostable material that would otherwise be disposed of at landfills would instead be diverted to the project site for composting. Diverting organic waste material prevents methane (CH₄, a potent GHG) emissions from being generated in landfills. Composting one ton of yard trimmings can prevent the production of 0.2 MT CO_{2e} (County of Ventura, 2021b).

Furthermore, the amount of greenhouse gases anticipated from the proposed project would be a small fraction of the levels being considered by the Ventura County Air Pollution Control District for greenhouse gas significance thresholds and far below those adopted to date by any air district in the state. Therefore, the proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to greenhouse gas emissions.

Mitigation/Residual Impact(s)

No significant impacts from greenhouse gas emissions have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
25. Community Character (Plng.)								
Will the proposed project:								
a) Either individually or cumulatively when combined with recently approved, current, and reasonably foreseeable probable future projects, introduce physical development that is incompatible with existing land uses, architectural form or style, site design/layout, or density/parcel sizes within the community in which the project site is located?		X				X		
b) Be consistent with the applicable General Plan Goals and Policies for Item 25 of the Initial Study Assessment Guidelines?		X				X		

LAND USE:

25. Community Character Impact Discussion:

25a. The area surrounding the project site consists primarily of lands in agricultural production and, to a lesser degree, very low density, rural residential development. Land uses west, north, and east, of the project site consist of farmland. Land uses south of the project site consist of open space, coastal dunes, and the Pacific Ocean. The NBVC Point Mugu is located southeast of the project site. Arnold Road is located east of the project site. The Ormond Beach Generating Station is located further west of the project site. The project site itself is developed with a composting facility, which utilizes structures that were built to accommodate the former Del Norte mushroom facility, prior to the establishment of the composting operation on the site. The project includes construction of a fire access road, berm, compost expansion area, fire hydrants, water pipeline, parking spaces, retention basin, and mesh screen.

Significant impacts on community character would not occur for the following reasons:

- 1) The site is currently developed with a composting and soil amendment facility. The project would expand the composting facility but would not introduce new uses to the site and would therefore not change the character of the project site.
- 2) The proposed project would not result in new development that could result in the displacement of existing agricultural development that primarily defines the character of the community in which the project site is located.
- 3) The off-site access roads currently exist and would not be expanded or cause the displacement of agricultural development.

The Applicant proposes that post-closure be implemented in compliance with 14 CCR §17870 that includes measures to remove residues from structures and remove compost materials and equipment related to the operations on or before December 31, 2030. Existing buildings would remain under ownership by the underlying property owner.

For these reasons, the project-specific community character impact would be less-than significant, and the proposed project would not result in a cumulatively considerable contribution to a significant impact to community character.

25b. The proposed project has been evaluated for consistency with the following goals and policies in the Land Use and Community Character Element of the Ventura County General Plan Policies:

- LU-11.1. The County shall encourage mixed-use, commercial, and industrial development be located within cities, existing unincorporated urban centers, or designated Existing Communities where necessary public facilities and services can be provided to serve such development.

- LU-11.3. The County shall require new commercial and industrial developments to be designed to be generally compact, grouped and consolidated into functional units providing for sufficient off-street parking and loading facilities, maximize pedestrian and vehicle safety, reduce vehicle miles traveled (VMT), encourage electric vehicle charging, and minimize the land use conflicts and traffic congestion. The County shall require that commercial and industrial discretionary development is designed to provide adequate buffering (e.g., walls, landscaping, setbacks) and operational conditions (e.g., hours of operation, and scheduling of deliveries) to minimize adverse impacts (e.g., noise, glare, and odors) on adjoining and adjacent residential areas.

The Agromin composting facility at the project site is located on land zoned Agricultural Exclusive (AE). The purpose of the Agricultural Exclusive (AE) zone is to preserve and protect agricultural lands as a limited and irreplaceable resource. The proposed composting facilities would not be incompatible with the agricultural uses surrounding the project site or the NBVC Point Mugu aircraft land uses (i.e., runway) located approximately 8,500 feet to the east. In accordance with NCZO section 8174-4, a large-scale commercial organics processing operation can be authorized in the AE zone with a CUP granted by the County. On May 7, 1998, the Ventura County Planning Commission granted CUP 5001, and adopted a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) for the operation of a composting and soil amendment facility. CUP 5001 was subsequently amended by CUP 5001 PAJ1 and CUP 5001 PAJ 2. The commercial organics processing operation has been in operation for 23 years and has been conditioned to ensure compatibility with surrounding agricultural land uses. To ensure proposed development is compatible with surrounding agricultural land uses and consistent with County policy, the proposed project includes installation of a +30-foot high mesh screen along the eastern boundary of the facility to minimize dust and

particulate matter from being transported offsite. To ensure compatibility with NBVC Point Mugu, the project improvements would not have any reflective elements. While the Agromin composting facility is not located within existing urban centers, the industrial use has been, and is proposed to be designed and conducted in a manner that is compatible with surrounding agricultural and aircraft land uses. Therefore, the proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 25 of the *Ventura County Initial Study Assessment Guidelines* (refer to Land Use and Community Character Element, Section 2.1 Land Use Designations and Standards). The proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to consistency with the applicable General Plan Goals and Policies for Item 25 of the Initial Study Assessment Guidelines.

Mitigation/Residual Impact(s)

No significant impacts on community character have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
26. Housing (PIng.)								
Will the proposed project:								
a) Eliminate three or more dwelling units that are affordable to: <ul style="list-style-type: none"> • moderate-income households that are located within the Coastal Zone; and/or, • lower-income households? 	X				X			
b) Involve construction which has an impact on the demand for additional housing due to potential housing demand created by construction workers?	X				X			
c) Result in 30 or more new full-time-equivalent lower-income employees?	X				X			
d) Be consistent with the applicable General Plan Goals and Policies for Item 26 of the Initial Study Assessment Guidelines?	X				X			

26. Housing Impact Discussion:

26a. The proposed project would not eliminate any existing dwelling units. Therefore, the proposed project would not create a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to the elimination of existing housing.

26b. As stated in the Initial Study Assessment Guidelines, any project that involves construction has an impact on the demand for additional housing due to potential housing demand created by construction workers. However, construction worker demand is a less-than-significant project-specific and cumulative impact because construction work is short-term and there is a sufficient pool of construction workers within Ventura County and the Los Angeles metropolitan regions.

26c. CUP 5001-1 notes up to eight full time employees will be needed to operate the facility. The Agromin facility currently employs eight employees. The project would increase the number of employees to nine full- and four part-time/seasonal employees. A project is considered to have a significant impact on the demand for housing if the project would result in 30 or more new full-time lower-income employees. Therefore, the proposed project would not create a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to the demand for housing for employees associated with commercial or industrial development.

26d. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced policies for Item 26 of the *Ventura County Initial Study Assessment Guidelines* (refer to Housing Element, Section 3.5 Fair Housing).

Mitigation/Residual Impact(s)

No significant impacts on housing have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27a(1). Transportation & Circulation - Roads and Highways - Level of Service (LOS) (PWA)								
Will the proposed project:								
a) Cause existing roads within the Regional Road Network or Local Road Network that are currently functioning at an acceptable LOS to function below an acceptable LOS?		X				X		

PUBLIC FACILITIES/SERVICES:

27. Transportation/Circulation:

A. Roads and Highways

(1) Level of Service Impact Discussion:

Any discussion of potential impacts of level of service (LOS) is provided for informational purposes only and is neither required by CEQA nor subject to its requirements.

27a(1)-a. Average heavy-duty truck trip estimates for throughput at the current facility (approximately 55,000 tons/year, based on 2013 data) are 72 one-way trips/day for materials transportation and four one-way trips/day for vendor deliveries. Average employee trips are currently 18 per day (based on 2.25 trips per employee per day, and an assumption of eight current employees).

The proposed project would generate additional traffic on the Regional Road Network (RRN) and local public roads. However, the low volume of traffic generated by the project does not have the potential to alter the level of service of the adjacent County maintained road (Huememe Road) or County intersection (Arnold Road/Hueneme Road). All materials brought to and from the site would be via commercial collection vehicles, trucks and roll-off bins using Hueneme Road to Arnold Road. Traffic for the proposed project would be generated by incoming materials, employees, and outgoing products. The project would generate an estimated total of 33 additional average daily trips, which would consist of the following: follows:

- Average employee trips: 2 trips per day for full time employees and 9 trips/day for seasonal employees
- Average green material truck trips: 11 trips/day
- Average daily vendor trips: 4 trips per day.

To address the cumulative adverse impacts of traffic on the Regional Road Network, Ventura County Traffic Impact Mitigation Fee (TIMF) Ordinance 4246 and General Plan Policy 4.2.2 require that the PWATD collect a TIMF from developments. This project is subject to this Ordinance. With payment of the TIMF(s), the LOS and safety of the existing roads would remain consistent with the County's General Plan. Therefore, adverse project-specific traffic impacts relating to level of service would be less-than-significant and the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact on roadway level of service.

For Vehicle Miles Traveled (VMT), the County's screening criteria states that a project can be presumed to have a less than significant impact on VMT if the project generates or attracts fewer than 110 trips per day. The project would result in an increase of approximately 33 trips per day (ADT) to a total ADT of 105; therefore, adverse project-specific traffic impacts relating to VMT would be less-than-significant and the proposed

project would not result in a cumulatively considerable contribution to a significant cumulative impact on VMT.

Mitigation/Residual Impact(s)

No significant impacts on transportation/circulation have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27a(2). Transportation & Circulation - Roads and Highways - Safety and Design of Public Roads (PWA)								
Will the proposed project:								
a) Have an Adverse, Significant Project-Specific or Cumulative Impact to the Safety and Design of Roads or Intersections within the Regional Road Network (RRN) or Local Road Network (LRN)?		X				X		

(2) Safety/Design of Public Roads Impact Discussion:

27a(2)-a. Access into the project site is via Arnold Road, which is under the jurisdiction of the City of Oxnard. The project site does not have frontage on a County maintained roadway. The low volume of traffic generated by the project does not have the potential to alter the level of safety of the County maintained road (Hueneme Road) located north of the project site or the nearest intersection (Arnold Road/Hueneme Road) located approximately 1.4 miles to the north. Additionally, vehicular access to the project site would remain substantially unchanged compared to existing conditions. Therefore, adverse project-specific traffic impacts relating to safety and design would be less-than-significant, and the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact on roadway safety.

Mitigation/Residual Impact(s)

No significant impacts on roadway safety have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27a(3). Transportation & Circulation - Roads & Highways – Safety & Design of Private Access (VCFPD)								
a) If a private road or private access is proposed, will the design of the private road meet the adopted Private Road Guidelines and access standards of the VCFPD as listed in the Initial Study Assessment Guidelines?	X				X			
b) Will the project be consistent with the applicable General Plan Goals and Policies for Item 27a(3) of the Initial Study Assessment Guidelines?	X				X			

(3) Safety/Design of Private Access Impact Discussion:

27a(3)-a. Traffic generated by the proposed project would not utilize any private access roads. Current access to the project site is from Arnold Road and meets the Ventura County Fire Protection District (VCFPD) standards. Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, regarding private roads and the safety and design of private access.

27a(3)-b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 27a(3) of the *Ventura County Initial Study Assessment Guidelines* (refer to Circulation, Transportation, and Mobility Element, Section 4.1 Roadways).

Mitigation/Residual Impact(s)

No significant impacts on private road or private access have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27a(4). Transportation & Circulation - Roads & Highways - Tactical Access (VCFPD)								
Will the proposed project:								
a) Involve a road or access, public or private, that complies with VCFPD adopted Private Road Guidelines?	X				X			
b) Be consistent with the applicable General Plan Goals and Policies for Item 27a(4) of the Initial Study Assessment Guidelines?	X				X			

(4) Tactical Access Impact Discussion:

27a(4)-a. Access to the project site is from Arnold Road. The proposed project includes construction of fire access roads that would align with the modified CUP’s southern and western boundary, to provide internal circulation and contain storm runoff. Additionally, the project includes the use of onsite access roads that are required to meet VCFPD Section 14.6 Access Standards. Therefore, adverse impacts relating to access for firefighting purposes will be less-than-significant and would not result in a cumulatively considerable contribution to a significant cumulative impact on tactical access.

27a(4)-b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 27a(4) of the *Ventura County Initial Study Assessment Guidelines* (refer to Circulation, Transportation, and Mobility Element, Section 4.1 Roadways).

Mitigation/Residual Impact(s)

No significant impacts on tactical access have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27b. Transportation & Circulation - Pedestrian/Bicycle Facilities (PWA/Plng.)								
Will the proposed project:								
1) Will the Project have an Adverse, Significant Project-Specific or Cumulative Impact to Pedestrian and Bicycle Facilities within the Regional Road Network (RRN) or Local Road Network (LRN)?	X				X			
2) Generate or attract pedestrian/bicycle traffic volumes meeting requirements for protected highway crossings or pedestrian and bicycle facilities?	X				X			
3) Be consistent with the applicable General Plan Goals and Policies for Item 27b of the Initial Study Assessment Guidelines?	X				X			

B. Pedestrian/Bicycle Facilities Impact Discussion:

27b-1 and 27b-2. The proposed project would not generate additional pedestrian and bicycle traffic. The pedestrian and bicycle traffic in this area is minimal, and the project would not impede any existing or future traffic since all of the construction activities and processing would take place within the CUP boundaries with no modification to the existing entrance to the facility from Arnold Road. The subject property is not located within proximity to any segment of the Ventura County Bikeway Network; the nearest segment is along Pleasant Valley Road which is approximately 1.75 miles to the northwest of the subject properties. Therefore, adverse impacts relating to the addition of pedestrians and bicycles into the area would not be significant and would not result in a cumulatively considerable contribution to a significant cumulative impact on pedestrian and bicycle transportation facilities.

27b-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 27B of the *Ventura County Initial Study Assessment Guidelines* (refer to Circulation, Transportation, and Mobility Element, Section 4.1 Roadways).

Mitigation/Residual Impact(s)

No significant impacts on pedestrian/bicycle facilities have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	L S	PS-M	PS	N	LS	PS-M	PS
27c. Transportation & Circulation - Bus Transit								
Will the proposed project:								
1) Substantially interfere with existing bus transit facilities or routes, or create a substantial increase in demand for additional or new bus transit facilities/services?		X				X		
2) Be consistent with the applicable General Plan Goals and Policies for Item 27c of the Initial Study Assessment Guidelines?		X				X		

C. Bus Transit Impact Discussion:

27c-1. CUP 5001-1 notes up to eight full time employees will be needed to operate the facility. The Agromin facility currently employs eight employees. The project would increase the number of employees to nine full- and four part-time/seasonal employees. This increase would not create a substantial increase in demand for new bus transit facilities or services. The project site is approximately 1.4 miles south of the Arnold/Hueneme Road intersection. Gold Coast Transit operates a bus route on Hueneme Road with the nearest transit stop located approximately 3.15 miles east of the project site. Project-related construction activities would not require the closure of any traffic lanes along Hueneme Road. Therefore, the proposed project would not have a significant project-specific impact on bus transit facilities/services and would not result in a cumulatively considerable contribution to a significant cumulative impact related to bus transit facilities/services.

27c-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced policies for Item 27c of the *Ventura County Initial Study Assessment Guidelines* (refer to Circulation, Transportation, and Mobility Element, Section 4.2 Regional Multimodal System).

Mitigation/Residual Impact(s)

No significant impacts on bus transit facilities have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27d. Transportation & Circulation - Railroads								
Will the proposed project:								
1) Individually or cumulatively, substantially interfere with an existing railroad's facilities or operations?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 27d of the Initial Study Assessment Guidelines?	X				X			

D. Railroads Impact Discussion:

27d-1. There are no railroads within the vicinity of the project site with which the proposed project could interfere; the nearest railroad is located approximately 1.75 miles northwest of the project site. The proposed project would not create additional demand for railroad facilities or operations. Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to railroad facilities/operations.

27d-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 27D of the *Ventura County Initial Study Assessment Guidelines* (refer to Circulation, Transportation, and Mobility Element, 4.2 Regional Multimodal System).

Mitigation/Residual Impact(s)

No significant impacts on railroad facilities have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27e. Transportation & Circulation – Airports (Airports)								
Will the proposed project:								
1) Have the potential to generate complaints and concerns regarding interference with airports?	X				X			
2) Be located within the sphere of influence of either County operated airport?	X				X			
3) Be consistent with the applicable General Plan Goals and Policies for Item 27e of the Initial Study Assessment Guidelines?	X				X			

E. Airports Impact Discussion:

27e-1 and 27e-2. The nearest airport is NBVC Point Mugu and the nearest runway (Runway 09/27) is located approximately 8,500 southeast of the project site. The project site is within the area subject to the NBVC Point Mugu Bird and Wildlife Aircraft Strike Hazards (BASH) Subzone. The project does not include construction of tall structures or buildings that would interfere with aircraft operations. Existing exterior lighting is directed downward, and no new lighting is proposed that could interfere with aircraft. The NBVC Natural Resources Program (Per Communication Letter from NBVC Dated May 31, 2016) indicates that gulls and corvids, birds most likely attracted to the Agromin composting facility, have not been found to be a significant contributor to BASH incidents at NBVC to date. The CUP would allow for the continued composting of green material; processing of food waste would not occur on the project site and therefore the project would limited potential to attract avian scavengers such as gulls and ravens compared to existing conditions. Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to interference with airports.

27e-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 27E of the *Ventura County Initial Study Assessment Guidelines* (refer to Circulation, Transportation, and Mobility Element, Section 4.4 Air Transportation).

Mitigation/Residual Impact(s)

No significant impacts on airports have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27f. Transportation & Circulation - Harbor Facilities (Harbors)								
Will the proposed project:								
1) Involve construction or an operation that will increase the demand for commercial boat traffic and/or adjacent commercial boat facilities?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 27f of the Initial Study Assessment Guidelines?	X				X			

F. Harbor Facilities Impact Discussion:

Impact Discussion:

27f-1. The nearest harbor is Port Hueneme, located approximately 3.3 miles northwest of the project site. The proposed project would not affect the operations of the harbor and would not increase demand on harbor facilities. Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to harbor facilities.

27f-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 27F of the *Ventura County Initial Study Assessment Guidelines* (refer to Economic Vitality Element 10.3)

Mitigation/Residual Impact(s)

No significant impacts on Port Hueneme’s harbor facilities have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
27g. Transportation & Circulation - Pipelines								
Will the proposed project:								
1) Substantially interfere with, or compromise the integrity or affect the operation of, an existing pipeline?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 27g of the Initial Study Assessment Guidelines?	X				X			

G. Pipelines Impact Discussion:

27g-1. According to the Resource Management Agency Geographic Information System, the project site is not located near any oil and/or gas pipelines. The nearest major pipeline is located approximately 2,750 feet northwest of the project site. Therefore, the proposed project would not result in project-specific impacts and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to pipeline facilities.

27g-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 27G of the *Ventura County Initial Study Assessment Guidelines* (refer to Hazards & Safety Element 7.7)

Mitigation/Residual Impact(s)

No significant Impacts on pipelines have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
28a. Water Supply – Quality (EHD)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Comply with applicable state and local requirements as set forth in Section 28a of the Initial Study Assessment Guidelines?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 28a of the Initial Study Assessment Guidelines?	X				X			

28. Water Supply

A. Water Supply – Quality Impact Discussion:

28a 1. The Port Hueneme Water Agency provides water for operational purposes to the existing facility. This service, however, does not include potable water for domestic use. Bottled water imported to the site is used by the employees. Commercially obtained bottled water meets applicable water quality standards for domestic use. Therefore, the proposed project would not have project-specific impacts regarding water quality or cumulative impacts on water quality.

28a-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 28A of the *Ventura County Initial Study Assessment Guidelines* (refer to Water Resources Element, Section 9.1 Water Supply).

Mitigation/Residual Impact(s)

No significant impacts on water supply - quality have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
28b. Water Supply – Quantity (WPD)								
Will the proposed project:								
1) Have a permanent supply of water?	X				X			
2) Either individually or cumulatively when combined with recently approved, current, and reasonably foreseeable probable future projects, introduce physical development that will adversely affect the water supply - quantity of the hydrologic unit in which the project site is located?	X				X			
3) Be consistent with the applicable General Plan Goals and Policies for Item 28b of the Initial Study Assessment Guidelines?	X				X			

B. Water Supply – Quantity Impact Discussion:

28b-1 and 28b-2. Implementation of the proposed project will result in an estimated 20 acre-feet/year (AFY). The project Will Serve letter (dated July 18, 2013) from the Port Hueneme Water Agency committed to supplying up to 20 AFY to the Agromin facility. The Port Hueneme Water Agency indicated in August 2020 that the Will Serve letter remains in effect and that water is available to serve the facility. Water use for the project would not exceed 20 AFY; therefore, the commitment of the Port Hueneme Water Agency to supply water would not be exceeded, and the project would not significantly exacerbate overdraft of the Oxnard Plain Groundwater Basin. In addition, extractions of groundwater in accordance with the Fox Canyon Groundwater Management Agency allocation system do not have the potential to cause or contribute to long-term overdraft because the Fox Canyon aquifer is a managed and regulated groundwater source. Therefore, the proposed project would not have project-specific or cumulative impacts regarding water supply.

28b-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 28B of the *Ventura County Initial Study Assessment Guidelines* (refer to Water Resources Element, Section 9.1 Water Supply).

Mitigation/Residual Impact(s)

No significant impacts on water supply - quantity have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
28c. Water Supply - Fire Flow Requirements (VCFPD)								
Will the proposed project:								
1) Meet the required fire flow?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 28c of the Initial Study Assessment Guidelines?	X				X			

C. Water Supply - Fire Flow Impact Discussion:

28c-1. The Port Hueneme Water Agency provides water to the existing facility and there is adequate fire flow to the project site. Two new fire hydrants would be installed as part of the proposed project to enhance fire suppression capabilities. The hydrants would be required to meet VCFPD Fire Flow Requirements. Therefore, the proposed project would not have any project-specific impacts and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to fire flow requirements.

28c-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the polices for Item 28C of the *Ventura County Initial Study Assessment Guidelines* (refer to Water Resources Element, Section 9.1 Water Supply)

Mitigation/Residual Impact(s)

No significant Impacts on fire flow requirements have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
29a. Waste Treatment & Disposal Facilities - Individual Sewage Disposal Systems (EHD)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Comply with applicable state and local requirements as set forth in Section 29a of the Initial Study Assessment Guidelines?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 29a of the Initial Study Assessment Guidelines?	X				X			

29. Waste Treatment/Disposal Facilities

A. Individual Sewage Disposal System Impact Discussion:

29a-1. The proposed project would use portable toilets; no connection to a public sewer or septic system is proposed. The proposed project would not have any project-specific impacts and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to the use of an individual sewage disposal system.

29a-2. The proposed project will be consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the polices for Item 29A of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services, and Infrastructure Element, Section 5.4 Wastewater Treatment and Disposal).

Mitigation/Residual Impact(s)

No significant impacts on individual sewage disposal systems have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
29b. Waste Treatment & Disposal Facilities - Sewage Collection/Treatment Facilities (EHD)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Comply with applicable state and local requirements as set forth in Section 29b of the Initial Study Assessment Guidelines?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 29b of the Initial Study Assessment Guidelines?	X				X			

B. Sewage Collection/Treatment Facilities Impact Discussion:

29b-1. The proposed project does not include connection to a public sewer. The proposed project would not have any project-specific impacts and would not result in a cumulatively considerable contribution to a significant cumulative impact, related to the use of a sewage collection/treatment facility.

29b-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 29B of the *Ventura County Initial Study Assessment Guidelines* (refer to (refer to Public Facilities, Services, and Infrastructure Element, Section 5.4 Wastewater Treatment and Disposal).

Mitigation/Residual Impact(s)

No significant impacts on sewage collection/treatment facilities have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
29c. Waste Treatment & Disposal Facilities - Solid Waste Management (PWA)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Have a direct or indirect adverse effect on a landfill such that the project impairs the landfill's disposal capacity in terms of reducing its useful life to less than 15 years?		X				X		
2) Be consistent with the applicable General Plan Goals and Policies for Item 29c of the Initial Study Assessment Guidelines?		X				X		

C. Solid Waste Management Impact Discussion:

29c-1. Project construction and operation would generate minimal solid waste that would require disposal at other landfills. Solid waste would likely be disposed of at either the Simi Valley Landfill or the Toland Road Landfill. According to CalRecycle, the Simi Valley Landfill has a remaining capacity of 82,954,873 cubic yards and is anticipated to operate until 2063. The Toland Road Landfill has a remaining capacity of 16,068,864 cubic yards and is anticipated to operate until 2033. In addition, the project provides a location for composting which would divert organic solid waste that might otherwise require landfill disposal. Because there is currently sufficient capacity in the County landfills, the proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, regarding Ventura County's solid waste disposal capacity.

29c-2. Ventura County Ordinance 4421 requires all discretionary permit applicants whose proposed project includes construction and/or demolition activities to reuse, salvage, recycle, or compost a minimum of 60% of the solid waste generated by their project. The Public Works Agency Integrated Waste Management Division's waste diversion program (Form B Recycling Plan/Form C Report) ensures this 60% diversion goal is met prior to issuance of a final zoning clearance for use inauguration or occupancy, consistent with the Ventura County General Plan's Waste Treatment and Disposal Facility Goals PFS-5.1 through PFS-5.9 4. Therefore, the proposed project would have less-than-significant project-specific impacts and would not result in a cumulatively considerable contribution to significant cumulative impacts, related to the Ventura County General Plan's goals and policies for solid waste disposal capacity.

Mitigation/Residual Impact(s)

No significant impacts on solid waste management have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
29d. Waste Treatment & Disposal Facilities - Solid Waste Facilities (EHD)								
Will the proposed project:								
1) Comply with applicable state and local requirements as set forth in Section 29d of the Initial Study Assessment Guidelines?		X				X		
2) Be consistent with the applicable General Plan Goals and Policies for Item 29d of the Initial Study Assessment Guidelines?		X				X		

D. Solid Waste Facilities Impact Discussion:

29d-1. Solid waste operations and facilities are those projects that involve solid waste handling, storage, processing and disposal activities. Solid waste includes, without limitation, recyclable material as defined under the California Integrated Waste Management Act. The Agromin facility has an active permit to operate (permit number FA0006733) issued by the Ventura County EHD/CUPA. Compliance with applicable state and local regulations governing solid waste facilities would reduce potential project specific impacts to less-than-significant levels, and the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact regarding solid waste facilities.

29d-2. The proposed project will be consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 29D of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services, and Infrastructure Element, Section 5.5 Solid and Hazardous Waste).

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
30. Utilities								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
a) Individually or cumulatively cause a disruption or re-routing of an existing utility facility?	X				X			
b) Individually or cumulatively increase demand on a utility that results in expansion of an existing utility facility which has the potential for secondary environmental impacts?	X				X			
c) Be consistent with the applicable General Plan Goals and Policies for Item 30 of the Initial Study Assessment Guidelines?	X				X			

30. Utilities Impact Discussion:

30a and 30b. Sufficient electrical infrastructure exists on site to provide power to the expanded composting operations. The existing phone lines to the project site are adequate to accommodate the expanded composting operations. The proposed project would not cause a disruption or re-routing of an existing utility facility, nor would it increase demand on a utility that results in expansion of an existing facility. Therefore, the proposed project would not result in a project-specific impacts and would not result in a cumulatively considerable contribution to a significant cumulative impact related to existing utility facilities.

30c. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 30C of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services and Infrastructure Element, Section 5.7 Public Utilities).

Mitigation/Residual Impact(s)

No significant impacts on utility facilities have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
31a. Flood Control Facilities/Watercourses - Watershed Protection District (WPD)								
Will the proposed project:								

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
1) Either directly or indirectly, impact flood control facilities and watercourses by obstructing, impairing, diverting, impeding, or altering the characteristics of the flow of water, resulting in exposing adjacent property and the community to increased risk for flood hazards?		X				X		
2) Be consistent with the applicable General Plan Goals and Policies for Item 31a of the Initial Study Assessment Guidelines?		X				X		

31. Flood Control/ Drainage:

A. WPD Facilities/Watercourses Impact Discussion:

Impact Discussion:

31a-1. The project site is located approximately 8,625 feet southeasterly of the Oxnard Industrial Drain; the nearest Ventura County Watershed Protection District (District) jurisdictional redline channel. No direct drainage connections to the Oxnard Industrial Drain are proposed. Drainage from increases in impervious area would be retained on the project site and captured by the onsite retention basin, then pumped out of the basin and used on the project site. Therefore, the proposed project would have a less-than-significant project-specific impact and would not result in a cumulatively cumulative contribution to a significant cumulative impact, regarding flood hazards.

31a-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 31A of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services and Infrastructure Element, Section 5.6 Flood Control and Drainage Facilities).

Mitigation/Residual Impact(s)

No significant impacts from flood hazards have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
31b. Flood Control Facilities/Watercourses - Other Facilities (PWA)								
Will the proposed project:								
1) Result in the possibility of deposition of sediment and debris materials within existing channels and allied obstruction of flow?	X				X			
2) Impact the capacity of the channel and the potential for overflow during design storm conditions?	X				X			
3) Result in the potential for increased runoff and the effects on Areas of Special Flood Hazard and regulatory channels both on and off site?	X				X			
4) Involve an increase in flow to and from natural and man-made drainage channels and facilities?	X				X			
5) Be consistent with the applicable General Plan Goals and Policies for Item 31b of the Initial Study Assessment Guidelines?	X				X			

B. Other Facilities/Watercourses Impact Discussion:

31b-1. Through 5 The proposed project would preserve the existing runoff and local drainage patterns. Drainage from increases in impervious area would be retained on the project site and captured by the onsite retention basin, then pumped out of the basin and used on the project site. An existing earthen berm, approximately 16 feet high and 15 feet wide, wraps around the existing southwest CUP boundary and physically separates the composting operation from the Oxnard Drainage Canal #3 located south of the project site. A proposed berm and elevated fire access road along the new CUP boundary would further contain runoff onsite. Site drainage would not create an obstruction of flow in the existing drainage because any runoff would be similar to the present conditions. Therefore, the proposed project would not have a significant project-specific impact and would not result in a cumulatively cumulative contribution to a significant cumulative impact, regarding flood control facilities/watercourses.

Runoff is by sheetflow conditions along existing grades. This runoff would not impact the capacity of the existing drainage facilities and overall drainage patterns would be unaltered as the existing drainage of the improvement areas would be maintained in the

present pattern. The project would not result in an increased potential for deposition of sediment and debris materials within existing channels and allied obstruction of flow compared to existing conditions due to the increase in impervious area and the proposed retention basin. Therefore, the proposed project would not have a significant project-specific impact and would not result in a cumulatively cumulative contribution to a significant cumulative impact, regarding flood control facilities/watercourses, nor impacts to areas of special flood hazard, nor involve and increase in flow to natural or manmade drainage channels and facilities.

31b-5. The project would be consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 31B-5 of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services, and Infrastructure Element, Section 5.6 Flood Control and Drainage Facilities).

Mitigation/Residual Impact(s)

No significant impacts on flood control facilities/watercourses have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
32. Law Enforcement/Emergency Services (Sheriff)								
Will the proposed project:								
a) Have the potential to increase demand for law enforcement or emergency services?	X				X			
b) Be consistent with the applicable General Plan Goals and Policies for Item 32 of the Initial Study Assessment Guidelines?	X				X			

32. Law Enforcement/Emergency Services Impact Discussion:

32a. The existing facility at the project site operates from 6:00 am to 6:00 pm, Monday through Saturday. When not in operation, the facility is gated and locked and includes security lighting. The proposed project involves increased compost expansion area but would not require additional personnel, equipment, or facilities of the Ventura County Sheriff’s Department. Therefore, the proposed project would have a less-than-significant project-specific impact, and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to law enforcement services.

32b. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced policies for Item 32 of the

Ventura County Initial Study Assessment Guidelines (refer to Public Facilities, Services, and Infrastructure Element, Section 5,11 Law Enforcement and Emergency Services).

Mitigation/Residual Impact(s)

No significant impacts on law enforcement/emergency services have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
33a. Fire Protection Services - Distance and Response (VCFPD)								
Will the proposed project:								
1) Be located in excess of five miles, measured from the apron of the fire station to the structure or pad of the proposed structure, from a full-time paid fire department?	X				X			
2) Require additional fire stations and personnel, given the estimated response time from the nearest full-time paid fire department to the project site?	X				X			
3) Be consistent with the applicable General Plan Goals and Policies for Item 33a of the Initial Study Assessment Guidelines?	X				X			

33. Fire Protection District

A. Distance/Response Time Impact Discussion:

33a-1. The closest Ventura County Fire Station is Station 53, located 2.75 miles northwest of the project site at 304 N 2nd Street, Port Hueneme. Oxnard City Fire Station #2 is located approximately 2 miles to the northwest of the project site at 531 E Pleasant Valley Road, Oxnard. The nearest fire stations are within 5 miles of the project site; therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to distance and response activities related to fire protection services.

33a-2. The proposed project would maintain the current land use of the project site and would not involve an increase in intensity of use that would require additional fire stations and personnel. Therefore, the proposed project would not result in a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to distance and response activities related to fire protection services.

33a-3. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15 2020) that replace policies for Item 33A of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services, and Infrastructure Element, Section 5.12 Fire Protection).

Mitigation/Residual Impact(s)

No significant Impacts on fire protection services (distance and response), have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
33b. Fire Protection Services – Personnel, Equipment, and Facilities (VCFPD)								
Will the proposed project:								
1) Result in the need for additional personnel?	X				X			
2) Magnitude or the distance from existing facilities indicate that a new facility or additional equipment will be required?	X				X			
3) Be consistent with the applicable General Plan Goals and Policies for Item 33b of the Initial Study Assessment Guidelines?	X				X			

B. Personnel/Equipment/Facilities Impact Discussion:

33b-1. The proposed project would maintain the current land use of the project site and would not involve an increase in intensity of use that would result in the need for additional fire personnel. Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to personnel for fire protection services.

33b-2. The proposed project would maintain the current land use of the project site and would not involve an increase in intensity of use that would require a new fire facility or additional equipment. Therefore, the proposed project would not have a project-specific impact and would not result in a cumulatively considerable contribution to a significant cumulative impact, with regard to facilities and equipment for fire protection services.

33b-3. The project will be consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 33B of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services, and Infrastructure Element, Section 5.12 Fire Protection).

Mitigation/Residual Impact(s)

No significant impacts on fire protection services (personnel, equipment and facilities), have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
34a. Education - Schools								
Will the proposed project:								
1) Substantially interfere with the operations of an existing school facility?	X				X			
2) Be consistent with the applicable General Plan Goals and Policies for Item 34a of the Initial Study Assessment Guidelines?	X				X			

34. Education

A. Schools Impact Discussion:

34a-1. The closest elementary schools to the project site include Tierra Vista Elementary, approximately 1.9 miles north of the project site, Ocean View Early Education School, Ocean View Junior High School and Mar Vista Elementary School are approximately 2.0 miles north of the project site. Channel Islands High School is located approximately 2.4 miles north of the project site, and Oxnard College and Fred L Williams Elementary School are located approximately 2 miles north of the project site. Art Haycox Elementary School, Vista Real Charter High School, and Julien Hathaway Elementary School and are all located approximately 2 miles northwest of the project site. The proposed project would maintain the current land use of the project site and would not involve an increase in intensity of use that would interfere with the operation of existing schools. The proposed project does not involve the introduction of a new use or development (e.g., new housing) that would result in a corresponding demand for school facilities and the payment of school fees pursuant to Section 65996 of the California Government Code. Therefore, the proposed project would not result in significant project-specific impacts and would not result in a cumulatively considerable contribution to a significant cumulative impact related to existing school facilities.

34a-2. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted September 15, 2020) that replaced the policies for Item 34A of the *Ventura County Initial Study Assessment Guidelines* (refer to Public Facilities, Services, and Infrastructure Element, Section 5.8 Community Facilities).

Mitigation/Residual Impact(s)

No significant impacts on schools have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
34b. Education - Public Libraries (Lib. Agency)								
Will the proposed project:								
1) Substantially interfere with the operations of an existing public library facility?	X							
2) Put additional demands on a public library facility which is currently deemed overcrowded?	X							
3) Limit the ability of individuals to access public library facilities by private vehicle or alternative transportation modes?	X							
4) In combination with other approved projects in its vicinity, cause a public library facility to become overcrowded?					X			
5) Be consistent with the applicable General Plan Goals and Policies for Item 34b of the Initial Study Assessment Guidelines?	X				X			

B. Libraries Impact Discussion:

34b-1 through 34b-4. The proposed project does not include a residential component. The proposed project would not increase the local or regional population, and therefore would not create an increase in demand for or use of library facilities. The closest libraries are located at Oxnard College, approximately 2.5 miles north of the project site, and the Ray D. Prueter Library and South Oxnard Branch Libraries located approximately 2.5 miles northwest of the project site. Due to the distance of the closest libraries to the project site, the proposed project would not interfere with the operation of a library. The proposed project would not increase demand for library services and would therefore not result in a cumulatively considerable contribution to a significant cumulative impact related to library facilities.

34b-5. The proposed project is consistent with the applicable 2040 General Plan Goals and Policies (adopted on September 15, 2020) that replaced the policies for Item 34B of

the *Ventura County Initial Study Assessment Guidelines* (refer to refer to Public Facilities, Services, and Infrastructure Element, Section 5.9 Library Facilities and Services).

Mitigation/Residual Impact(s)

No significant impacts on public libraries have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
35. Recreation Facilities (GSA)								
Will the proposed project:								
a) Cause an increase in the demand for recreation, parks, and/or trails and corridors?	X				X			
b) Cause a decrease in recreation, parks, and/or trails or corridors when measured against the following standards: <ul style="list-style-type: none"> Local Parks/Facilities - 5 acres of developable land (less than 15% slope) per 1,000 population; Regional Parks/Facilities - 5 acres of developable land per 1,000 population; or, Regional Trails/Corridors - 2.5 miles per 1,000 population? 	X				X			
c) Impede future development of Recreation Parks/Facilities and/or Regional Trails/Corridors?	X				X			
d) Be consistent with the applicable General Plan Goals and Policies for Item 35 of the Initial Study Assessment Guidelines?	X				X			

35.Recreation Impact Discussion:

35a. The proposed project does not include a residential component, or an increase in intensity of use or employees, sufficient to cause a population increase that would cause an increase in the demand for parks, trails, or recreational facilities.

35b. The proposed project does not include a residential component, or an increase in intensity of use or employees, sufficient to cause a population increase that would cause a population increase that would cause a decrease in parks, trails, or recreational facilities.

35c. The proposed project site is not located within or adjacent to a planned or proposed future park, recreational facility, or trail corridor. The proposed project would be built within the boundaries of an existing developed site and therefore no impacts on future recreational facilities, parks, or trails would occur.

35d. The proposed project is consistent with the applicable General Plan Goals and Policies for Item 35 of the *Ventura County Initial Study Assessment Guidelines*.

Mitigation/Residual Impact(s)

No significant impacts on recreation facilities have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
36. Tribal Cultural Resources								
Would the project:								
a) Cause a substantially adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is graphically defined in terms of size, scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.	X				X			
b) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k)? or	X				X			
c) A resource determined by the Lead Agency, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.	X				X			

36. Tribal Cultural Resources Impact Discussion:

36a. through 36c. The proposed project does not include activities that will cause a substantial adverse change of any tribal cultural resources. The Ventura County Resource Management Agency received the results of a Cultural Resources Record Search Quick Check from the South Central Coastal Information Center (SCCIC) on October 1, 2015 indicating that the project site had been previously surveyed and cultural resources were not found. A full archaeological records search of the SCCIC in 2017 indicted that there are no previously recorded cultural resources on the project site, but three cultural resources were previously recorded within 0.25 mile of the project site. Grading and trenching would be confined to the installation of a stormwater retention basin, fire access road, fire hydrants, parking area, and soil cement treatment at the proposed compost expansion area. Excavation to accommodate the fire access roads, fire hydrants, and water pipelines would be no deeper than eight feet below grade. The proposed retention basin will be at a depth of approximately one foot and the soil cement

treatment for the proposed compost expansion area is based on a cement treatment depth of 18 inches. Consultation as required under Public Resources Code Section 21080-3.1 et seq. (AB 52) was conducted previously for the project on August 2, 2016. No California Native Tribes contacted at this time have requested consultation for the proposed project, therefore impacts to Tribal Cultural Resources are considered less than significant.

Mitigation/Residual Impact(s)

No significant impacts on public libraries have been identified, therefore no mitigation measures are necessary.

Issue (Responsible Department)*	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
37. Energy								
Would the project:								
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	X				X			
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	X				X			

37. Energy Impact Discussion:

37a. and 37b. As discussed above, the proposed project will not require any new utility connections in order to implement the requested permit either for construction of the modified facility or operation of the existing facility for the term identified in the project description. As the facility relies on existing buildings and equipment, the proposed project will not result in any increase of energy usage or the requirement for review under the Ventura County Building Code or the new energy efficiency standards under the Ventura County Energy Reach Code. The proposed increase in vehicle traffic associated with the modified trips for the site were found to be consistent with the applicable policies related to greenhouse gas reduction and vehicle miles traveled.

Mitigation/Residual Impact(s)

Therefore, the proposed project would not result in a significant impact with respect to wasteful, inefficient, or unnecessary consumption of energy resources, nor conflict with or obstruct a state or local plan for renewable energy or energy efficacy.

Issue (Responsible Department) *	Project Impact Degree Of Effect**				Cumulative Impact Degree Of Effect**			
	N	LS	PS-M	PS	N	LS	PS-M	PS
38. Wildfire								
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:								
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	X				X			
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	X				X			
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	X				X			
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	X				X			

38. Wildfire Impact Discussion:

38a. through 38d. The proposed project is not located within a state responsibility area or within a Fire Severity Zone (Ventura County GIS 2022). The site is served by Ventura County Fire Department Station 53 (304 N Second St, Port Hueneme) and Ventura County Federal Fire Department at Naval Base Ventura County at Point Mugu (through mutual aid agreement) for public safety and fire protection purposes. The proposed project is an extension of time for an existing permit with a request to modify the permit boundary and reconfigure operations onsite. The proposed changes to the infrastructure onsite will not exacerbate fire risk onsite and are keeping with the minimum standards for Ventura County for both organic processing operations (Standard 516) and fire apparatus access standards (Standard 501). The proposed project will not exacerbate wildfire risk or any related fire risk (i.e., exposing people or structures to significant risks from post-

wildfire instability or changes) associated with continued operations at the site and the proposed modifications.

Mitigation/Residual Impact(s)

Therefore, the proposed project would not result in a significant impact with respect to the risks associated with wildfire.

***Key to the agencies/departments that are responsible for the analysis of the items above:**

Airports - Department Of Airports	AG. - Agricultural Department	VCAPCD - Air Pollution Control District
EHD - Environmental Health Division	VCFPD - Fire Protection District	GSA - General Services Agency
Harbors - Harbor Department	Lib. Agency - Library Services Agency	Plng. - Planning Division
PWA - Public Works Agency	Sheriff - Sheriff's Department	WPD – Watershed Protection District

****Key to Impact Degree of Effect:**

N – No Impact
LS – Less than Significant Impact
PS-M – Potentially Significant but Mitigable Impact
PS – Potentially Significant Impact

Section C – Mandatory Findings of Significance

Based on the information contained within Section B:		
	Yes	No
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?		X
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one that occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future).		X
3. 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 effect of other current projects, and the effect of probable future projects. (Several projects may have relatively small individual impacts on two or more resources, but the total of those impacts on the environment is significant.)		X
4. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?		X

Findings Discussion:

1. No. As stated above in Section B, Item 4 of this Initial Study, the proposed project would not significantly affect fish or wildlife species, special status plant or animal species, animal communities, and nesting birds in nearby Ormond Beach or elsewhere. As stated above in Section B, Item 8 of the Initial Study, the proposed project would not eliminate important examples of the major periods of California history or prehistory.

2. No. The proposed project consists of the continued operation of a composting and soil amendment facility, a revised CUP boundary, an increase of onsite feedstock and compost storage from 10,000 cubic yards to 12,500 cubic yards, and the installation of facility improvements. The proposal is to operate this facility until December 31, 2030, at which time the composting operation will cease and the site will be restored such that it is compatible with planned restoration efforts in the adjacent coastal areas. As discussed in Section B of this Initial Study, the project would not result in significant impacts to the environment.

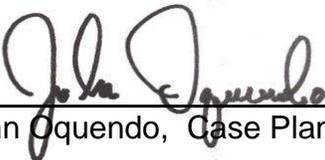
3. No. As stated in Section B of this Initial Study, the proposed project does not have the potential to create a cumulatively considerable contribution to a significant cumulative impact.

4. No. No environmental effects have been identified in this Initial Study that would cause substantial adverse effects, either directly or indirectly on human beings. The proposed project consists of the continued operation of a composting and soil amendment facility until December 31, 2030, a revised CUP boundary, an increase of onsite feedstock and compost storage from 10,000 cubic yards to 12,500 cubic yards, and the installation of facility improvements. As stated in Section B of this Initial Study, the proposed project would not involve the use of hazardous materials in a manner that pose any unusual risks since they must be handled in compliance with all applicable regulations. Additionally, the proposed project would not involve operational noise that would interfere with surrounding uses, traffic hazards, adverse air quality impacts, adverse impacts on water bodies located on or around the project site, and the project would not generate any hazardous wastes with substantial adverse effects on human beings.

Section D – Determination of Environmental Document

Based on this initial evaluation:

[]	I find the proposed project could not have a significant effect on the environment, and a Negative Declaration should be prepared.
[X]	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measure(s) described in Section B of the Initial Study will be applied to the project. A Mitigated Negative Declaration should be prepared.
[]	I find the proposed project, individually and/or cumulatively, MAY have a significant effect on the environment and an Environmental Impact Report (EIR) is required.*
[]	I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An Environmental Impact Report is required, but it must analyze only the effects that remain to be addressed.*
[]	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



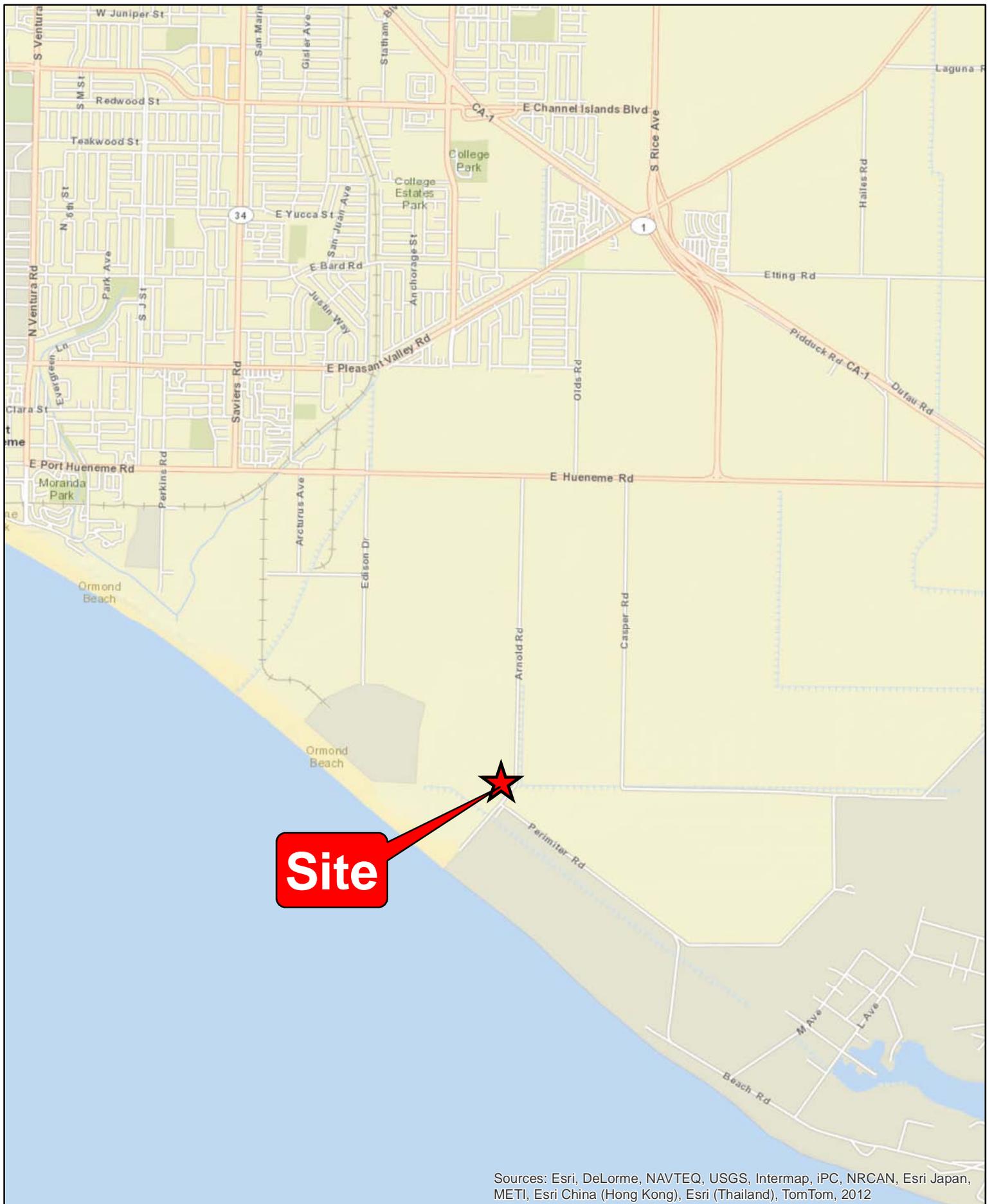
 John Oquendo, Case Planner

April 6, 2023
 Date

Attachments:

- Attachment 1 - Project Vicinity Map
- Attachment 2 - Project Location Map
- Attachment 3 - Existing Facility Map
- Attachment 4 - Site Plan
- Attachment 5 - List of Pending and Approved Projects
- Attachment 6 - Map of Pending and Approved Projects
- Attachment 7 - Dust Suppression Protocol (June 2020)
- Attachment 8 - Odor Impact and Minimization Plan (May 2020)
- Attachment 9 - Vector Control Plan (May 2020)
- Attachment 10 - Containment Area Plan (May 2020)

- Attachment 11 -Initial Study Biological Assessment (September 9, 2013, Updated August 17, 2015)
- Attachment 12- Predatory Bird Management Plan (June 2020)
- Attachment 13 - Naval Base Ventura County (NBVC) comment letter (May 2016)
- Attachment 14 - CCR §§ 17852 and 17896.2, Definitions
- Attachment 15 -Geotechnical Engineering Report
- Attachment 16 - Work cited



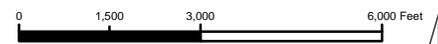
Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2012



Ventura County
Resource Management Agency
Information Systems Department
Map created on 12/19/2013

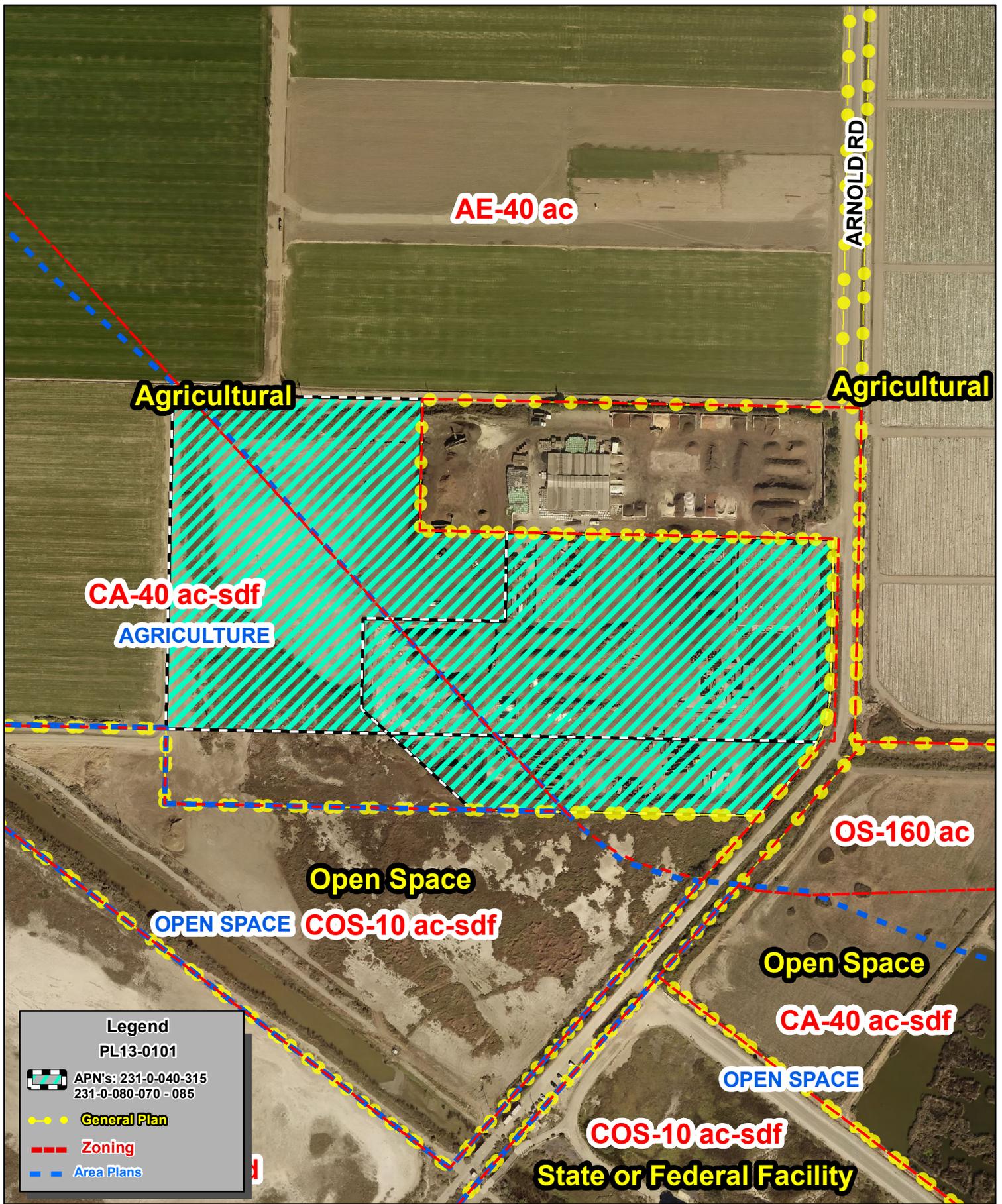


County of Ventura
Planning Case No.
PL13-0101
Attachment 1 - Project
Vicinity Map



Disclaimer: this map was created by the Ventura County Resource Management Agency, Mapping Services - GIS, which is designed and operated solely for the convenience of the County and related public agencies. The County does not warrant the accuracy of this map and no decision involving a risk of economic loss or physical injury should be made in reliance therein







231-0-040-315

231-0-080-080

231-0-080-060

231-0-080-070

ARNOLD RD

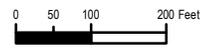
PERIMETER RD



Ventura County
Resource Management Agency
Information Systems GIS Services
Map created on 06-27-2019
Source: Pictometry: 2018

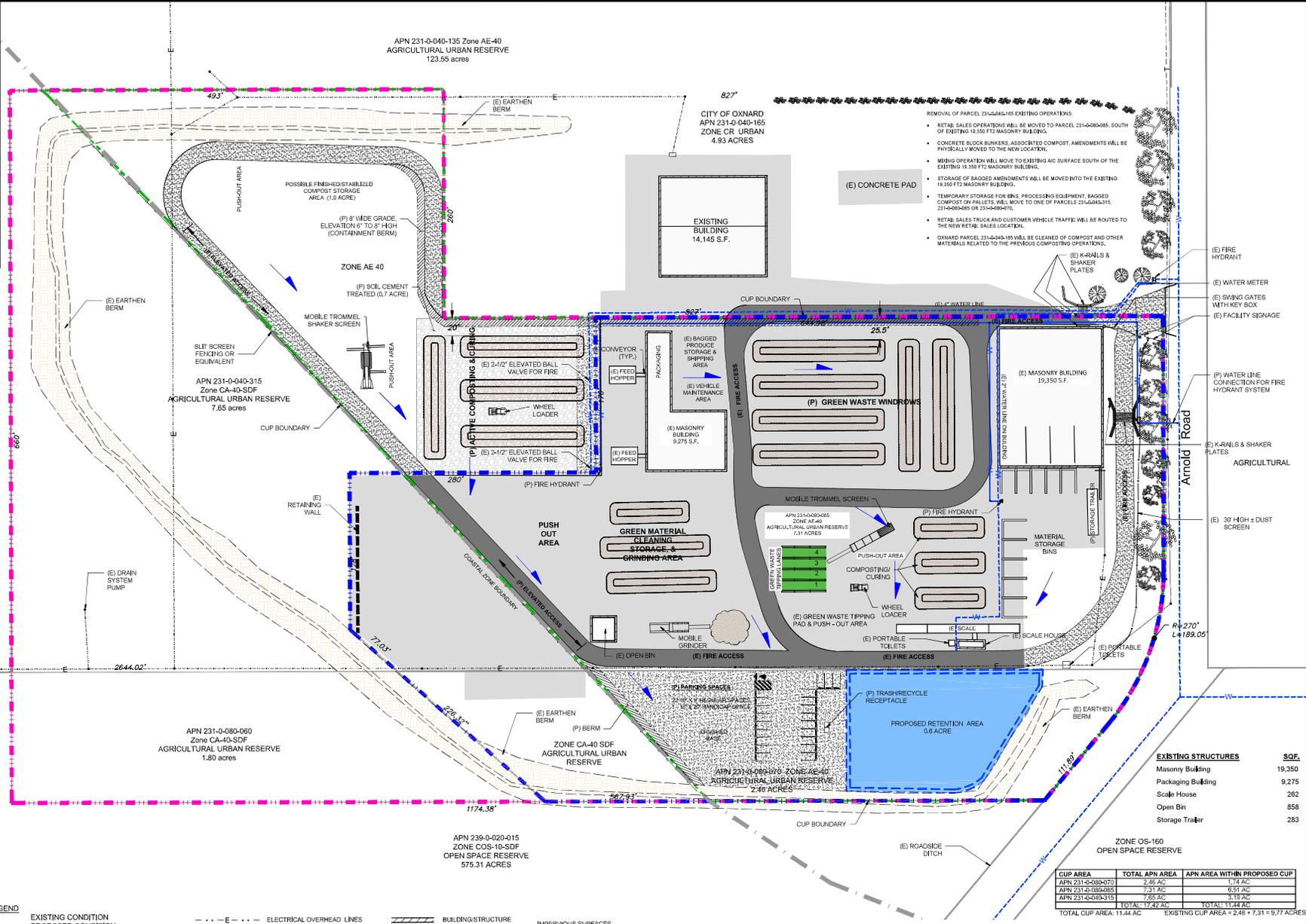
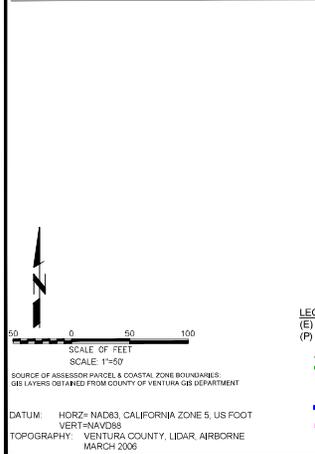
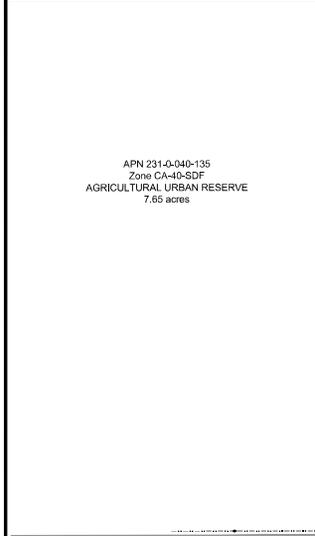
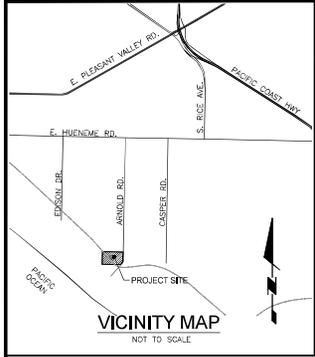


County of Ventura
Planning Case No. PL13-0101
Attachment 3 - Existing Facility Map



Disclaimer: this map was created by the Ventura County Resource Management Agency Information Systems GIS, which is designed and operated solely for the convenience of the County and related public agencies. The County does not warrant the accuracy of this map and no decision involving a risk of economic loss or physical injury should be made in reliance therein





- REMOVAL OF PARCEL 231-0-040-185 EXISTING OPERATIONS:
- RETAIL SALES OPERATIONS WILL BE MOVED TO PARCEL 231-0-040-065, SOUTH OF EXISTING 19,350 FT² MASONRY BUILDING.
 - CONCRETE BLOCK BUILDERS, ASSOCIATED COMPOST, AMENDMENTS WILL BE PHYSICALLY MOVED TO THE NEW LOCATION.
 - WIND OPERATIONS WILL MOVE TO EXISTING AIR SURFACE SOUTH OF THE EXISTING 19,350 FT² MASONRY BUILDING.
 - STORAGE OF BAGGED AMENDMENTS WILL BE MOVED INTO THE EXISTING 19,350 FT² MASONRY BUILDING.
 - TEMPORARY STORAGE FOR BIN, PROCESSING EQUIPMENT, BAGGED COMPOST ON PALLETS, WILL MOVE TO ONE OF PARCELS 231-0-040-315, 231-0-080-015 OR 231-0-080-015.
 - RETAIL SALES TRUCK AND CUSTOMER VEHICLE TRAFFIC WILL BE ROUTED TO THE NEW RETAIL SALES LOCATION.
 - OXNARD PARCEL 231-0-040-185 WILL BE CLEANED OF COMPOST AND OTHER MATERIALS RELATED TO THE PREVIOUS COMPOSTING OPERATIONS.

EXISTING STRUCTURES	SQ. FT.
Masonry Building	19,350
Packaging Building	9,275
Scale House	262
Open Bin	858
Storage Trailer	283

CUP AREA	TOTAL APN AREA	APN AREA WITHIN PROPOSED CUP
APN 231-0-080-070	2.45 AC	1.74 AC
APN 231-0-080-065	7.31 AC	6.31 AC
APN 231-0-040-315	7.85 AC	3.19 AC
TOTAL	17.42 AC	TOTAL 11.24 AC
TOTAL CUP AREA	11.44 AC	EXISTING CUP AREA + 2.45 + 7.31 = 9.77 ACRES

LEGEND

(E) EXISTING CONDITION
(P) PROPOSED CONDITION

--- E --- ELECTRICAL OVERHEAD LINES
--- T --- TELEPHONE OVERHEAD LINES
--- W --- EXISTING WATER LINES
--- P --- PROPOSED WATER LINES
--- D --- DRAINAGE ARROWS
--- S --- SLIT SCREEN FENCE
--- B --- STORM WATER RETENTION BASIN

--- P --- PARCEL LINES
--- C --- PROPOSED CUP BOUNDARY
--- W --- WINDROW
--- E --- EXISTING CUP BOUNDARY
--- L --- LEGAL LOT
--- G --- GROSS: 19,388 ACRES
--- N --- NET: 17.8 ACRES

--- B --- BUILDING/STRUCTURE
--- A --- ASPHALT/CONCRETE AREA
--- W --- WORKING SURFACES & ACCESS WAYS
--- C --- CRUSHED BASE
--- S --- SOLICEMENT AREA
--- C --- COASTAL ZONE BOUNDARY

--- I --- IMPERVIOUS SURFACES
--- E --- EXISTING CUP: 281,483.5 S.F. (INCLUDES SURFACE IN COASTAL ZONE)
--- P --- PROPOSED CUP: 292,369.0 S.F.

DATUM: HORZ= NAD83, CALIFORNIA ZONE 5, US FOOT
VERT= NAVD83
TOPOGRAPHY: VENTURA COUNTY, LIDAR AIRBORNE
MARCH 2008

PROPERTY APPLICANT:
AGROMIN DBA CALIFORNIA WOOD RECYCLING, INC.
201 KINETIC DRIVE
OXNARD, CA 93030

PROPERTY OWNER:
HHC INVESTMENT GROUP, LLC
201 KINETIC DRIVE
OXNARD, CA 93030

PROJECT SITE:
6659 ARNOLD ROAD
OXNARD, CA 93033

SEPE CONSULTING, INC.
374 Polk Street, Ste. 200 • Ventura, CA 93001
(805) 275-1515 www.sepecoconsulting.com
DATE PREPARED: 09/24/18

FILE NAME	AS-OWN	FIGURE NUMBER
FILE: SEPE	SEPEOWN	1 OF 1
DRAWN BY: GLEAMUS		
PROJECT: R. DAL FARRA		

County of Ventura
Planning Case No.
PL13-0101
Attachment 4 - Site Plan

Attachment 5
County of Ventura List and Map of Past, Present, and Reasonably Foreseeable
Future Projects Used in the Cumulative Impacts Analysis

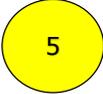
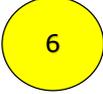
Permit Case No.	Permit Type*	Description
PL13-0012 	Conditional Use Permit (CUP)	Request by San Miguel Produce to continue to allow the use of principal structures for the preliminary packing, storage, and preservation of produce (product cooler, ice house, hydrovac tubes, portable packaging and truck staging) on 6.0 acres, and an accessory office and agricultural contractor service and storage yard (farm apparatus storage, truck access/parking, vehicle and equipment maintenance) on 4 acres. The 27.18-acre property is addressed as 4444 Navalair Road. APN 232-0-041-270. (Approved)
PL14-0103 	Minor Modification to Conditional Use Permit (CUP) 4384	Request for on-going Oil Exploration and Production at the Naumann Drill site located on 3214 Etting Road. The request includes: (1) removal of existing crude oil storage tanks and water storage tank and the construction of three new 1,000-barrel tanks (21' in diameter and 16' tall) in a new containment area; (2) re-configure various pieces of existing equipment on to make room for additional wells on the drill site; (3) the drilling of four wells; (4) to allow transportation of crude oil and waste water from the Project Site at all times and not restricted to Monday through Saturday, between 7:30 am and 6:30 pm; and to reset the CUP expiration date to be 30 years from the date of the Minor Modification approval. APN 232-0-062-030
LU11-0088 	Conditional Use Permit (CUP)	Request for a Conditional Use Permit for the ongoing operation of an agricultural preliminary packing and storage facility located at 3803 Dufau Road. The project was originally permitted under Conditional Use Permit 4842-2 and Variance 5249. No new development or addition of impervious areas is proposed. Water to the project is provided by the City of Oxnard. An on-site private septic system provides sewage disposal for the development. APN 218-0-091-120

Permit Case No.	Permit Type*	Description
PL13-0123 	Minor Modification to Conditional Use Permit 4262	<p>Request for continued operation of an existing unmanned wireless communication facility (WCF) for an additional 10-year period. The wireless communication facility is located on a AE-40 Zone District. The proposed facility includes a 120-foot tall antenna tower (to be lowered from 150 feet) with the following components: (1) A 6-foot diameter microwave dish mounted at 20 feet; (2) A 6-foot diameter microwave dish mounted at 50 feet; (3) A 2-foot diameter microwave dish mounted at 70 feet; (4) A 4-foot diameter microwave dish mounted at 100 feet; (5) Twelve antennas and RRUs; (6) A screening shroud that covers all antennas and RRUs; and (7) Two omni antennas mounted at 116 feet. A section of the existing chain link fencing will be replaced and a new gate installed. The entire fence will be fitted with faux ivy and maintained around the perimeter of the equipment enclosure. APN 218-0-042-380 (Approved)</p>
PL15-0151 	Permit Adjustment to Conditional Use Permit (LU07-0111)	<p>Request for an Agricultural Contractor's Storage Yard located at 4524 East Pleasant Valley Road. Proposed development includes a trash enclosure, a heat treat chamber, 2 storage containers, and a pallet sorter system. Work areas will be modified to accommodate new and existing development within the Conditional Use Permit boundary in the existing structures collectively identified as the former Pleasant Valley Warehouse for the California Bean Growers Association. APN 230-0-017-001</p>
PL16-0043 	Conditional Use Permit (CUP) to replace expired CUP 5332	<p>Request for a new CUP to replace expired CUP No. 5332 and resolve violation CV16-0116 for the continued use of an existing T-Mobile Wireless Telecommunication Facility which consists of 6 antennas (4 at 66 ft. top of antenna and 2 at 60 ft. top of antenna) and 1 microwave dish (52 foot 6 in top of dish) on an existing 130-foot-tall SCE transmission tower with equipment cabinets at grade within a stucco enclosure compound. The</p>

Permit Case No.	Permit Type*	Description
		project also consists of replacing 3 existing antennas with 3 new model antennas, and installing 1 new equipment cabinet and battery back units within the existing stucco cabinet enclosure. There will be no expansion of the footprint of the facility or ground disturbance. APN 234-0-100-055
PL16-0073 	Modification to Conditional Use Permit (CUP) 4923	Request for a ten-year time extension to Conditional Use Permit 4923 for continued use of an existing wireless communication facility located on Laguna Peak Road on Laguna Peak, street, address of 6308 Caryl Road. APN 239-0-050-085
PL15-0162 	Planned Development Permit	Request to change the pitch of the roof of an existing 1384 square foot beachfront dwelling with a 70 square foot storage loft and a 184 square foot attached one car garage addressed as 2001 Ocean Drive. APN 206-0-179-280 (Approved)
PL16-0029 	Site Plan Adjustment to Planned Development Permit 1354	Request to remodel an existing single two floor family dwelling at 2517 Ocean Drive in Silver Strand Beach. Proposed development includes: (1) Enlargement of the existing 304 sq. ft. roof deck by 258 sq. ft. with an increase in the height of guardrail from 36" to 42" to meet the height requirements of the Building Department; (2) Construction of a new at grade exterior walkway and stairs on the southern elevation; (3) Remodel the existing second floor kitchen and install two new fireplaces; and (4) Remodel the existing third floor bathroom. APN 206-0-179-025
PL15-0150 	Planned Development Permit	Request to demolish a triplex and to construct a duplex located in the Residential Beach Harbor (RBH) Zone District, addressed as 3289 Ocean Drive. APN 206-0-226-010
PL15-0184 	Planned Development Permit	Request to demolish an existing 930 sq. ft. one-floor single family dwelling at 4133 Ocean Drive in Hollywood Beach and to construct a new three floor single family dwelling. Proposed first floor is 881 sq. ft. with a 508 sq. ft. garage, second floor of 1,167 with a 217 sq. ft. deck and a 1,285 sq. ft. third floor with a 217 sq. ft. deck. House will have a 257 sq. ft. roof deck. APN 206-0-272-290 (Approved)

City of Oxnard List and Map of Past, Present, and Reasonably Foreseeable Future Projects Used in the Cumulative Impacts Analysis

Permit Case No.	Permit Type*	Description
16-540-01 	Planned Development Permit	Request to construct a triplex to be located at 4830 Terrace Avenue. The project will require three deviations from zoning standards: (1) interior yard space; (2) reduced garage; (3) reduction in rear yard setback
14-535-01 14-540-01 14-570-02 14-310-05 14-687-01 	Planned Residential Group (PRG), Zoning Clearance (ZC), Density Bonus (DB), Zoning Clearance (ZC), Lot Line Adjustment (LLA), and Cultural Review	Request to construct 101 apartment units on the northwest corner of Pleasant Valley and southwest of Highway 1. (Approved)
14-500-04 14-580-01 14-570-02 14-310-05 14-570-02 	Special Use Permit (SUP); Zone Text Amendment (ZTA), Zoning Clearance (ZC)	Request to construct 70 senior housing units to be located at the northwest corner of Pleasant Valley Road, southwest of Highway 1. (Approved)
14-300-04 14-300-03 16-140-15 	Special Use Permit (SUP), Density Bonus (DB), Tentative Tract Map	Request for a multi-family condominium complex (a.k.a. Vista Pacifica) with 40 units in five buildings with a community park, located at 5557 and 5527 Saviers Road. Administrative Modification to convert to apartments. (Approved)
15-140-30 	Modification to Special Use Permit (SUP)	Renovation of existing K-Mart Shopping Center, façade upgrade, repaving of the parking lot, installation of new loading zone, trash enclosures and sign program. The project site is located northeast corner of Ventura Road and Channel Islands Boulevard (Approved)
14-500-08 14-310-06 	Special Use Permit (SUP) Tentative Map	Request to construct a 27,760 square foot, multi-tenant industrial building (a.k.a. Amoretti) and associated site improvements located at 1501 and 1551 Pacific Avenue. (Approved)

Permit Case No.	Permit Type*	Description
11-140-48 	Minor Modification to a Special Use Permit (SUP)	Request from St. Paul Baptist Church to construct an 18,000 square foot church with 788 seats located at 1777 Stratham Boulevard. (Approved)
09-500-06 	Special Use Permit (SUP)	Request from St. John the Baptist Coptic Church to construct a one-story church on a vacant 35,000 square foot vacant lot located on 1200 Pacific Avenue. (Approved)
Ormond Beach Specific Plan		<p>The Ormond Beach Specific Plan is composed of the North and South Ormond Beach Specific Plan Project. The North Ormond Beach (or "South Shore") Specific Plan encompasses the area located on the north side of Hueneme Road, east of Edison Drive, west of aids Road, and south of Tierra Vista and Villa Capri Neighborhoods, within the City's Southeast Community. The South Shore study area consisted of approximately 322 acres lying north of Hueneme Road that is currently used for agriculture. The South Shore Specific Plan proposed a mix of uses including up to 1,283 residential dwelling units of varying types and densities; an elementary school; a high school; a community park; neighborhood parks; an 18-acre lake; a mixed-use commercial marketplace; light industrial uses; open spaces and trails; and a system of public facilities and service infrastructure to support the proposed development (City of Oxnard website).</p> <p>The South Ormond Beach Specific Plan encompasses the area located to the south side of Hueneme Road, east of Edison Drive, west of Arnold Road, and north of coastal dunes and beach areas. The study area consisted of approximately 595 acres. Approximately 367 acres were proposed to be developed as a business park, including a business/research campus, light industrial facilities and harbor-related uses. The remaining 228 acres were proposed to continue in agricultural use and would not be annexed to the City</p>

Permit Case No.	Permit Type*	Description
		<p>as part of this project. Rather, these 228 acres were considered for sale to the California Coastal Conservancy or partner organization for use as part of the larger Ormond Beach wetland restoration project. All existing agricultural uses were expected to continue in this area until the restoration process begins (City of Oxnard website).</p> <p>In October 2012, in response to a lawsuit filed by the Environmental Defense Center, Sierra Club and the Environmental Coalition of Ventura County, a Court rejected the Environmental Impact Report (State Clearinghouse Number 2005091094) that the City of Oxnard prepared to support the Specific Plans (EDC website). As of the date of this Initial Study, no certified EIR exists for the Ormond Beach Specific Plan. It is not expected that the project would commence prior to 2019, when the proposed project is expected to terminate operation at the project site.</p>

**City of Port Hueneme List and Map of Past, Present, and Reasonably Foreseeable
Future Projects Used in the Cumulative Impacts Analysis**

Permit Case No.	Permit Type*	Description
The only projects in the City of Port Hueneme are for road maintenance (see e-mail dated September 7, 2016 from John Baker, Interim Planning Director)		

County of Ventura Map of Past, Present, and Reasonably Foreseeable Future Projects

Near the Agromin Project Site, 6859 Arnold Road

- **Agromin Site**
- **County Projects**
- **Oxnard City Projects**



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Ventura County
Resource Management Agency
Information Systems GIS Services
Map created on 10/13/2016
Source: Pictometry®, February 2016



Attachment 6 Map of Pending and Approved Projects (Ventura County)



Disclaimer: this map was created by the Ventura County Resource Management Agency Information Systems GIS, which is designed and operated solely for the convenience of the County and related public agencies. The County does not warrant the accuracy of this map and no decision involving a risk of economic loss or physical injury should be made in reliance therein



PART 1: Introduction

This document provides a toolbox for Agromin field personnel to aid in the proper implementation of dust suppression best management practices (BMPs). The Control measures and operational procedures specified in this handbook were chosen to primarily prevent wind transport of dust from disturbed soil surfaces, roadways, and drainage ways and wind transport of fine organic particles from the chipping, grinding, screening, and storage of green materials.

This document is organized into the following parts:

- **PART 1- Introduction:** briefly presents (1) the principles of airborne sediment/organic material control, (2) common sources of airborne pollutants on-site, and (3) guidelines for implementing a proper monitoring and inspection for the site, including the use of a Dust Pollution Control Program to ensure an effective dust pollution control program.
- **PART 2- Project Operations & BMPs:** identifies typical dust pollution control challenges for specific onsite operations and the BMPs that are available to meet those challenges. Text and graphic illustration are used to present a menu of appropriate BMPs that can be utilized on a daily basis depending on environmental conditions affecting the facility, including, but not limited to, wind speed and direction, relative humidity, daily processing goals, etc.

1.1 APPLICABILITY

Dust control BMPs are appropriate and required during the following activities:

- Driving vehicles on unpaved roads and areas
- Moving vehicles on site and that may involve sediment tracking onto paved roads.
- Constructing and maintaining soil and material storage piles.
- Exposing soils, including vegetation clearing, and soil grading.
- Conducting final grading and site stabilization.
- Batch dropping from front end loaders.
- Where organic material dust and debris result from tipping, grinding, screening, mixing, or other activities.

1.2 ADVANTAGES

- Complies with Federal and California air pollution laws, GLOBAL G.A.P. food safety standards, and LGMA food safety standards.
- A number of techniques are readily available and easy to install and maintain.
- Can substantially prevent airborne particulate matter, by limiting the amount of exposed soil and requiring implementation of BMPs.
- Reduce the negative visual impression made by poorly managed sites
- Complaints regarding dust pollution are few when dust control BMPs are in place

1.3 DISADVANTAGES

- Some techniques are effective for only short periods and may require frequent daily applications to be effective
- Some techniques (e.g. wet suppression), if not applied properly, may cause more erosion than they prevent (e.g. soil loss by running water exceeds soil loss by wind).



PART 2: Project Operations & Dust Control BMPs

2.1 SITE DESCRIPTION

The Agromin Organics Processing and Compost Facility is located at 6859 Arnold Road in the Oxnard area of unincorporated Ventura County. There are five parcels under Agromin control totaling 24.15 acres. The acreage located outside of the City of Oxnard's incorporated boundaries and within the Ventura County CUP boundary totals 11.44 acres.. The area is currently served by a limited network of infrastructure, on-site septic system for wastewater, paved and unpaved vehicle access roads, paved and unpaved processing areas, and paved and unpaved emergency vehicle access routes. Access to the facility is control by a front- gate, which is locked during non-business hours. The site boundaries are formed by a combination of chain link fencing, natural vegetation, and earthen berms.

Agromin uses the County acreage to receive, process, and transform green waste into organically certified compost and mulch. Compost and fertilizer mixtures are also blended on-site in bulk for the surrounding commercial growers. Agromin also uses the County acreage as a retail yard, where finished compost, proprietary soil amendments, and mulch are stored, sold, and sometimes blended to retail customers.

2.1 METEOROLOGICAL DATA

The facility is located in a Mediterranean (dry subtropical) climate zone, experiencing mild and relatively wet winters, and warm, dry summers. Onshore breezes keep the facility cooler in the summer and warmer in winter than those further inland. The average mean temperature is 61 °F (16 °C). The average minimum temperature is 52°F (11 °C) and the average maximum temperature is 69 °F (21 °C). Generally the weather is cool and dry, with 354 days of sunshine annually. The average annual precipitation is 15.62 in (397 mm). The primary months of precipitation are January through March and November through December.

Description of Airborne Dust Control

Airborne dust control is the practice of preventing exposed soil or other particulate materials (such as green waste fines) 10 microns or less in size from becoming windborne. Dust can be carried off-site, increasing the likelihood of sedimentation and pollution of waterbodies, and damage to adjacent agricultural operations. Airborne particles can also pose a threat to human health. Dust particles smaller than 2.4 microns may contribute to an inhospitable working environment and create risk factors that may impair respiratory health.

2.3 DESIGN PARAMETERS

The best method of controlling dust is to prevent dust production. This can be best accomplished by limiting the amount of bare soil exposed at one time and limiting dust generating activities to periods with minimal wind velocities and/or when wind directions would not substantially impact nearby sensitive receptors. Dust control BMPs generally stabilize exposed surfaces and minimize activities that suspend or track dust particles. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel and/or asphalt surfacing, temporary gravel entrances, equipment wash- out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching can be employed for areas of occasional or no construction traffic. Preventive measures would include minimizing surface areas to be disturbed, limiting on-site vehicle traffic to 15 mph, and controlling the number and activity of vehicles on site at any given time. Mechanical measures such as water sprays can be employed on pieces of equipment (such as chippers, grinders, screens) capable of producing airborne particulates. Preventive measures would include covered conveyors, misting systems, and physical separation of dust generating activities from sensitive receptors. The following table shows dust control practices that can be applied to the site conditions that cause dust.

PART 2: Project Operations & Dust Control BMPs

SITE CONDITION	Dust Control Practices							
	Speed Limits	Vegetation	Mulching	Watering Mist System	Track Out Stabilization	Equipment Covers	Equip. Wash Areas	Truck Covers
Disturbed Areas with No Traffic		X	X	X	X			
Disturbed Areas Subject to Traffic				X	X		X	
Material Stock Pile Stabilization				X		X		
Clearing & Excavation			X	X				X
Truck Traffic on Unpaved Roads	X			X			X	X
Mud/Dirt Carry Out				X	X		X	
Pre-Processing Areas				X		X		
Finishing/Mixing Areas				X		X	X	
Product Shipping				X			X	X

Additional preventative operational measures include:

- Schedule dust generating activities during periods of light winds and minimize exposed materials or areas.
- Quickly stabilize exposed soils using vegetation, mulching, calcium chloride, sprinkling, and stone/gravel layering.
- Identify and stabilize key access points and processing areas near sensitive receptors.
- Minimize the off-site transport dust by anticipating the direction of prevailing winds
- Direct consistent feedstock delivery traffic to stabilized roadways within the site.
- Remove dust deposited by vehicles and equipment on paved surfaces as soon as possible, through the use of street sweepers, and brooms.
- Water should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment shall be equipped with a positive means of shutoff.
- At least one mobile unit should be available at all times to apply water or dust palliative to the facility.
- Construct natural or artificial windbreaks or windcreens. These may be designed as enclosure for small dust sources.
- Provide rapid cleanup of sediments deposited on paved roads.
- Furnish stabilized construction road entrances and vehicle wash-down areas.



PART 3: Implementation & Troubleshooting

3.1 INTRODUCTION

Provided below is a more detailed description and troubleshooting guide for each major dust suppression BMP.

3.2 PRESERVATION OF VEGETATION



This BMP involves the preservation of existing vegetation and identification and protection of desired vegetation.

- **Key Point #1:** Areas to be protected should be delineated prior to clearing and grubbing operations or other soil disturbing activities. It is also appropriate for areas where no activity is planned or where activity is planned for a later date.
- **Key Point #2:** Areas of existing vegetation that are scheduled for preservation should be clearly marked with a temporary fence. Minimize disturbance by locating temporary roadways, storage facilities, and parking areas away from preserved vegetation.
- **Key Point #3:** Instruct employees, workers, surveyors, and subcontractors to honor protected areas. Maintain any existing irrigation systems and vegetation.
- **Key Point #4:** Keep equipment away from trees to prevent root and trunk damage. Trenching should be done as far away from tree trunks as possible, typically outside the drip line. Trenches should be filled in as soon as possible to avoid root drying. Fill trenches carefully and tamp the soil to fill in air pockets.

3.3 WOOD MULCHING



This BMP consists of applying a mixture of shredded wood mulch, bark, or compost to bare soil to reduce runoff, increase infiltration, and reduce erosion due to wind or rainfall impact. Wood mulch provides temporary or short-term soil stabilization. This material should be applied to exposed soil beneath the existing tree canopy along the eastern edge of the facility and adjacent to Arnold Road.

- **Key Point #1:** Select wood mulch appropriate for the application and site conditions. After existing vegetation has been removed, rough soil surface before application.
- **Key Point #2:** Mulch depth depends on the product selected. Distribute shredded wood mulch evenly across the soil to a depth of 50 mm (2 in.) to 75 mm (3 in.). Mulch composed of recycled green waste should be applied to a maximum depth of 50 mm (2 in.).
- **Key Point #3:** Inspect and maintain mulch to ensure that it lasts long enough to achieve the erosion control objective.

PART 3: Implementation & Troubleshooting

3.4 WATERING/MIST SYSTEM



This BMP consists of applying water or other dust palliatives to prevent or alleviate dust nuisance.

- **Key Point #1:** Care should be taken when applying water or palliatives to unpaved roads to prevent the washing of sediment or into storm drains receiving waters. Do not apply so much that runoff occurs.
- **Key Point #2:** Cover small stockpiles or disturbed soil areas as an alternative to watering or dust palliative
- **Key Point #3:** When applying palliatives or binders as a wind erosion control, refer to the manufacturer's recommendations for guidance.
- **Key Point #4:** When utilizing a mist system, such as the Dust Boss DB 60, to reduce the offsite transport of organic fines generated during the grinding and screening process, the machinery shall be located as close as possible to the primary dust source. Depending upon the height at which dust is generated, the equipment may need to be placed on the roof of an adjacent building to ensure maximum dust suppression.

3.5 TRACK OUT SYSTEM



This BMP consists of stabilizing the defined entrance/exit point of the facility to reduce the sediment (mulch and dirt) onto public roads by vehicles. Stabilized entrances/exits are an effective method for reducing the tracking of sediment from the site.

- **Key Point #1:** Design a stabilized entrance/exit to support the heaviest vehicles and equipment that will use it. The access point should be at least 50 feet in length or four times the circumference of the largest construction vehicle tire (whichever is greater). Designate access points and require all employees, subcontractors, and others to use them.
- **Key Point #2:** Grade entrance/exit points to prevent runoff from leaving the site. Route runoff from the entrance/exits through a sediment-trapping device before discharge.
- **Key Point #3:** Stabilize the roadway with aggregate, AC, or PCC, depending on expected usage and site conditions. When access points are constructed from aggregate, aggregate should be 3-6 in. diameter and at least 1 foot in depth. Where feasible, aggregate should be placed over geotextile fabric.
- **Key Point #4:** Inspect and maintain stabilized entrance/exit points. Routinely check for damage and effectiveness. Remove accumulated sediment and or replace stabilization material as needed.

PART 3: Implementation & Troubleshooting

3.6 EQUIPMENT COVERS/DUST BARRIERS



This BMP consist of covering dust generating equipment on-site or establishing a non-natural barrier to prevent dust contamination. Equipment coverings can range from covering individual components of processing equipment (such as covered conveyor belts) to a clear span enclosure of the dust generating uses. A cost-benefit analysis should be completed to determine the appropriate level of equipment coverage.

- **Key Point #1:** Design a stabilized pad and consult with the local enforcement agency before proceeding with installation of clear span enclosure. Building permits may be required, depending on the size of the structure.
- **Key Point #2:** Any dust barrier should be regularly inspected for effectiveness, holes, etc. The barrier should be fully anchored into the ground surface to prevent destruction during high wind events. The barrier should not be placed adjacent to large trees or similar objects capable of generating debris that could damage the barrier.

3.7 EQUIPMENT WASH AREAS



This BMP consist of washing equipment to maintain proper pathogen reduction and containing wash water to reduce cross-contamination potential.

- **Key Point #1:** For equipment that must be cleaned on-site, all waste from on-site cleaning operations must be fully contained and properly disposed of.
- **Key Point #2:** The vehicle wash area must be properly identified by signs and located away from storm drain inlets, drainage facilities, and watercourses. It must be paved with concrete or asphalt and have a berm to contain runoff and prevent run-on. It must be equipped with a sump for the collection and disposal of wash water.
- **Key Point #3:** Use as little water as possible and use a positive shut off valve to conserve water usage.

ODOR IMPACT MINIMIZATION PLAN
for the
Agromin Organics Recycling Compost Facility

6859 Arnold Road
Oxnard, California 93003

Submitted to:

County of Ventura Resource Management Agency
Environmental Health Division
800 S Victoria Ave
Ventura, CA 93009-1740

Prepared by:



TOTAL COMPLIANCE MANAGEMENT

SACRAMENTO, CA
August 2018
(Revised May 2020)

County of Ventura
Planning Case No. PL13-0101
Attachment 8 - Odor Impact
Minimization Plan

Regulatory Authority:

California Code of Regulations (14CCR) Title 14, Section 17863.4 requires an Odor Impact Minimization Plan (OIMP) for all compostable material handling operations and facilities.

The following OIMP is being submitted to the Ventura County Environmental Health Division for the Agromin Organics Recycling Compost Facility located at 6859 Arnold Road, Oxnard, California 93033.

Facility Name: Agromin Organics Recycling Compost Facility

Facility Location: 6859 Arnold Road
Oxnard, CA 93033
Phone (805) 650-1616

Mailing Address: 201 Kinetic Drive
Oxnard, CA 93030

Land Owner: HHC Investment Group, LLC
201 Kinetic Drive
Oxnard, CA 93030
Phone (805) 485-9200
APN 231-0-040-31, 231-0-080-06

Operator: Agromin Organics Recycling
201 Kinetic Drive
Oxnard, CA 93030
Phone (805) 485-9200

Contacts:	Mr. Bill A. Camarillo	Evan W.R. Edgar (Engineer)
	201 Kinetic Drive	Edgar & Associates, Inc.
	Oxnard, CA 93030	1822 21 st Street
	(805) 485-9200	Sacramento, CA 95811
		(916) 739-1200

Title 14 Compliance:

Agromin Organics Recycling (Agromin) has existing composting operations at 6859 Arnold Road, in Oxnard California. The purpose of preparing this OIMP is to comply with the provisions of Title 14.

Material Type:

The compost operation receives feedstock to be blended and composted which include:

- Processed and unprocessed wood and green waste.
- Animal bedding and manure
- Gypsum, lime, and other soil amendments.

Site Operations:

Material Delivery

The compost feedstocks are delivered to the site by commercial green material collection vehicles. An attendant will be on site, during operating hours, to check loads for prohibited materials. Any loads exhibiting odor problems at the time of delivery will be either given priority in processing or directed to the landfill for disposal.

The source-separated green materials are delivered to the compost facility and directed to the receiving area following weighing. The compost facility personnel will conduct a load check upon deposition. Contaminated and uncompostable materials will either be returned to the hauler or placed in a bin located near the receiving area.

Once received, the feedstock materials are stockpiled in the Storage Area, as shown on the attached site plan, for a maximum period of 7 days for green material. Green material feedstocks are then loaded into a grinder, using a front-end loader, for size reduction and mixing; additional mixing (with a front-end loader) and moisture conditioning may take place, as necessary. Some of the chipped/ground, uncomposted green and/or wood material may be separated and stored for sale to off-site markets as mulch, biomass fuel or an alternate use.

Material Processing

Green Materials: The green material will be processed in a portable grinder in the processing area and deposited directly into composting piles. A front-end loader will be used to feed the material into the grinder. The ground material will be formed into elongated piles as shown on the Site Plan.

The material is formed into trapezoidal-shaped piles of approximately 27 feet wide, 12 feet high, and 68 feet in length. Piles are separated by a minimum 5-foot wide access

area for loading, monitoring, watering, moving, and turning. The pile layout for the operations is as illustrated in Site Plan.

Water will be added as necessary to the piles to maintain the appropriate composting moisture. Handheld hoses will be used to spray water under the weatherproof covers, as needed to maintain optimum composting conditions. The frequency of spray irrigation will vary with the season and moisture content of feedstock materials. A water truck may also be used to control dust generation during grinding or screening and be available for fire protection.

The temperature and moisture of the piled materials will be monitored and controlled, and the piles turned on a 15-day cycle so that the composting process is maintained and evenly distributed to all materials. Piles will be maintained to meet the time and temperature requirements as discussed below for an anticipated period of 60 days.

During the pathogen reduction phase, the turning process in the piles provides sufficient oxygen to sustain the biological activity and keep the material at a temperature of 55 degrees Celsius (131 degrees Fahrenheit), or higher for a pathogen reduction period of 15 days or longer. During the period when the compost is maintained at 55 degrees Celsius or higher, there shall be a minimum of five (5) turnings of the windrow (14 CCR §17868.3). When the desired level of decomposition has been achieved, the compost materials will be screened, then moved to the curing areas for a two to six-week period or left in place until shipment from the site.

Section 17863.4 (b) (1) - Odor Monitoring Protocol

Properly managed green material stockpiles should not create nuisance odors. Improper management of feedstock piles and processed green material may cause nuisance odors.

The grinding operator will be processing materials within the time frames stated and will monitor and evaluate odors and reduce the storage time should nuisance odors be emitted and verified odor compliant be received and filed. The best way to ensure that all parties work together is to implement an odor impact minimization plan that is agreed upon between the operator and the LEA.

The closest receptors will be operations staff and management who will be onsite during operating hours to monitor the compost materials handling operation. The sensitive receptor nearest to the Project is slightly more than one-half mile to the northeast. Our analysis of prevailing wind conditions for the site indicates wind is predominantly from the west and for a brief time from the northeast during winter. The westerly winds blow over primarily agricultural fields and the northeasterly winds blow any odors to the ocean. Neither of these flows should significantly impact neighbors as there are very few sensitive receptors within the path of these prevailing winds.

Each day the Operator will evaluate onsite odors and evaluate planned operations for the potential to release objectionable odors. If the operator detects an objectionable onsite odor, he will take the following actions:

1. Investigate and determine the likely source of the odor;
2. Determine if onsite management practices could remedy the problem and immediately take steps to remedy the situation;
3. Determine whether or not the odor is traveling beyond the site by patrolling the site perimeter and noting existing wind patterns; and
4. Determine whether or not the odor event is significant enough to warrant contacting the adjacent neighbors or the LEA.

In the event of significant odors where a complaint has been filed, the protocol is for the Operator to inspect the location of a received complaint. The Operator shall attempt to determine if an offensive odor exists and notify the LEA of the complaint and the determination of odor source. In the event that the complaint cannot be verified in this manner, the Operator will continue to perform self-monitoring and continue the best management practices (BMPs) described in his operating document. In the event an offensive odor is detected, the Operator shall present the LEA with additional or enhanced BMPs to minimize the likelihood of future odor detection.

Mitigation measures for the windrow method would include adjustments to the turning and watering schedules and increased turning. The operator will reduce the holding time from 7 days, at certain times of the year where there are a high percentage of grass clippings or wet leaves, to a time period which will effectively minimize odors.

The operator will maintain proper drainage as to not allow ponded water to cause the material in contact with the pad to go anaerobic and cause odors.

Section 17863.4 (b) (2) - Meteorological Data

Climatic conditions in Ventura County are not expected to significantly affect the composting operation. Ventura County's climate has been characterized as Mediterranean with moderate temperatures. These temperatures range from a monthly average low of 44.3F in January to a monthly average high of 75.0F in August, reported by the Western Regional Climate Center for the period of July 1, 1948 to July 31, 2003 at the Oxnard, California Station, latitude N34 11' longitude 119 12', elevation 50 feet mean sea level (MSL). Rainfall is seasonal; approximately 95 percent of the precipitation occurs from November through April. Snowfall is unusual at the site.

If necessary, windrow turning schedules will be altered during brief periods of wet weather to ensure proper aeration of the compost piles and to maintain appropriate moisture content.

The prevailing on-shore wind direction is from the west and occasionally during winter, the northeast. If necessary, the transferring or processing of green material will be either curtailed or altered during brief periods of high winds to prevent odors or dust from being transported toward potential receptors.

Section 17863.4 (b) (3) - Complaint Response Protocol

Complaints may be received by either the Operator or the LEA.

- The Operator receives and reviews the complaint.
- The Operator will go to the location of the complaint to assess if the site may be responsible for the odor.
- The Operator documents complaints in the site operations log and on the attached complaint form.
- The Operator assesses complaint and responds in the on-site log within 24 hours of receiving the complaint, or 48 hours should the citizen complaint be received on a weekend or holiday.
- The Operator implements reasonable recommendations suggested by experts or regulatory agencies. The Operator will continue operations utilizing best management practices.
- The Operator and complainant (if known and choosing to participate) meet within a reasonable time frame to assess the original problem and results from implementing the recommendations.
- Results and actions must be documented in the site operations log, which serves as the operation's permanent record.

Section 17863.4 (b) (4) - Design Considerations and Procedures to Minimize Odors.

Facility Siting: The siting of the green material composting operations in agricultural Ventura County away from many sensitive receptors is the optimal siting criteria to reduce the potential for odor complaints.

Proper Drainage: Standing water is a potential source of odors. The operations pad is a compacted all-weather surface. The windrows are placed atop concrete aprons that are sloped at a minimum 1% gradient. This slope permits runoff to be routinely collected and reapplied to the windrow. Differential settlement of the pad and storage areas will be minimized through regrading of surfaces as needed. The pad will be maintained to prevent ponding.

Surface runoff from rainwater at the facility is generally collected on-site within the concrete processing pads or within a detention basin located on the southern portion of the facility. In practice, after a rainfall water can also pool in various areas of the site. Other portions of the operation occur on unpaved areas of the site. These operations areas are sloped to maintain rainwater on site. As the site soils are sandy silt, rainwater tends to absorb quickly. If water does pool, shallow pools are absorbed using on-site mulch and placed back into compost piles. Larger pools are pumped into a water truck and used in the process on compost piles. Standing water is minimized to the maximum extent possible. The basin is maintained to prevent sedimentation and organic loading that could potentially cause odors.

Feedstock characteristics:

The following materials will be managed to minimize odors.

- Unprocessed wood and green waste.

To add porosity and aeration to the composting feedstock, loads of just processed wood chips will be added to the windrow where odors may be emanating.

The following procedures will be implemented during the composting process:

- The workers at the compost facility are trained to screen incoming vehicles for presence of unacceptable wastes. All loads will be checked prior to loading the material into the processing equipment or windrows. Unacceptable material that does not pose an immediate threat to public health and safety and the environment will be collected at the composting facility and segregated, handled, and disposed of by trained personnel in accordance with applicable law and regulation. Debris boxes shall be maintained at all times for placement of unacceptable materials. These debris boxes shall be removed for legal offsite disposal at a permitted landfill and replaced within 7 days of initial placement.
- The composting facility personnel training programs will include instruction in methods to observe incoming loads and to check for the receipt of unacceptable materials. The key employees include the scale personnel, composting facility load check personnel, equipment operators, and the site manager.
- Storage limitation to no more than 7 days for incoming green material feedstocks prior to processing.
- Proper handling/blending to maintain proper carbon/nitrogen ratios to reduce ammonia levels; maintenance of turning schedule—by use of a compost turner—will maintain aerobic conditions.
- Proper temperature/moisture control through timely turning of windrows, monitoring of temperatures and moisture, and appropriate application of water, in accordance with Title 14 requirements for pathogen reduction and Best Management Practices for compost operations.

In the unlikely event that at any point during the composting process verifiable odor problems occur, identified source materials will be removed and transported to nearby landfills for disposal or use as alternative daily cover.

Equipment reliability: On-site equipment is well-maintained and reliable. Equipment fueling, maintenance and repairs are contracted to a third-party contractor. In the event of severe mechanical failure, similar processing equipment can be rented from nearby vendors. The facility maintains good relationships with nearby equipment vendors who can provide back up and temporary equipment on very short notice.

Personnel training: All facility personnel will be adequately trained in subjects pertinent to site compostable materials handling operations and maintenance, physical contaminants and hazardous materials recognition and screening, use of mechanized equipment, environmental controls, emergency procedures and the requirements of Article 6.

Personnel will be trained in the proper use of facility equipment. Potential hazards and safety features will be stressed. No employee will be permitted to operate equipment until the employee has demonstrated that he or she is competent to operate that equipment. Annual review and training ensuring continued safe operations of the facility and compliance with regulations will be conducted.

Employees are routinely instructed in the correct use of protective clothing, gloves, and respirators. In addition, employees are routinely instructed to avoid standing directly downwind of the windrows during turning operations, or the grinder or trommel screen while in operation. When this is not feasible, employees will wear filtration masks designed to filter Aspergillus spores.

Utility service interruptions:

- Electric and Gas: most of the critical on-site equipment is diesel-powered and not subject to local power failures. Should an extended power failure occur, a backup generator will be procured from a local equipment rental company to power the pre-processing equipment.
- Telephone: the office staff and the key employees on site utilize cellular telephones and/or radios to communicate and coordinate their daily and routine operating practices.
- Water: With 2,500 & 3,500-gallon water trucks on site the facility has sufficient water to meet its needs for dust control and moisture content in the windrows.

Section 17863.4 (b) (5) - Operational Considerations and Procedures to Minimize Odors.

Odor Control: The compost industry has proven that with proper management techniques and use of appropriate tools, offensive and nuisance odors can be controlled. Odor emissions from the green material feedstock will be minimized through proper management of the storage piles. The turning and consistent monitoring of the active compost will maximize the aerobic decomposition. Maintenance of the optimum moisture content and application of water will enhance and expedite aerobic decomposition and minimize odor emissions.

Bioaerosols: The primary feedstock for the compost process is green waste. Potential adverse health effects associated with airborne fungal spores, specifically *Aspergillus fumigatus* and or *Aspergillus flavus*, have raised concerns by some Californians during the siting and operation of compost facilities. The staff of the California Integrated Waste Management Board in cooperation with the California Department of Health Services, and Cal/EPA's Office of Environmental Health Hazard Assessment prepared a technical bulletin during 1993 and released the summary of findings in LEA Advisory No. 6 dated December 16, 1993. A properly operated compost facility should not present a health risk from *Aspergillus fumigatus*. Sound management practices include maintaining moisture, temperature and pH levels, aerating, turning and mixing. Reducing the dispersal of dust and spores is best to control exposure. The uses of water sprays or mists while turning piles and refraining from turning on windy days will help accomplish this. The operator plans to follow the best management practices (BMP's) outlined in LEA Advisory No 6, including:

- Maintaining stockpile moisture content between 45 and 60 percent; and
- Maintaining adequate stockpile temperatures (above 55 C) throughout the pathogen reduction period (as mandated by 14 CCR §17868.3).

Drainage issues: Standing water is a potential source of odors. The operations areas are sloped to maintain rainwater on site. Surface runoff from rainwater at the facility is generally collected on-site within the concrete processing pads or within a detention basin located on the southern portion of the facility. In practice, after a rainfall water tends to pool in various areas of the site. In unpaved areas, rainwater tends to absorb quickly as the site soils are sandy silt. In other areas shallow pools are absorbed using on-site mulch and placed back into compost piles. Larger pools are pumped into a water truck and used in the process on compost piles. Standing water is minimized to the maximum extent possible. The basin is maintained to prevent sedimentation and organic loading that could potentially cause odors.

Operations Procedures: Organic materials are off-loaded and processed immediately upon delivery. Processing includes the spreading of raw feedstock onto the ground and the removal, by hand, of materials to be recycled. The maximum storage time is 7 days for incoming green material feedstock. The compost cycle will be 60 to 90 days. Should complaints be filed and verified, the feedstock storage time could be reduced at certain

times of the year when there is a higher percentage of grass trimmings or wet leaves. The compost turning operation could be curtailed when high winds could odors towards sensitive receptors.

Feedstock will be screened for contaminants and debris boxes shall be maintained at all times for placement of unacceptable materials. These debris boxes shall be removed for legal offsite disposal at the nearest permitted facility.

Contingency plans for minimizing odor:

- Equipment - In the event of breakdown, the operator will continue operations with replacement of affected equipment by:
 - renting from reputable, local equipment rental companies and/or
 - borrowing equipment from other nearby operations, or those of affiliated companies in the region and/or
 - purchase of new equipment.
- Water - with a 2,500 gallon and a 3,500-gallon water truck located on site, and the utilization of leachate as dust moisture control the facility has sufficient water to meet its needs.
- Power - Critical on-site equipment is mainly diesel-powered and not subject to local power failures. Site personnel carry mobile telephones for communication. Should an extended power failure occur, a backup generator will be procured from a local equipment rental company to power the aeration equipment.
- Personnel – Additional personnel are available from other Agromin operations, or those of affiliated companies in the region.

As a last resort, materials determined to be the source of excessive odors will be removed and transported to the nearest available landfill for disposal or use as alternative daily cover.

Section 17863.4 (d) – Annual Review of OIMP

The OIMP will be reviewed annually by the operator and revised as necessary.

A copy of this OIMP will be kept at the facility's administrative office. The OIMP will be revised within 30 days to reflect significant changes to operations that affect the OIMP, with a copy provided to the LEA, when appropriate.

ODOR COMPLAINT LOG

Received by: _____

Date Received: _____

COMPLAINANT	
Name:	
Address:	
Contact Phone #:	

ODOR DESCRIPTION					
Date:		Time:		Odor duration:	
Location:	<input type="checkbox"/> Verified as coming from facility?				
Odor Intensity:	<input type="checkbox"/> Very faint <input type="checkbox"/> Light <input type="checkbox"/> Moderate <input type="checkbox"/> Strong <input type="checkbox"/> Very strong				
Description of Alleged Odor(s):					

INSPECTION RESOLUTION/RESULTS	
Actions taken by Facility:	
Follow Up with Complainant (telephone call, visit etc.)	

Signature: _____

Date: _____

Vector Control Plan
for the
Agromin Organics Recycling Compost Facility

6859 Arnold Road
Oxnard, California 93033

**DRAFT PENDING REVIEW BY A CDFW LICENSED TRAPPER FOR
MESOPREDATOR ABATEMENT MEASURES**

Submitted to:

County of Ventura Resource Management Agency
Environmental Health Division
800 S Victoria Ave
Ventura, CA 93009-1740



Updated May 2020

County of Ventura Planning Case No. PL13-0101 Attachment 9 - Vector Control Plan

**Vector Control Plan
Agromin Organics Recycling Operations**

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1.0 INTRODUCTION & OBJECTIVE

This Vector Control Plan is submitted as a supplement to Agromin's existing Odor Impact Minimization Plan, Arnold Road Facility Dust Suppression Protocol and Predatory Bird Management Plan.

Together, these plans will help ensure that odors, dust, and vectors remain under control throughout operation of the Agromin Facility, located at 6859 Arnold Road in the unincorporated portion of Ventura County, CA. This plan also specifically addresses the need to control vectors as a result of Agromin's proposal to expand the operation's footprint. This proposal is currently under review by the County of Ventura (PL13-0101 Agromin).

If a conflict is identified between the measures required as part of the Vector Control Plan and the measures required by the Predatory Bird Mitigation Plan, the measures required as part of the Predatory Bird Mitigation Plan shall prevail.

The General Operating Standards require compost operators to take measures to control vectors. Specifically, Section 17867 (a)(2) of Title 14 regulations

<http://www.calrecycle.ca.gov/Laws/Regulations/Title14/ch31a5.htm#article6>

provides the guidance with respect to vector control activities. This code section states that "All handling activities shall be conducted in a manner that minimizes vectors, odor impacts, litter, hazards, nuisances, and noise impacts; and minimizes human contact with, inhalation, ingestion, and transportation of dust, particulates, and pathogenic organisms."

The acceptance of green material as part of ongoing composting operations provides an environment conducive to vector attraction. The objectives of this plan are to:

- Implement measures that will minimize the population of rats/mice, flies, mosquitos, or other vectors.

Measures to deter or restrict birds from inhabiting the facility are addressed in detail in a separate Predatory Bird Management Plan.

2.0 GREEN MATERIAL COMPOSTING OPERATIONS PLAN

Composting Technologies:

The proposed composting technologies will only include green material windrow composting.

Compost Feedstocks:

The proposed operations will accept compostable material including green material, wood waste and brush, and compost blending amendments such as fertilizer. No composting of food material is proposed.

3.0 VECTOR CONTROL MEASURES – FLIES, MOSQUITOS, RODENTS, MESOPREDATORS, & OTHERS

Agromin will implement control measures to minimize the attraction of the most common compost facility vectors, including flies, mosquitos, rodents, and mesopredators. Each day, the operator will determine if significant populations of on-site vectors are present and evaluate planned operations for the potential to attract vectors. If the operator detects a significant vector population, he/she will take the following actions:

- Investigate and determine the likely source of attraction
- Determine if onsite management practices (described below) could remedy the problem and immediately take steps to remedy the situation.
- Determine whether or not the vector attraction event is significant enough to warrant contacting a licensed vector specialist.

The primary on-site deterrent to on-site vector control shall be the prompt processing of green materials in accordance with the Agromin's quality control protocol. Generally, this protocol requires load checking to ensure contaminants of less than 1%, the initial sorting and mixing of raw feedstocks within 24-48 hours of delivery, prompt size reduction through grinding, final mixing, moisture control, temperature monitoring, final screening, continuous trash collection with regular trash hauling, and segregated storage of finished materials. The maximum storage time shall be 7 days for incoming green material feedstock.

A more detailed set of control measures for each vector is described below.

Flies:

Flies are a nuisance and a vector. They pick up dangerous organisms with their mouth and other body parts and pass them to humans and animals through their feces and vomitus. Flies that breed and feed on damp and decaying organic matter include: Fruit flies, Phorid flies, Sphaerocerid flies, House flies, Blow flies, Bottle flies, and cluster flies. The goal of Agromin's fly control program is to eliminate the feeding and breeding sites within the compost feedstocks and within the compost windrows. The following measures shall be implemented to accomplish this goal:

- Eliminate the feeding and breeding sites within the facility by maintaining sufficient windrow/pile structure temperature. This shall be accomplished by blending all green material together to achieve a C:N ratio between 25-40:1 or higher prior to active composting and a temperature between 131 and 160 degrees F during active composting.
- The feedstock materials shall be turned at least once every three days using a compost turner.
- All windrow or pile spillage shall be incorporated back into the pile or windrow. All spaces between processing piles and/or windrows shall be kept free of waste and site drainage shall be directed away from compost piles.
- To the extent feasible, screens shall be placed on all windows and doors providing human habitation.
- Sticky fly traps shall be placed in all structures housing employees on a regular basis.

Mosquitoes:

Mosquitoes are responsible for more human death than any other living creature. Every year, over one million people die from mosquito-borne diseases. Mosquitoes can carry many different kinds of diseases, including malaria, heartworm, dengue fever, encephalitis, yellow fever, and West Nile Virus. All Mosquitoes need water to complete their life cycle. Therefore, the goal of Agromin's mosquito control program is to eliminate standing water on-site through proper drainage.

The surface runoff within the Agromin facility is either collected on-site within the concrete processing pads or within a detention basin located on the southern portion of the facility. Small quantities of surface runoff can also pond in a few locations on-site. Small quantities of ponded/pooled water are either absorbed using on-site mulch and placed back into compost piles or pumped into a water truck and used in the process on compost piles to help achieve a feedstock moisture content of approximately 50%. Smaller pools also tend to naturally percolate into site soils.

Large quantities of surface runoff are collected in a one-foot deep detention basin located on the southern portion of the facility. This basin is lined with soil cement, a mixture of native soils and Portland Cement Concrete, which prevents water from infiltrating into the ground. Although infrequent, during large storms the basin captures and stores large quantities of standing water with the potential to create a breeding area for mosquitoes.

Despite the propensity for percolation of runoff and the absorption of on-site runoff within the green material processing areas, there are times when standing water does occur on-site. Therefore, Agromin shall implement the following measures to prevent mosquito breeding throughout the facility:

- Source elimination – on-site personnel shall survey the site daily for standing water and shall turn over un-sealed containers holding water, filling in holes containing water with sand and gravel, clearing ditches and/or drainage facilities of dirt and debris, and covering structures and/or vessels that can hold water. Standing water shall not be held for more than 5 days.
- Small amounts of standing water within the detention basin shall be immediately covered with green material to allow for sufficient absorption within 5 days. After absorption has occurred, the material shall be re-integrated into the compost windrow or feedstock pile to achieve a feedstock moisture content of approximately 50%.
- No barriers, diversions, or flow spreaders shall be integrated into the facility design which in any way facilitates the retention of standing water outside of the detention basin.
- Vegetation conducive to mosquito production, such as water hyacinth (*Eichhomia* spp.), duckweed (*Lemna* and *Spirodela* spp.) and filamentous algal mats shall be prohibited from establishment within the detention basin.
- If the quantity of water collected in the detention basin is too great and elimination of ponded water isn't feasible, then mosquitoes shall be controlled with the use of either larvicides or mosquito fish. The larvicide operation shall only be applied by a licensed pesticide applicator. The mosquito fish are available for free upon request from Ventura County's *Vector Control Program* and can be directly introduced to the detention basin.

One of these control methods shall be introduced to the detention ponds if large amounts of standing water remain for more than 5 days.

- Personal Protective Measures – Mosquito repellent shall be kept on-site for use by on-site personnel in the event that a high concentration of mosquitoes is identified.

Rodents:

Rodents are attracted to compost sites. Rodents can carry and spread diseases such as the hanta virus and bubonic plague and they can cause fires or electrical shorts by chewing through electrical wires in structures and equipment. They can proliferate in a number of spaces, including engine compartments, old vehicles, storage sheds, brush piles and under buildings or other structures. Therefore, the goal of Agromin's rodent control program is to eliminate the three basic environmental factors conducive to rodent proliferation: (1) Food, (2) Water, and (3) Harborage. The following measures shall be implemented to accomplish this goal:

- All garbage shall be removed from the site perimeter and from within buildings on a daily basis. All garbage shall be placed in trash receptacles with a tight-fitting cover.
- Remove all old vehicles, and other rubble from the site.
- Remove excess compost and/or green material feedstocks from along the walls of buildings.
- Building materials (lumber, roofing, cement blocks, bricks, buckets) shall not be stacked within on-site buildings or structures.
- Within all structures, finished products shall be stored on pallets.
- All site landscaping shall be trimmed and/or thinned periodically to minimize potential rat habitation. All trees and/or shrubs located adjacent to existing structures shall be thinned so that approximately two feet of separation exists between each tree/shrub to minimize the potential for rodents to freely move between them.
- If the above described sanitation and building construction control measures are ineffective in controlling rodent populations on-site, traps can be utilized as necessary to control the rodent population. Inspection of all traps shall occur on a weekly basis to ensure proper baiting. No rodenticides (anti-coagulants) shall be used as trap bait. All dead animals shall be disposed and removed from the site immediately to prevent further vector attraction.

Mesopredators:

A mesopredator is a medium-sized predator in the middle of a trophic level, which typically preys on smaller animals, but often displays an opportunistic diet and toleration of close contact with humans. Examples of mesopredators include opossums, feral cats, and raccoons. Due to their opportunist diet tendencies, these mesopredators may be attracted to the facility. The presence of these species may pose a threat to special status bird species present in the vicinity, as mesopredators may predate bird nests. The goal of Agromin's mesopredator control activities is to avoid significant impacts during operations to special status bird species by limiting the attraction of mesopredators to the facility and ensuring no increase in the number of

mesopredators during the nesting season. The following measures shall be implemented to accomplish this goal:

- California Department of Fish and Wildlife (CDFW) approved trapping of mesopredators as an abatement strategy. Traps shall be placed at regular intervals around the perimeter of the Conditional Use Permit (CUP) boundary, and will have large enough mesh to avoid trapping non-target small mammals. All trapping procedures shall follow CDFW regulations. Inspection of traps, removal of nuisance animals, and release of non-targeted species will occur within 12 hours of trap deployment. No poisoning of mesopredators or any other trapped animal is permitted, unless approval is granted by the CDFW and the Ventura County Planning Division.
- Use of registered repellents, to ensure mesopredators are not attracted to the site. These repellents shall be used in a matter that is consistent with CDFW regulations and will be placed along the perimeter of the CUP boundary.

4.0 SUCCESS REPORTING

- The number of gulls present in the tipping area and the general population of gulls around the facility will be monitored as detailed in the Predatory Bird Management Plan and included in the progress reports submitted to the LEA for both the CASP system and the SMARTFERM project.
- Fly populations, mosquito populations, and rodent populations shall be monitored and included in the progress reports submitted to the LEA.
- Mesopredator monitoring reports conducted by a CDFW licensed trapper shall be submitted bi-annually to the Ventura County Planning Division, CDFW, and the USFWS detailing the number of mesopredators during the past six months and the effectiveness of the control measures utilized.



374 Poli Street, Suite 200 • Ventura, CA 93001
Office (805) 275-1515 • Fax (805) 667-8104

CONTAINMENT AREA FOR COMPOST PROCESSING OPERATIONS PLAN

Agromin Oxnard Processing Facility
6859 Arnold Road
Oxnard, California 93033

May 2020

Prepared for: Agromin
201 Kinetic Drive
Oxnard, California 93030

Prepared by: Sespe Consulting, Inc.
374 Poli Street, Suite 200
Ventura, California 93001

County of Ventura Planning Case No. PL13-0101 Attachment 10 - Containment Area Plan

CONTAINMENT AREA FOR COMPOST PROCESSING OPERATIONS PLAN

Agromin
Oxnard Processing Facility
Oxnard, CA

May 2020

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ATTACHMENTS

1. Recommendations for Cement Treatment in Composting Areas, Earth Systems, February 19, 2016
2. Drainage Study
3. Storm Event Action Plan

CONTAINMENT AREA FOR COMPOST PROCESSING OPERATIONS PLAN

Agromin Oxnard Facility
Oxnard, CA

A. GENERAL INFORMATION

This Containment Area for Compost Processing Operations Plan (Plan) was prepared in accordance with the Ventura County Watershed Protection District's (VCWPD) standard permit condition of approval for composting facilities. The plan addresses two primary issues:

- Preventing site inundation during a 100-year storm event.
- Providing impermeable surfaces for working areas to protect groundwater.

Agromin is requesting the modification of existing Conditional Use Permit (CUP) 5001-1 to authorize the continued operation of a Compostable Materials Handling Facility, a modification to the CUP boundary, and the construction and operation of facility improvements.

Business Name: California Wood Recycling dba Agromin

Site Address: Agromin
6859 Arnold Road
Oxnard, CA 93033
(see attached Site Location map)

Business Contact: Bill Camarillo
Agromin
201 Kinetic Drive
Oxnard, CA 93030
bcamarillo@agromin.com
Telephone: (805) 485-9200

Property Owners / Parcel Numbers: The project is located on portions of three separate parcels. The City of Oxnard parcel (APN 231-0-040-165) adjacent to the north is not part of the proposed project. The Tax Assessor's parcel numbers, associated acreages and property owners for the parcels are:

Parcel Number (acres)	Property Owner / Mailing Address
231-0-080-085 (7.31 ac.)	Shoreline Arnold Road LLC/ 6591 Collins Dr #E11 Moorpark CA 93021-1493
231-0-080-070 (2.46 ac.)	
231-0-040-315 (7.65 ac.)	
Total parcel area: 17.42 acres	Area within proposed CUP boundary: 11.44 acres

B. OPERATIONS INFORMATION

The facility is an existing compost facility within unincorporated Ventura County. Daily hours of

operation are from 6:00 AM to 6:00 PM, Monday through Saturday.

1. Proposed Types, Sources and Quantity of Feedstock

INCOMING FEEDSTOCK	APPROXIMATE ANNUAL QUANTITY (tons/year)	SOURCE EXAMPLES
Green Material (including agricultural by-product material, agricultural material, paper products, wood waste, yard trimmings)	55,000 to 60,000	Clean lawn & landscape cuttings (grass, leaves, branches, plants, etc.) picked up from residential customers (yard waste can). Green material separated from other municipal solid waste at an MRF. Clean green and wood material generated by farmers, commercial landscaping companies and other contractors.
Total:	55,000 to 60,000	

2. Site Operations:

Operations currently and proposed to be conducted at the facility are (see the attached Site Plan):

- **Feedstock Receiving for Green Material:** Currently, green material is delivered to the site in commercial collection vehicles, trucks and roll-off bins. An attendant is on site during operating hours to visually check loads for prohibited materials. Loads with excessive contaminants are rejected before being allowed past the scale house. The incoming green material is weighed at the scale house and then unloaded into one of four open air tipping lanes where employees manually pick through the piles to remove unwanted contaminants. The green material is then pushed out of the tipping lanes with a loader into storage windrows while employees continue to manually remove contaminants. The storage windrows are moved and reformed up to three more times to allow the cleaning process to continue. These green materials may be handled and stockpiled in the storage area for up to 7 days. Common contaminants include glass, metal and film plastic. Once removed from the feedstock they are placed in a roll off trash bin and ultimately taken to Simi Valley landfill for disposal.
- **Chipping and Grinding Operations:** After four cleanings the green material is loaded into a grinder, using a front-end loader, for size reduction and mixing. Additional mixing (with a front-end loader) and moisture conditioning may take place, as necessary. The material may also be screened using a trommel screen with various screen sizes that allows the smaller “unders” to be separated from the larger “overs”. The overs from screening and other wood waste are processed into a wood chip, stored on-site and then transferred offsite for sale as bio-fuels or mulch.
- **Windrow Composting Process:** The green material unders generated after chipping and grinding are placed into windrows for composting. Green material is composted in the designated paved windrow areas. Currently windrow composting occurs atop a paved surface in the central portion of the facility. The composting process goes through two stages before a finished compost is produced:

- Active composting - An aerobic process where the compost feedstock is in the process of being rapidly decomposed and is unstable. Active compost generates temperatures of at least 122 degrees Fahrenheit during decomposition. This process requires that the material be maintained at a proper moisture level and be frequently turned in order to introduce oxygen to the material.
- Curing - Following the active composting period, the material is moved into curing piles for additional aging and drying. This curing process allows partly decomposed compost particles to finish the composting process at a lower temperature.

After curing, the stabilized compost is processed with a trommel screen, which separates the larger pieces and fines from the finished product to achieve the desired final compost product. Once the stabilized compost is screened it is either transferred offsite in bulk for sale, or is bagged on-site and then transferred offsite for sale. It may also be blended with amendments prior to sale. Bagging occurs indoors in the 9,275 ft² masonry packaging building which houses a Hamer FFS Bagging System. This is an electric powered bagging system consisting of a feed hopper and conveyor system located outside of the packaging building and a bagging line located inside the building. The conveyor feeds the bagging line through an access chute in the roof of the packaging building.

- **Products and Product Sales:** The facility produces three primary products, all of which are transferred to the material storage bins located in the southeast portion of the facility for sale. These products include:
 - Stabilized cured compost - As needed amendments may be added to the compost. The mixing may occur at the material storage bins area.
 - Mulch - There is currently no statutory or regulatory definition for mulch. It is commonly defined as a soil covering used to control weeds or erosion; retain moisture in soil; and insulate soil from cold weather. The mulch produced at the facility is generally comprised of wood chips, ground up landscape trimmings, shredded bark and coarse compost material.
 - Chipped wood sold as biomass fuels.

All product sales occur in the southeast portion of the facility near the material storage bins and scale house. The project produces the base product (compost, mulch, wood chips) and conducts retail wholesale operations on-site. Amendment materials that may be added to “stabilized or cured” compost to provide attributes for certain finished compost products or may be sold along with compost-based products produced at the facility. Amendments currently utilized at the facility include but are not limited to:

- | | |
|------------------------------------|---------------------------------|
| ○ Apex T & S 24-4-12 | ○ 6-24-24 XB |
| ○ Landscape Color 14-14-14 | ○ Sulfur Soil Prills |
| ○ Bloom 14-14-14 | ○ Palm Plus 13-S-8 |
| ○ Triple Super Phosphate
0-4S-0 | ○ Calcium Nitrate IS-O-O |
| ○ Blood Meal 13-0-0 | ○ Hydroform Blue Chip
38-0-0 |

- Potassium Nitrate 13-0-46
- Urea (46-0-0)
- Ammonium Phosphate 16-20-0
- Gypsum (80 & 50 lbs)
- Dolomite Lime
- Triple Pro Best IS ·IS·IS
- Cool Weather 21-7-6
- Hydroprills 21-7-14
- Rootshield Granular
- Sulfur Coated Urea 2S-8-8
- EZ Green Chicken Fertilizer
- Bone Meal 2.S-12-0
- Gro Power S-3-1
- Gro Power Plus S-3-1
- Turf Supreme 16-6-8
- Ferrous Sulfate 21%
- Organic Crumbles 7-8-4
- Zinc Sulfate 36% Granular
- Ammonia Sulfate 21-0-0
- Sulfur of Potash 0-0-50

These amendments are stored within an existing covered building in the northeast portion of the facility, immediately north of the material storage bins (see Site Plan).

Bulk materials are delivered by vendor trucks and directly unloaded into the appropriate outdoor storage bins located on the southeast portion of the facility.

- Peat Moss
- Perlite (volcanic glass)
- Vermiculite
- Pumice
- Scoria (basaltic lava rock)
- Ground Bark
- Gypsum
- Washed Sand
- Decomposed Granite
- Pea gravel
- Rock

C. SITE CONDITION INFORMATION

1. Average Rainfall:

Average annual rainfall: 12.23 inches
25-year, 24-hour storm event: 4.46 inches
100-year storm event: 5.53 inches

Nearby Climate Station Name:

POINT MUGU-USN (approx. 2.1 miles southeast of the facility)

Site ID: 93-0223 & 223A

October 1957 to September 1992 (average)

2. Geology:

(Source: "Geotechnical Engineering Report, Proposed Anaerobic Digester Facility, 6859 Arnold Road, Oxnard, County of Ventura, California", RJR Engineering, December 12, 2012)

Soil Types: "Artificial fill is present within the upper 2 feet of the site. Fill consists of loose to medium dense, dark brown, sandy silt. Holocene deposits are encountered stratigraphically below the upper disturbed soils. The undifferentiated deposits consist of interlayered near shore beach sands, estuary, alluvial deposits, and deltaic deposits. These soils consist of interlayered and discontinuous lenses of dark brown to dark grey sand and silt with interlayered gravel and clay. The clays are highly plastic, and soft and the sands are generally medium dense to dense in consistency."

Groundwater Depth: "Groundwater was encountered at a depth of 4 to 6 feet in the area of drilling. We would anticipate that groundwater at or near the surface during periods of higher rainfall and/or surrounding irrigation should be anticipated."

Nearest Surface Water: A coastal wetland is located directly south of the project site outside of the containment berm. It is physically separated from the composting operation by an existing earthen berm approximately 16 feet high and 15 feet wide. The berm prevents surface run-off from entering the adjacent waterway. Also, the nearest outdoor processing area is located at least 100 feet away from the wetlands (see Site Plan).

3. Nearest Water Supply Well:

The nearest active water well is 01N22W35E03S located over 1,200 feet west of the proposed CUP boundary.

4. Federal Emergency Management Agency (FEMA) 100-Year Floodplain:

The facility is not located within a 100-year flood plain according to the FEMA Flood Map.

D. DESIGN INFORMATION

1. Potential Impacts to Groundwater Quality:

According to the State Water Resources Control Board Order WQ 2015-0121-DWQ General Waste Discharge Requirements for Composting Operations:

- Compostable materials may contain nutrients, metals, salts, pathogens, and oxygen-reducing compounds that can degrade water quality if allowed to migrate into groundwater or surface water. The process of composting can allow contaminants to migrate with leachate or wastewater from these materials. Additionally, composting nutrient-rich feedstocks on more permeable soil has the potential to create elevated nitrate concentrations in groundwater.
- Composting operations have the potential to degrade water quality with nutrients (e.g., nitrate), salinity (e.g., sodium chloride), pathogens, oxygen-reducing materials, sediment, and other waste constituents.
- Composting operation setbacks from water supply wells and surface water bodies are provided in this General Order. Setbacks are included as a means of reducing pathogenic risks by coupling pathogen inactivation rates with groundwater travel time to a well or other potential exposure route (e.g. water contact activities). Composting operations shall be setback at least 100 feet from the nearest surface water body and/or the nearest water supply well.

2. Facility Designs to Protect Groundwater and Surface Waters

- **Impermeable surfaces:** Strategies to control infiltration of wastewater into groundwater include reducing the permeability of areas where compostable materials are stored or composted, conveying drainage to a detention pond or tank, and reducing the permeability of detention ponds.

Currently feedstock receiving and windrow composting occurs atop an impermeable paved surface in the central portion of the facility. The facility footprint will increase in size to 11.44 acres. This includes expansion into a portion of parcel 231-0-040-315 which is a contiguous parcel under common ownership (see the attached Site Plan). The expansion area is currently unpaved. The area will be utilized for the following:

- *Provide additional area for active composting and curing operations in windrows:* If needed to support operations, roughly 0.7 acres of the expansion area would be utilized for active composting in windrows (see Site Plan). The State Water Resources Control Board Waste Discharge Requirement (WDR) for Composting Operations, Order WQ 2015-0121-DWQ, adopted on August 4, 2015, requires the soil hydraulic conductivity for working areas in compost operations of this type (Tier II facility) to meet 1.0×10^{-5} cm/s or less. Soil stabilization using a mixture of native soils and Portland Cement Concrete can be used to achieve the 1.0×10^{-5} cm/s requirement. Attachment 1 contains a report of testing completed on on-site soils by Earth Systems that shows soil-cement mixtures exceeding 4% cement can achieve the 1.0×10^{-5} cm/s requirement. Agromin will treat this portion of the expansion area using soil cement or similar treatment to achieve the 1.0×10^{-5} cm/s requirement prior to utilizing the expansion area for active composting.

Prior to using the treated area for active composting and curing operations, Agromin will obtain core samples of the treated area and submit them to a soil testing laboratory for permeability testing in order to verify the hydraulic conductivity requirement of 1.0×10^{-5} cm/s has been met. A copy of the laboratory report that demonstrates the hydraulic conductivity requirements are met will be submitted to the County of Ventura Watershed Protection District–Groundwater Section and to the RMA Planning Division.

- *Provide additional area for storage of final product compost:* If needed to support operations, roughly 1.0 acres of the expansion area would be utilized for stabilized final product compost storage (see Site Plan). Active composting would continue to occur only on the paved or soil-cement treated areas of the site. Following the active composting and curing period, the stabilized final product compost would be moved into the expansion area for storage. Under this scenario the 1.0-acre portion of the expansion area would remain as is (unpaved or not treated to reduce hydraulic conductivity). This is allowed under WDR WQ 2015-0121-DWQ definition of “working surface” which states:

Working Surface - Any area at a Composting Operation used for the storage and/or treatment of feedstocks, additives, amendments, or compost (active, curing, or final product). The final product area may be excluded from the working surface hydraulic conductivity requirements under the following conditions:

- *The area is isolated in a dedicated area away from the active and curing compost;*
- *The area is clearly marked as “final product” and*
- *The area is identified in the NOI and technical report and approved by the Regional Water Board.*

Final Product - *The compost material that has completed the curing phase. Residual substances originally present in the compost pile are consumed after proper curing. The compost has been brought to maturity, and organic acids and resistant compounds have been substantially decomposed.*

- **Use of detention ponds and tanks:** Agromin is proposing to manage and contain an 85th percentile, 24-hour storm event. Agromin can manage and contain the 85th percentile, 24-hour storm event with relatively minor changes to the existing site drainage and operations. The proposed site improvements would include:
 - o Constructing one one-foot deep storm water detention basin to capture storm water. The storm water detention basin would be located at the southeast corner of the facility (see Site Plan).
 - o Installation of an elevated internal road adjacent to the coastal zone boundary. The proposed road would be installed at an elevation approximately one foot above the existing ground elevation in order to direct storm water away from the coastal zone and back toward the facility.
 - o Operational changes would include, when needed, actively managing storm water using trash pumps and hoses to pump storm water from operational areas to the detention basin.
- **Setbacks from water supply wells:** The nearest active water well is 01N22W35E03S located over 1,200 feet west of the proposed CUP boundary. This is well beyond the SWRCB Composting WDR requirement of 100 feet.
- **Setbacks from surface waters:** A coastal wetland is located directly south of the project site outside of the containment berm. It is physically separated from the composting operation by an existing earthen berm approximately 16 feet high and 15 feet wide. The berm prevents surface run-off from entering the adjacent waterway. Also, the nearest outdoor processing area is located at least 100 feet away from the wetlands.

3. Facility Designs to Prevent Wastewater Runoff and Site Inundation:

An approximately 16 feet high and 15 feet wide soil berm surrounds the site on all of its western and southern boundaries as well as portions of its northern and eastern boundaries. During normal storm events, this berm prevents rainwater from both leaving the site as well as running on to the site from properties to the north or from Arnold Road.

Though the site can contain typical rainfall amounts, Ventura County Watershed Protection requires compost processing operations be protected against inundation from a 100-year storm event. Attachment 2 contains a Drainage Study that evaluates regional and on-site projected storm water flows and containment strategies. It proposes the use of sandbags at the facility low point (roughly 200-foot section along facility east boundary/site entrance) to prevent site inundation flows on to the site from Arnold Road during a 100-year storm event.

In order to be prepared for a major storm event, the following steps will be taken at the facility:

- Weather forecasts from the National Oceanic and Atmospheric Administration's (NOAA) website will be monitored on a consistent basis to ensure storms are adequately anticipated and staff has ample time to prepare the facility.
- A minimum of 200 pre-filled sandbags will be maintained onsite. These bags will be stored in the existing covered building in the northeast portion of the facility, immediately north of the material storage bins (see Site Plan). This quantity of sandbags is sufficient to prevent site inundation from the majority of storms experienced at the facility.
- The facility also maintains two pallets of empty sandbags on site at all times (1,000 bags – 500 per pallet). They also have an onsite supply of sand (300 to 500 cubic yards) and a mechanical sandbag filling hopper. If needed additional sandbags can be quickly filled.
- Once a storm event begins, site conditions will be constantly monitored to ensure there is no discharge leaving the site and/or run on entering the site due to inundation from nearby Arnold Road.

Attachment 3 contains the Storm Event Action Plan which outlines the procedures onsite staff will follow related to stormwater monitoring and management.

Attachment 1

Recommendations for Cement Treatment in Composting Areas
Earth Systems, February 19, 2016

Submitted by email to arne.anselm@ventura.org

Attachment 2

Drainage Study

Submitted by email to arne.anselm@ventura.org

Attachment 3

Storm Event Action Plan

STORM EVENT ACTION PLAN

Agromin Oxnard Processing Facility
6859 Arnold Road
Oxnard, California 93033

1. WEATHER MONITORING

A designated Agromin employee will be responsible for monitoring local weather forecasts so predicted storms can be anticipated and properly prepared for.

Responsibility

Primary Forecast Monitor
1st Alternative
2nd Alternative

Employee

VP Sales & Marketing (Dave Green)
Site Manager (Dave Camarillo)
Operations Supervisor (Matt Dale)

Local NOAA Station: Point Mugu, Naval Air Warfare Center (KNTD)

<http://forecast.weather.gov/MapClick.php?lat=34.16188033221266&lon=-119.15271464146684#.VxpZQhrG-rw>

Weather forecasts should be monitored daily. Ideally, forecasts should be checked in the morning hours (7-8 AM) to allow for sufficient preparation time throughout the workday if an unanticipated storm event is predicted. A print-out of the NOAA forecast page is presented below:

Extended Forecast for 4 Miles SE Oxnard CA

Tonight	Saturday	Saturday Night	Sunday	Sunday Night	Monday	Monday Night	Tuesday	Tuesday Night
Partly Cloudy and Breezy then Mostly Clear	Sunny	Mostly Clear	Mostly Sunny	Mostly Clear and Breezy	Sunny and Breezy	Mostly Clear and Windy then Mostly Clear	Mostly Sunny	Partly Cloudy
Low: 51 °F	High: 70 °F	Low: 51 °F	High: 69 °F	Low: 51 °F	High: 66 °F	Low: 48 °F	High: 68 °F	Low: 51 °F

Detailed Forecast

Time	Forecast
Tonight	Partly cloudy, with a low around midnight. Winds could gust as high as 15 mph.
Saturday	Sunny, with a high near 70. North wind 5 to 10 mph becoming west southwest after midnight. Winds could gust as high as 15 mph.
Saturday Night	Mostly clear, with a low around 51. West wind 5 to 10 mph becoming north northeast after midnight. Winds could gust as high as 15 mph.
Sunday	Mostly sunny, with a high near 69. Northeast wind 5 to 15 mph becoming west southwest in the morning. Winds could gust as high as 20 mph.
Sunday Night	Mostly clear, with a low around 51. Breezy, with a west northwest wind 10 to 15 mph increasing to 20 to 25 mph in the evening. Winds could gust as high as 35 mph.
Monday	Sunny, with a high near 66. Breezy.
Monday Night	Mostly clear, with a low around 48. Windy.
Tuesday	Mostly sunny, with a high near 68.
Tuesday Night	Partly cloudy, with a low around 51.
Wednesday	Mostly sunny, with a high near 67. Breezy.
Wednesday Night	A chance of showers. Partly cloudy, with a low around 51. Breezy.
Thursday	A chance of showers. Partly sunny, with a high near 65. Breezy.
Thursday Night	A slight chance of showers. Mostly cloudy, with a low around 51. Breezy.
Friday	A slight chance of showers. Mostly sunny, with a high near 67.

Additional Forecasts and Information

[Forecast Discussion](#) [Hourly Weather Forecast](#) [Air Quality Forecasts](#)

Additional Resources

[Forecast Discussion](#) [KML](#) [XML](#)

2. SITE PREPARATION

When NOAA predicts a storm with a 50% chance of precipitation or greater, the following steps should be taken to ensure stormwater is properly managed onsite. To find the quantity of rain predicted for an upcoming storm, users can refer to the “Forecast Discussion” link on the right-hand side of the NOAA “7-Day Forecast” webpage (see figure above). Predicted rain levels in inches are generally described within the text presented on this page, as well as a more detailed discussions related to the anticipated strength and duration of predicted storms.

Contingency	Required Action
BEFORE RAIN	
Less than 50% chance of precipitation	No action required.
More than 50% chance of precipitation -Under 1.0 inch of precipitation expected	Alert facility staff of pending storm event. Ensure 200 pre-filled sandbags are available onsite. Continuing monitoring NOAA and be aware of any changes in predicted strength/duration of storm event.
More than 50% chance of precipitation -Over 1.0 inch of precipitation expected	Alert facility staff of pending storm event. Ensure 200 pre-filled sandbags are available onsite. Ensure mechanical sandbag filling hopper is ready in case additional sandbags need to be quickly filled. Continuing monitoring NOAA and be aware of any changes in predicted strength/duration of storm event.
DURING RAIN	
Monitor water levels at Arnold Road:	
Arnold Road is not flooding	No immediate action required. Continue monitoring onsite conditions and storm predictions to ensure proper preparation.
Arnold Road begins to flood	Using on-site employees and loader bucket, begin transferring sandbags to staging locations near the facility entrance. Continue monitoring onsite conditions.
Arnold Road flooding becomes significant	Cease facility operations. Using on-site employees, begin placing sandbags at facility entrance low points (see Site Plan). Determine if additional sandbags need to be filled using hopper. Continue placing sand bags until facility is contained.
On-site water management:	Use trash pumps to move any on-site runoff that does not flow to drainage basin in a timely manner.

Initial Study Biological Assessment

Original ISBA report date: September 9, 2013

Updated ISBA report date: August 17, 2015

Case number: PL13-0101

Permit type: Conditional Use Permit (CUP)

Applicant: AGROMIN, LLC

Case Planner (to be entered by Planning Div.): Susan Curtis, Senior Planner

Total parcel(s) size (acres): CUP area is 11.44 acres

Assessor Parcel Number(s): 231-0-080-070, 231-0-040-315, and 231-0-080-085

Development proposal description:

The proposed project would include extending the existing CUP for four years to 2019, expansion of the existing CUP boundary from 9.45 to 11.44 acres, and construction of a pilot-scale anaerobic digester on an approximately 3,000 square foot existing concrete pad. The on-site compost at any one time would be 40,000 cubic yards (cy), an increase in the currently permitted amount of 10,000 cy. The food waste (mix of food and green) would remain at 5,000 cy, and the remaining 35,000 cy would be green waste. The project is proposed entirely outside of the coastal zone.

Prepared for Ventura County Planning Division by:

As a Qualified Biologist, approved by the Ventura County Planning Division, I hereby certify that this Initial Study Biological Assessment was prepared according to the Planning Division's requirements and that the statements furnished in the report and associated maps are true and correct to the best of my knowledge.

Qualified Biologist (signature): 		Date: 8/17/2015
Name (printed): John Dreher, Jr.	Title: Principal Biologist	Company: Rincon Consultants, Inc.
Phone: 805-644-4455	email: jdreher@rinconconsultants.com	
Other Biologist (signature): 		Date: 8/17/2015
Name (printed): Carie Wingert	Title: Senior Biologist/Program Manager	Company: Rincon Consultants, Inc.
Phone: 559-228-9925	email: cwingert@rinconconsultants.com	
Role: Report preparation.		
Other Biologist (signature): 		Date: 8/17/2015
Name (printed): Holly Harris	Title: Senior Biologist/Project Manager	Company: Rincon Consultants, Inc.
Phone: 805-644-4455	email: hharris@rinconconsultants.com	
Role: Report preparation.		

Initial Study Checklist

This Biological Assessment DID provide adequate information to make recommended CEQA findings regarding potentially significant impacts.

	Project Impact Degree of Effect				Cumulative Impact Degree of Effect			
	N	LS	PS-M*	PS	N	LS	PS-M*	PS
Biological Resources			X				X	
Species			X				X	
Ecological Communities			X			X		
Habitat Connectivity	X				X			

N: No impact

LS: Less than significant impact

PS-M: Potentially significant unless mitigation incorporated.

PS: Potentially significant

* DO NOT check this box unless the Biological Assessment provided information adequate enough to develop mitigation measures that reduce the level of impact to less than significant.

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Attachments

- A. Agromin Oxnard Facility CUP Application 5001-1 Modification Site Plan, dated May 14, 2015
- B. County of Ventura Memorandum, August 22, 2013
- C. List of California Natural Diversity Database (CNDDB)-tracked species with recorded occurrences within at least a 10-mile radius of the project site
- D. Additional References

Summary

The purpose of this report is to update previous biological analyses prepared for the proposed project, based on the current June 2015 project description. This analysis builds upon the 2013 Focused ISBA, the County of Ventura publicly circulated Mitigated Negative Declaration (December 13, 2013) (2013 MND), agency and stakeholder comments received on the 2013 MND, and the Predatory Bird Management Plan (April 2015) (PBMP). On June 29, 2015 Rincon Biologists met with the County’s Planning Biologist, Senior Planner, and Supervising Planner to define the scope of the Focused ISBA update and request updated substantial evidence received since the release of the 2013 MND.

The applicant proposes to modify the existing Conditional Use Permit (CUP) CUP-5001-1 to continue existing permitted operations for four years to 2019, construct a pilot-scale anaerobic digester (PSAD), and expand the facility from approximately 8.45 acres to 11.44 acres to accommodate the storage of up to 40,000 cubic yards (cy) of compost (collectively referred to herein as “project”). The CUP area occurs within Assessor Parcel Numbers (APNs) 231-0-040-315, 231-0-080-085, and 231-0-080-070, which together comprise approximately 17.42 acres. This includes approximately 5.38 acres within the coastal zone boundary that is excluded from the proposed project footprint.

The table below summarizes the material throughput and total on-site at any time allowed under the existing and proposed CUP.

Material	Existing (Permitted)	Proposed Project
Total on-site food and green material	10,000 cy on-site at any one time	40,000 cy on-site at any one time
Putrescible waste (mix of food and green)	5,000 cy on-site at any one time	5,000 cy on-site at any one time
Annual throughput	60,000 tons per year	60,000 tons per year

Based on the above table, the change in baseline material on-site is an additional 30,000 cy of green waste on-site at any time. As discussed in the 2013 MND, the primary vector (avian scavengers, rodent, and medium and large mammals as updated in this analysis) attractant is putrescible waste at the tipping areas.¹ The CEQA Guidelines specify that the baseline upon which environmental impacts are assessed normally consists of the physical conditions that exist at the time the environmental analysis begins (§§15125(a) 15126.2(a)). The analysis in this report is based on no change to the existing legally accepted amount of putrescible waste (5,000 cy) at any one time and annual through put (60,000 tons per year).

Per the County’s 2013 request, this focused Initial Study Biological Assessment specifically addresses the project’s potential impacts to wetlands, special status species, and the coastal zone (Attachment B). No protected trees, or wildlife movement corridors are present within or adjacent to the proposed project and, therefore, these issues are not required to be discussed in this analysis.

Rincon Consultants, Inc. (Rincon) conducted a site visit on June 26, 2013 to assess the presence of nesting bird habitat within the existing CUP boundary. A follow-up survey was conducted on July 24, 2015 to evaluate the CUP expansion area and to confirm the results of the previous site visit; nesting birds were not observed in the CUP boundary expansion area. An additional 300-foot buffer around the new CUP boundary was evaluated through review of aerial imagery and a literature (Survey Area).

¹ Putrescible Wastes include “wastes that are capable of being decomposed by micro-organisms with sufficient rapidity as to cause nuisances because of odors, vectors, gases or other offensive conditions, and include materials such as, but not limited to food wastes, offal, and dead animals.” (California Code of Regulations, § 17402, *Definitions*)

The proposed CUP boundary and PSAD is entirely within a heavily disturbed area that lacks natural habitat and does not support special status species. No natural plant communities are present within the CUP boundary. An urban/disturbed plant community is present to the north and east. Active agriculture is present to the east. A disturbed salt marsh is present to the south and southwest; this area has been periodically disturbed for agricultural uses. An unknown wetland feature is present to the southeast; this area is within the privately managed Ventura County Game Reserve, directly north of Point Mugu Naval Air Weapons Station (NAWS) property. Both the disturbed salt marsh and the unknown wetland found outside of the CUP boundary are considered ESHA, albeit disturbed by historic agricultural activity. Ormond Beach includes several hundred acres of salt marsh and brackish or freshwater wetlands, coastal dunes and scrub, and upland areas that provide habitat for special status species that are considered ESHA under the Local Coastal Plan and Coastal Zoning Ordinance (§8172-1). The project site is located outside of the coastal zone, but the existing facility and operation is permitted within 100 feet of ESHA as evaluated in the 1998 MND. The proposed project is legally permitted within 100 feet of adjacent coastal zone ESHA; no new development is proposed within the existing 100-foot ESHA buffer. With mitigation requiring demarcation of the coastal zone boundary, impacts to the adjacent coastal zone and ESHA and sensitive resources would be less than significant.

No waters or wetlands occur within the proposed PSAD project or the expanded CUP boundary. A man-made ditch is present to the east and southeast adjacent to Arnold Road, and a disturbed salt marsh is present to the south. The proposed project would not further encroach upon Ventura County required wetland buffers for these features.

No special status species were observed during field surveys. A CNDDDB search identified 24 special status plant and animal occurrences within the project vicinity (5 miles), and additional species were identified in nearby biological studies. No suitable habitat is present within the proposed project and no special status species are expected to occur within or adjacent to the proposed project. Several special status species may have a moderate potential to occur within the Study Area in the disturbed salt marsh to the south of the CUP boundary: Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), ferruginous hawk (*Buteo regalis*), short-eared owl (*Asio flammeus*), burrowing owl (*Athene cunicularia*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), wandering (=saltmarsh) skipper (*Panoquina errans*), white tailed-kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), light-footed Ridgway's rail (*Rallus obsoletus levipes*), and estuary seablite (*Suaeda esteroa*). No plants would be directly or indirectly affected by the proposed project. No direct impacts to plants, wildlife, or nesting birds would occur.

This evaluation specifically addresses the potential for the proposed storage of green and putrescible compost to attract both aerial and terrestrial predators and how they may impact special status nesting bird species, such as the western snowy plover (*Charadrius alexandrinus nivosus*) (WSP) and California least tern (*Sternula antillarum browni*) (CLT) nesting on Ormond Beach and Ormond East dunes to the south, as well as the Belding's savannah sparrow (BSS) and light-footed Ridgway's rail (LFRR) that nest in the salt marsh habitat south of Edison Canal and Perimeter Road. The proposed PSAD would reduce the amount of exposed food waste currently available to predators, by up to 1,000 cy at any one time. However, the presence of putrescible compost feedstock has the potential attract avian and terrestrial predators to the project site at the tipping point, prior to diversion into the proposed PSAD, existing Covered Aerated Static Pile (CASP), and windrows with green waste. Proposed measures are incorporated into the Vector Control Plan and Predatory Bird Management Plan (PBMP) to minimize the potential for attracting predators. The proposed project would also incorporate vector control methods as required by under state law, such as covering food processing waste with green waste, use of bird wires to discourage roosting, mixing the material inside of a masonry building, and daily litter clean-up. Additionally, compost may be stored under a pre-fabricated ClearSpan™ covered fabric structure to minimize access by predatory birds if required under the PBMP. As evaluated in the 2013 MND, impacts would be less than significant with mitigation, including a new mitigation measure recommended to address mesopredators (e.g., opossum) with the potential for overlapping home ranges between the facility and off-site nesting habitat.

Section 1: Construction Footprint Description

Construction Footprint Definition (per the Ventura County Planning Division): The construction footprint includes the proposed maximum limits of temporary or permanent direct land or vegetation disturbance for a project including such things as the building pad(s), roads/road improvements, grading, septic systems, wells, drainage improvements, fire hazard brush clearance area(s), tennis courts, pools/spas, landscaping, storage/stockpile areas, construction staging areas, fire department turnarounds, utility trenching and other grading areas. The construction footprint on some types of projects, such as mining, oil and gas exploration or agricultural operations, may be quite different than the above.

Development Proposal Description:

The proposed project is a modification to an existing Conditional Use Permit (CUP) CUP-5001-1 for the existing Agromin Organics Composting facility located at 6859 Arnold Road, Oxnard, California, for the following:

1. Four year extension of the existing CUP to 2019;
2. Expand the existing CUP boundary by approximately 2.99 acres, from approximately 8.44 acres to approximately 11.44 acres;
3. Expansion of the on-site storage from 10,000 cy of compost up to total of 40,000 cy of compost at any one time, including 5,000 cy of mixed food and green waste compost and 35,000 cy of green waste; and
4. Installation of a pilot-scale anaerobic digester (PSAD).

The current operational area of the existing facility is approximately 8.5 acres and includes several existing structures including masonry buildings, biofilters, soil amendment operations areas, feed hopper, and scale house. The facility also includes an existing processing area and food stock receiving and storage area, a finished product stockpile area, a drainage basin, and a parking area.

The only proposed new development is the PSAD on an existing building pad. The PSAD will test the performance of a semi-mobile, small-scale, dry anaerobic digestion system designed to recycle approximately 4,500 tons of the green and food waste received each year at the Agromin Organics Recycling Composting Facility. The system will include four steel-fabricated and insulated tunnels, each 12 feet (ft.) in width, 12 ft. in height, and 40 ft. in length. Each tunnel has a specially designed hatch that provides a gas-tight seal to ensure anaerobic conditions are properly maintained during processing. The base system also contains a below-grade concrete percolate tank, a mechanical-electrical container, containerized combined heat and power system, package bio-filter, external biogas storage bladder and environmental control device. The amount of material processed as part of the research project will not exceed 1,000 cy on-site at any one time. The proposed PSAD area would occupy approximately 3,000 square feet (sq. ft.) atop an existing concrete pad.

The proposed project would also expand the CUP boundary to the west and north of the existing facility to accommodate and increase in storage of feedstock and compost from the originally proposed 17,500 cy to 40,000 cy of under a future Full Solid Waste Facility Permit. The expansion would increase the CUP area from 8.45 acres to 11.44 acres. The facility throughput will not exceed the 60,000 tons per year of end product proposed in the original CUP Project Description utilized in the 1998 MND. The storage volume is now proposed to be increased to accommodate feedstock fluctuations, finished compost maturity, and seasonal agricultural market demands.

No grading would occur outside of the approved CUP footprint. The proposed project would be located entirely within the non-coastal zone portion of the existing Agromin Organics Composting facility. In a

letter submitted to Agromin dated August 15, 2011, the County indicated that the coastal zone boundary had previously been incorrectly mapped and is now mapped further inland, and that the CUP boundary would need to be revised upon the next renewal/extension request. In response to this letter, Agromin has adjusted their operation footprint and is in the final stages of relocating all operational components outside of the revised coastal zone boundary line. The coastal zone boundary depicted on the attached site plan and figures included in this ISBA reflects the latest California Coastal Commission mapping. The proposed project would not include night lighting or an increase in existing noise levels.

Construction Footprint Size

The proposed CUP boundary is approximately 11.44 acres. The existing CUP boundary is approximately 8.44 acres. The proposed CUP expansion would add approximately 2.99 acres and extending into a portion of APN 231-0-040-315. The proposed PSAD construction footprint is less than 3,000 sq. ft. and is located entirely within the non-coastal zone portion of the existing CUP boundary.

The current site plan is presented in Attachment A.

Project Design for Impact Avoidance or Minimization

The proposed project has the potential to attract and impact bird species. Of particular concern is the potential for the project to attract gull species.

Since the circulation on the 2013 MND, the following measures have been implemented to reduce impacts from scavenger birds:

- Add wires over the tipping area so that gulls cannot fly into this area from above;
- Active harassment noise producing and predatory based behavioral bird deterrents (e.g., noisemakers and propane cannons);²
- Maintain a daily litter clean-up program around the site;
- Add a matrix of bird wires around the perimeter of the roof so that there will be few places for gulls to roost; and
- Practice good housekeeping and regular cleaning in the tipping area.

As described in the Predatory Bird Management Plan and Vector Control Plan, the following measures will be taken to reduce the potential for impacts to birds:

- Equipment operators would cover food processing water material with processed green waste material immediately after tipping;
- Push the covered food processing wastes material into the masonry building for blending and temporary storage prior to adding to either the CASP or proposed PSAD system; and
- If dictated by the PBMP, installation of a pre-fabricated ClearSpan™ covered fabric structure over the food waste tipping and temporary storage area in order to help minimize predatory bird interaction with food waste delivered to the site.

Coastal Zone/Overlay Zones

The proposed CUP boundary is located in the non-coastal zone; see the discussion above for the coastal zone boundary determination history. The project is not located within any Overlay Zone.

Zoning

The proposed CUP boundary (under the jurisdiction of the County) is within Zone AE-40 (Agricultural Exclusive: minimum 40 acres).

Elevation

The elevation at the proposed project site is approximately 10 ft. above mean sea level.

² Sound producing deterrents (e.g., noise makers, sound cannons) would be prohibited under 2013 MND Biological Mitigation Measure 1 (as amended), as described in the PBMP and discussed in Section 4.1.

Other

The proposed project is located entirely within the active and disturbed Agromin Organics Recycling Facility, and any described above operations within the coastal zone would be relocated.

Section 2: Survey Information

2.1 Survey Purpose

Discretionary actions undertaken by public agencies are required to demonstrate compliance with the California Environmental Quality Act (CEQA). The purpose of this Focused Initial Study Biological Assessment (ISBA) is to gather enough information about the biological resources associated with the proposed project, and their potential to be impacted by the project, to make a CEQA Initial Study significance finding for biological resources. In general, ISBA's are intended to:

- Determine if a proposed project has the potential to impact any significant biological resources.
- Recommend project redesign to avoid, minimize or reduce impacts to significant biological resources.
- Recommend additional studies necessary to adequately assess potential impacts and/or to develop adequate mitigation measures.
- Develop mitigation measures, when necessary, in cases where adequate information is available.

Per the County's request, this Focused ISBA specifically addresses the project's potential impacts to wetlands, special status species, and the coastal zone. No protected trees or wildlife movement corridors are present within or adjacent to the proposed project and, therefore, are not discussed in this analysis (Attachment C).

2.2 Survey Area Description

Survey Area Definition (per the Ventura County Planning Division): The physical area a biologist evaluates as part of a biological assessment. This includes all areas that could potentially be subject to direct or indirect impacts from the project, including, but not limited to: the construction footprint; areas that would be subject to noise, light, dust or runoff generated by the project; any required buffer areas (e.g., buffers surrounding wetland habitat). The construction footprint plus a 100 to 300-foot buffer—beyond the required fire hazard brush clearance boundary—(or 20-foot from the cut/fill boundary or road fire hazard brush clearance boundary – whichever is greater) is generally the size of a survey area. Required off-site improvements—such as roads or fire hazard brush clearance—are included in the survey area. Survey areas can extend off the project's parcel(s) because indirect impacts may cross property lines. The extent of the survey area shall be determined by the biologist in consultation with the lead agency.

Survey Area 1 (SA1)

Location

For the purposes of this assessment, the survey area includes the proposed CUP boundary plus a 300-foot buffer. The CUP boundary was surveyed on foot. Areas outside of the CUP boundary,

including the 300-foot buffer, were not surveyed on foot but were assessed through review of current and historic aerial imagery and a literature review.

Survey Area Environmental Setting

The entire existing CUP boundary and proposed expansion area are disturbed by active recycling of agricultural waste materials. The topography is generally flat and no wetlands or drainages are within the proposed CUP boundary. The Survey Area, which extends 300 feet from the proposed CUP boundary, includes active agriculture to the east, north and west of the proposed CUP boundary; Arnold Road and drainage ditch to the east, NAWS the southeast, and the privately owned Ventura County Game Preserve to the south, which was previously used for agriculture.

Surrounding Area Environmental Setting

The Survey Area is surrounded by agricultural uses (primarily row crops and sod) to the east, north and west, and a disturbed salt marsh to the south. The parcel immediately north of the site is also utilized by Agromin for the manufacturing of soil amendments and is a permitted use located within the limits of the City of Oxnard. The southern portion of the survey area is surrounded by a privately owned game preserve previously used for agriculture. Further to the south is the man-made Oxnard Drainage Canal #3 (Edison Canal) and Ormond Beach.

Cover

The existing CUP boundary is comprised of approximately 15% buildings or other impervious cover, approximately 80% bare ground or cleared/graded, and approximately 5% of primarily non-native vegetation (landscaped trees and weeds). The CUP expansion area is 100% bare ground/cleared. The proposed PSAD location is entirely developed with a concrete pad.

2.3 Methodology

References

The following information sources and databases were queried for this analysis:

- California Department of Fish and Wildlife (CDFW), BIOS. (July 17, 2015). BIOS is an internet-based biological data map server. This database was searched to identify other projects that have occurred in the vicinity of the subject property.
- CDFW, California Natural Diversity Database (CNDDDB; July 17, 2015). Species tracked within 10 miles of the CUP boundary are presented in Attachment B.
- CDFW Special Vascular Plants, Bryophytes, and Lichens List (July 2015).
- CDFW Special Animals List (July 2015).
- CNPS Inventory of Rare and Endangered Plants database, v7-08a 2-01-08, http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi/Html?item=checkbox_9.htm#q9
- Ventura County Planning Division, December 2013, MND (including public comments)
- Ventura County Planning Division, 2014 Locally Important Animal List and 2014 Locally Important Plant List.
- Ventura County Planning Division (July 2015) Pending & Recently Approved Projects³
- Initial Study Checklist for CUP 5001, World Soils Corporation Composting Project, prepared by ENSR Consulting and Engineering, October 27, 1997 (herein referred to as 1997 ENSR report)

³ It should be noted that this online map may not be comprehensive, given that the Agromin CUP Modification (PL13-0101) is not depicted.

- Nesting data for California least tern (*Sterna antillarum browni*) and western snowy plover (*Charadrius alexandrinus nivosus*) Ormond Beach for years 2002 through 2014 (refer to Appendix D)
- U.S. Fish and Wildlife Service National Wetlands Inventory (July 17, 2015). <http://www.fws.gov/wetlands/Data/Mapper.html>
- Predator management reports, annual listed species management reports, and telemetry studies conducted by NAWS
- Landfill management documents provided by County staff
- Citizen science databases (i.e., eBird)

Attachment D includes a complete list of references.

Field Surveys

Rincon conducted a limited reconnaissance survey of the proposed PSAD project and surrounding CUP on June 26, 2013, to support a nesting bird habitat assessment. The survey was conducted between the hours of 10:15 and 11:30 a.m.

Rincon conducted a site visit to assess the current conditions of the site and observe gull and corvid numbers on March 11, 2014. The survey was conducted between the hours of 11:00 a.m. to 12:30 p.m. (Rincon, 2015a).

A follow-up limited reconnaissance survey was conducted on July 24, 2015 to evaluate the proposed CUP expansion area and presence of ground nesting birds, and to confirm the conditions observed during the previous site visit. The survey was conducted between the hours of 7:00 to 9:00 a.m. No nesting birds were observed in the expansion area, and approximately one gull per minute was observed flying overhead, often the same bird. One California gull was observed flying into the area and landing on a pile of organic waste. No signs of terrestrial predators were observed.

Section 3: The Biological Inventory

See Appendix One for an overview of the types of biological resources that are protected in Ventura County.

3.1 Ecological Communities: Plant Communities, Physical Features and Wetland

Plant Communities

Locally important or rare plant communities were within the survey area(s).

Major Plant Communities Summary

The proposed CUP boundary and surrounding disturbed and agricultural areas lack native habitat and do not contain plant communities that can be classified using the California Manual of Vegetation (2009). The unknown wetland (PC5) to the southwest and disturbed coastal salt marsh (PC3) to the south of the CUP boundary are outside the project site, but are part of a sensitive and locally important Ormond Beach wetland dune complex that provides the transitional habitat along the margins of bays, lagoons, and estuaries from Point Conception to the Mexican peninsula.

Six communities are located off-site and could not be mapped to the alliance level. The communities were identified within the Survey Area during the desktop review: Agriculture, Cleared Land, Salt Marsh – Disturbed, Undifferentiated Exotic Vegetation, Unknown Wetland, and Urban/Disturbed (Figure 1).

Agriculture (PC1) consists of row crops (mostly likely strawberries) and sod farms. These agricultural areas are intensively maintained and frequently disturbed. Native plant species are expected to occur on a very limited basis due to the frequent disturbance. PC1 is present to the north and east of the proposed project.

Cleared Land (PC2) consists of dirt roads associated with agricultural uses. PC2 is present to the north and east of the proposed project.

Salt Marsh – Disturbed (PC3) is located south of the proposed project, outside of the CUP boundary. This plant community was not surveyed on foot but mostly likely includes plant species such as salt grass (*Distichlis spicata*) and pickleweed (*Salicornia* sp.). Review of historic aerial imagery indicates that this plant community has been subject to periodic disturbance for agricultural uses.

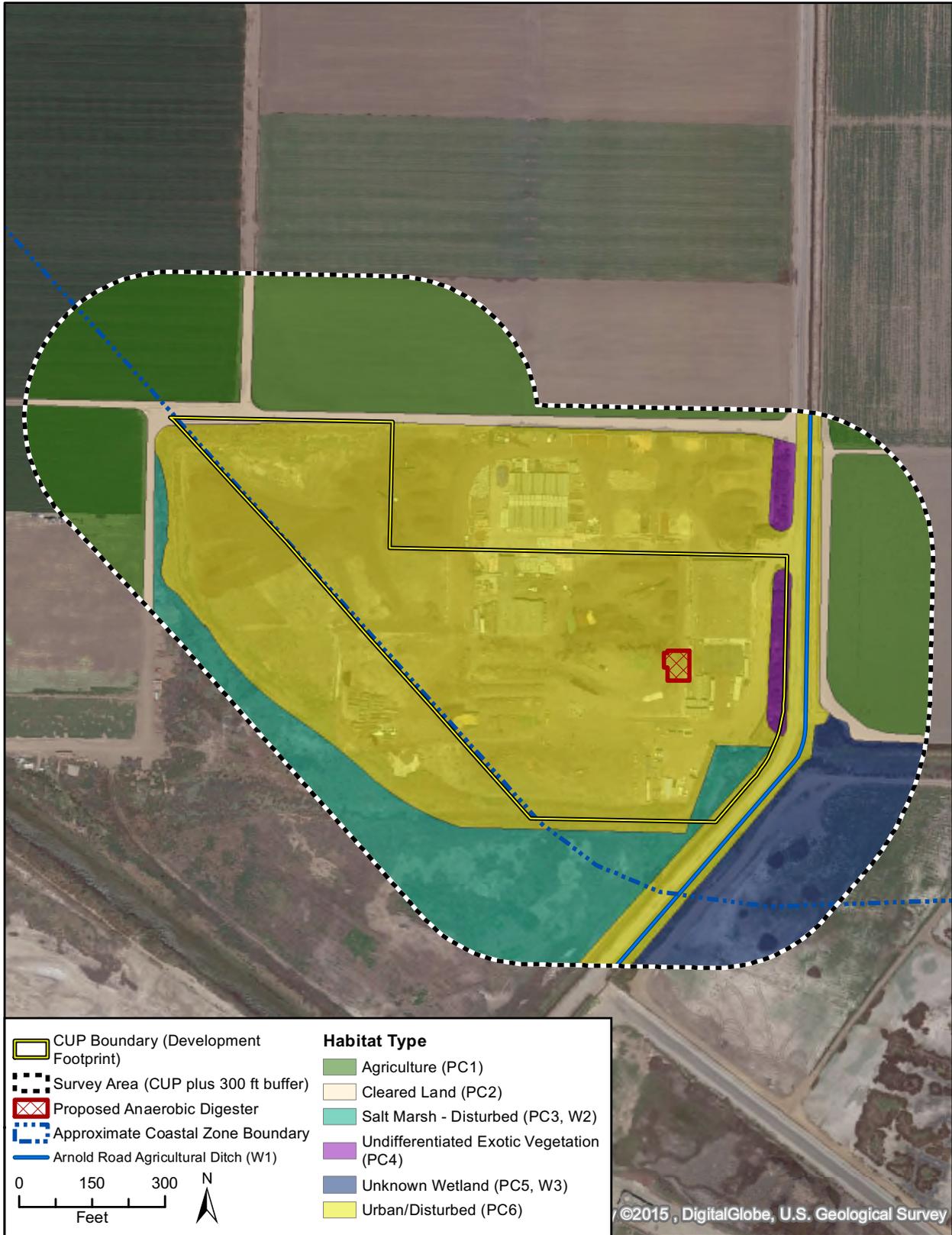
Undifferentiated Exotic Vegetation (PC4) is present along Arnold Road to the east and northeast of the proposed project, some within the CUP boundary, and consists of ornamental trees.

Unknown Wetland (PC5) refers to an area mapped by the National Wetland Inventory and by the Coastal Conservancy as Palustrine Emergent-Persistent (*Distichlis*, *Salicornia*, *Frankenia*) Seasonally-Flooded Drainage-Channel-Floodplain (Aspen, 2007) to the southeast of and outside of the CUP boundary. This community is located on the private Ventura County Game Reserve, and may be a managed wetland. The area is inaccessible.

Urban/Disturbed (PC6) is located within the CUP boundary and to the north and west. This includes the active areas of the agricultural materials recycling facility, as well as a man-made berm installed to delineate the limits of the non-coastal zone and prevent intrusion into the coastal zone. Native plant species include big saltbush (*Atriplex lentiformis*) and non-native plant species such as five-horn bassia (*Bassia hyssopifolia*), tree tobacco (*Nicotiana glauca*), crystalline ice plant (*Mesembryanthemum crystallinum*) bromes (*Bromus* sp.) and mustard (*Brassica* sp.) are present on the berm, but the remainder of this area is largely devoid of vegetation.

Plant Communities								
Map Key (1)	SVC Alliance	SVC Association	Misc. (2)	Status (3)	Condition (4)	Acres Total	Acres Impacted	Comments (5)

Plant Communities								
PC1	--	--	Agriculture	N/A	Developed	10.06	0.00	Active row crops and sod farms.
PC2	--	--	Cleared Land	N/A	Cleared-Permits Assumed/ not Required	1.68	0.00	Dirt roads associated with agricultural areas.
PC3	Unknown	Unknown	Salt Marsh – Disturbed	ESHA	Disturbed	4.71	0.00	Has been subject to periodic disturbance for agricultural uses over at least the past 25 years. Partially inaccessible on a managed private game reserve.
PC4	--	--	Undifferentiated Exotic Vegetation	N/A	--	0.49	0.00	Ornamental trees located along Arnold Road.
PC5	Unknown	Unknown	Unknown Wetland	ESHA	Unknown	3.22	0.00	Managed private game reserve. Inaccessible
PC6	--	--	Urban/Disturbed	N/A	Developed	22.21	2.99	Acres impacted includes only the expanded CUP area.
Totals						43.77	2.99	
LIC.....Locally Important Plant Community ESHA.....Environmentally Sensitive Habitat Areas (Coastal Zone) CDFG Rare: G1 or S1Critically Imperiled Globally or Subnationally (state) G2 or S2Imperiled Globally or Subnationally (state) G3 or S3Vulnerable to extirpation or extinction Globally or Subnationally (state) Cal OWAProtected by the California Oak Woodlands Act								



Additional data provided by NOAA (coastal zone), 2014 and Sespe Consulting, Inc. (CUP boundary), 2015.

Plant Communities and Waters/Wetland Map

Figure 1

Environmentally Sensitive Habitat Areas (ESHA)

ESHA is “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (Public Resources Code § 30107.5). ESHA includes coastal dunes, beaches, tidepools, wetlands, creek corridors, and certain upland habitats in the Santa Monica Mountains (Ventura County Coastal Area Plan).

Habitats that meet the definition of ESHA were found within the survey area(s).

Ormond Beach includes several hundred acres of salt marsh and brackish or freshwater wetlands, coastal dunes and scrub, and upland areas that provide habitat for special status species that are considered ESHA under the Ventura County Local Coastal Plan.

The CUP boundary is located outside of the coastal zone. The existing facility and operation is permitted within 100 feet of ESHA as evaluated in the 1998 MND. No new physical development (e.g., PSAD) is proposed within the existing 100-foot ESHA buffer. The proposed PSAD anaerobic digester will be located on an existing concrete pad more than 400 feet from the coastal salt marsh ESHA.

The disturbed salt marsh habitat south of the CUP boundary is considered an ESHA; however, the current condition and value of this habitat is not known as it is mostly on private property and has not been surveyed. As discussed in the August 20, 2013 Rincon letter (incorporated herein by reference), historical aerial imagery indicates that this marsh area within and adjacent to the CUP boundary has been subject to repeated disturbance for agricultural uses for several decades. The CUP boundary has been utilized for soil composting prior to leasing by Agromin in 2005. Prior to 2005, previous agricultural users encroached into the former coastal zone boundary. A berm demarcating the then-mapped coastal zone boundary and the southern extent of the CUP boundary was constructed in 2003 by World Soils Corporation. Agromin has maintained this berm since leasing the property in 2005.

As discussed above, in a letter dated August 15, 2011, the County states the coastal zone boundary had previously been incorrectly mapped and is now mapped further inland, and that the CUP boundary would need to be revised upon the next renewal/extension request. In response to this letter, Agromin has adjusted their operation footprint and is in the final stages of relocating all operational components outside of the revised coastal zone boundary line. The area within the coastal zone that is now excluded from the CUP may have been vegetated with salt marsh, but has historically been disturbed and the previous condition cannot be stated with certainty. Due to the historic disturbance, the quality of the marsh habitat on-site south of the berm is likely poor.

The proposed and existing CUP boundary is disturbed. The proposed CUP expansion would be located to the northwest of the existing facility in an area that has been historically disturbed. Implementation of the proposed project would not result in direct or indirect impacts to the disturbed salt marsh.

Waters and Wetlands

Waters and/or wetlands were found within the survey area(s).

Waters and Wetlands Summary

There are no waters or wetlands within the proposed CUP boundary. Waters within the Study Area include an irrigation ditch that occurs adjacent to Arnold Road that discharges into Oxnard Drainage Canal #3 (Edison Canal).

Wetlands within the Study Area include the disturbed salt marsh south of the proposed CUP boundary are mapped by the National Wetlands Inventory as temporarily flooded, palustrine wetlands that have been diked or impounded in some form. Review of historical aerial imagery indicates that this area has

been subject to periodic disturbance for agricultural production (Rincon, 2013a). Due to this disturbance, the habitat quality is expected to be poor. The berm described above separates the former CUP area from this disturbed salt marsh. The proposed PSAD would be constructed existing concrete pad approximately 400 ft. north of the disturbed salt marsh, and would not affect the disturbed salt marsh. The proposed CUP expansion area begins approximately 300 feet north of the disturbed salt marsh.

The unknown wetland on the private game preserve to the southeast within the survey area is mapped as Palustrine Emergent-Persistent (*Distichlis*, *Salicornia*, *Frankenia*) Seasonally-Flooded Drainage-Channel-Floodplain wetland (Aspen, 2007). These wetlands are on opposite side of Arnold Road and a chain link gate, and would not be affected by the proposed project.

The 1997 ENSR report evaluated the potential for the then larger project footprint to affect wetlands. This report recommended a buffer of 50 ft. or more between the disturbed salt marsh to the south and a proposed greenhouse. No green house was built in the southern portion of the current CUP area, and an earthen berm was been constructed along the southern coastal zone boundary to prevent encroachment into this wetland area. The wetland buffer recommendations are updated in the Waters and Wetland Table, below.

Approximately 4.16 acres of the project site to the southwest of the current CUP boundary that has recently (2011) been identified as within the coastal zone, which was previously designated by County as non-coastal zoning and land use. As discussed above, this area is excluded from the CUP boundary. This coastal zone portion was likely vegetated with salt marsh similar to what is found south of the CUP boundary. Based on review of historical aerial imagery, if this coastal zone portion had not been used for the composting facility, it likely would have been disturbed for agricultural purposes just as the disturbed salt marsh south of the CUP boundary has been.

The County the Non-Coastal Zoning Ordinance requires outdoor composting to be located at least 100 feet from surface water (§ 88107-36.4.3). Outdoor composting primarily occurs more than 200 feet from surface water. The berm constructed along the southern CUP boundary would prevent surface run-off from entering the disturbed marsh to the south. Additionally, all run-off is retained on-site as discussed in the 2013 MND. Ditches near the CUP boundary carry agricultural runoff which is likely contaminated with fertilizers and pesticide; as such water quality in these ditches is expected to be poor without contribution from the proposed project.

Waters and Wetlands						
Map Key (1)	Wetland Type (2)	Wetland Name (if any)	Wetland Status (3) (if known)	Wetland Size (4)	Hydrologic Status (5)	Primary Water Source (6)
W1	Ditch-unpaved	None	Unknown	Approx. 900 linear ft. adjacent to CUP, extending several 1,000 more ft. to the north and south.	Flowing	Agricultural runoff.
W2	Salt marsh - disturbed	None	Unknown	Approx. 900 ft by 350 ft.	Unknown	Likely agricultural runoff and rainfall, possibly also groundwater.
W3	Unknown wetland	None	Unknown	Unknown, inaccessible.	Unknown	Likely agricultural runoff and rainfall, possibly also groundwater. Mapped as Palustrine Emergent-Persistent (<i>Distichlis</i> , <i>Salicornia</i> , <i>Frankenia</i>) Seasonally-Flooded Drainage-Channel-Floodplain (Aspen, 2007)
USACE U.S. Army Corps of Engineers regulated CDFG California Department of Fish & Game regulated County County General Plan protected wetland WPD Co. Watershed Protection District (red-line stream)						

Waters and Wetlands (continued)			
Map Key	County Wetland Significance (7)	Wetland Distance from Project (8)	Comments (9)
W1	Not Significant	~35 ft.	Ditch is man-made and captures agricultural runoff.
W2	Unknown	~50 ft.	Salt marsh has been subject to repeated disturbance due to agricultural production not related to the proposed project or the CUP area.
W3	Unknown	~50 ft.	Unknown wetland type owned and managed by a private game reserve.

Water/Wetland Buffers		
Map Key (1)	Recommended Buffer (2)	Comments
W1B1	35 ft	This ditch is not a significant wetland under the Ventura County General Plan, is adjacent to a well-traveled road and agricultural uses, and is man-made. The existing 35 foot buffer from the CUP boundary is adequate, given that no new development is proposed within 100 feet of the ditch, and the that the proposed project will not discharge water or run-off into the ditch.
W2B1	50 ft	This marsh has been repeatedly disturbed for agricultural production, and is adequately protected from the adjacent CUP area by an earthen berm. The proposed project does not include any new development that will be located closer to the salt marsh than what is currently permitted. The existing composting operation was permitted within a 100-foot buffer from the coastal salt marsh that is located to the south of the project site, consistent with a qualified biologist’s recommendation for a 50-foot buffer between a greenhouse that was originally proposed (which is now a parking and storage area) and the disturbed salt marsh. Additionally, since the 1998 MND the berm and drainage basin were constructed and provide a physical barrier between the CUP boundary and the disturbed salt marsh.
W3B1	50 ft.	This wetland is separated from the project site by a fence and a paved road. Agricultural lands are also adjacent to this wetland. The existing 60 foot buffer from the CUP boundary is adequate, given that no new development is proposed within 100 feet of the wetland, and the proposed project will not discharge water or run-off into the wetland.

3.2 Species

Observed Species

Special Status Species and Nests

See Appendix One for definitions of the types of special status species that have federal, state or local protection and for more information on the regulations that protect birds’ nests.

Special status species were observed or have a moderate to high potential to occur within the survey area(s).

Habitat suitable for nests of birds protected under the Migratory Bird Treaty Act does exist within the survey area(s).

Special Status Species Summary

A review of County biological reports in BIOS identified the 1997 ENSR report for the location of the proposed project, which was then the World Soils Corporation composting facility under CUP 5001. No other County biological reports were identified in the vicinity of the project; however the Coastal Conservancy Ormond Beach biological studies, Ormond Beach Specific Plan Final EIR, and NAWS listed species monitoring reports were reviewed.

No special status species were observed during the nesting bird habitat assessment surveys, which were focused on CUP boundary and surrounding area. The potential for special status species to occur is based on this limited habitat assessment and an extensive desktop review of the adjacent habitats in the Study Area. A search of the CNDDDB identified 24 special status plant and animal species with recorded occurrences within five (5) miles of the CUP boundary. Of these species tracked by CNDDDB, seven (7)

special status animals and four (4) special status plant species have a low to moderate potential to occur within the survey area, but outside of the CUP boundary. These species are listed in the table below. Nine species without potential to occur within the survey area are also included in this table out of concern for potential indirect effects, and include the senile tiger beetle (*Cicindela senilis frosti*), western snowy plover (*Charadrius alexandrinus nivosus*), the California least tern (*Sternula antillarum browni*), and south coast garter snake (*Thamnophis sirtalis infernalis*). The following species without 5-mile CNDDDB occurrences are included in the table based on detection in regional biological and monitoring reports, and include the white-tailed kite (*Elanus leucurus majusculus*), California horned lark (*Eremophila alpestris actia*), Peregrine falcon (*Falco peregrinus anatum*), northern harrier (*Circus cyaneus*), and two-striped garter snake (*Thamnophis hammondi*).

Of those species analyzed in the tables below, only those with a moderate potential to occur within the Survey Area are mapped on the Species Map below (Figure 2).

Attachment B details the CNDDDB-tracked species occurrences that have been documented within five (5) to ten (10) miles of the project boundaries. None of the species in the tables below or in Attachment B have potential to occur within the existing or proposed CUP boundary.

Nesting Bird Summary

A nesting bird habitat assessment survey was conducted on June 26, 2013. The assessment focused on the location of the proposed PSAD, but generally described the facility and existing CUP boundary. A follow-up survey was completed for the expanded CUP boundary on July 24, 2015. The follow-up survey included a visual assessment of the 300 foot buffer south of the proposed CUP boundary.

The project is proposed in an area that is subject to a high level of human activity and disturbance and which primarily consists of temporary piles of compost materials that are subject to frequent disturbance. No vegetation is present that could support nesting birds. House sparrows (*Passer domesticus*) were observed nesting in rafters in the northernmost portion of the site; however, this species is not protected under state or federal law. A mud nest was observed inside the northernmost building within the CUP boundary, but this nest would not be affected by the proposed project. The southeastern disturbed salt marsh beyond the berm (in the coastal zone) portion of the project site has open space where a ground nesting species doesn't require much vegetated cover (e.g., killdeer) has a potential nest. However, the proposed PSAD and expanded CUP boundary are greater than 300 feet from potential nesting areas south of the berm in the Study Area. Ground nesting birds such as the killdeer could occur between berms on the proposed CUP expansion boundary in the northeast portion of the project site, but are unlikely to do so given the ongoing disturbance. The existing and proposed CUP area is subject to ongoing disturbance, and no potential for ground nesting exists within the existing and proposed CUP area.

Below is a discussion of special status species that could potentially nest and forage outside the CUP boundary, but could be indirectly affected by predators attracted to the facility as discussed under Section 4.1 (below).

Special Status Ground Dwelling Bird Species. The California horned lark and burrowing owl have the potential to occur in Study Area agricultural fields (Figure 2). Ventura County is outside the currently known breeding range of the burrowing owl. Incidental observations were recorded by birdwatchers during the 2013 overwintering period at Arnold Road south of Edison Canal, and in 2013 and 2014 agricultural fields 3,500 feet north of the project site (Sullivan et al., 2009). The California horned lark is a documented winter resident in agricultural fields, but may also be present year round and nest in the Oxnard plain. California horned lark nests are known to be predated by reptiles and mammals (Beason, 1995). The California horned lark is not the subject of any monitoring and recovery plan in the area, and nesting locations are unknown. Incidental observations of this species have been recorded by bird watchers indicate the species is common throughout the south Oxnard plain and Ventura County; may be a year-round resident, but is observed more in the fall and winter (Sullivan et al., 2009). Migrants from outside California may join these wintering flocks (Ziener, 1988).

Special Status Shorebirds. The nesting bird habitat assessment report evaluated the potential for the project to attract gulls and their potential to impact western snowy plovers (WSP) and California least

terns (CLT) nesting at Ormond Beach to the southwest. WSP nest in open, sandy beaches proximal to the ocean. This feature is important because offspring must feed on their own as soon as they hatch, and they feed on insects typically found around washed up debris or beach vegetation. CLT also prefer open sandy areas, but can nest further inland as their offspring feed typically on small fish brought to them by the adults. Terns will nest at landfill sites and have nested as far inland as evaporation ponds near Kettleman City in the Central Valley (Marschalek, 2010). Both plovers and terns are sensitive to disturbance. Given the high level of human activity at the proposed project site and based upon a thorough review of past nesting monitoring reports, neither species would be expected to occur on-site. The following is taken from the nesting bird habitat assessment report:

“Plover and tern nesting colonies are relatively small at Ormond Beach. Between 2007 and 2012, plovers and terns established an average of 32.5 and 48.5 nests per year, respectively (Fox-Fernandez et al., 2012a and 2012b). However, both species have experienced a steady decline in productivity in recent years. Currently, common ravens (*Corvus corax*) and California ground squirrels (*Otospermophilus beecheyi*) provide the greatest predation pressure for plovers and terns at Ormond Beach. Gulls have been observed during breeding season surveys at Ormond Beach, but have generally been observed in low numbers...but gulls often leave little or no sign behind during depredation events (O’Connell and Beck, 2003), so it cannot be concluded that predation by gulls is not occurring.”

Since the nesting bird habitat assessment report, Ormond CLT and WSP colonies experienced a crash in 2013 (Fox-Fernandez, et al., 2013; NAWS, 2015), and a recovery in 2014 (Barringer, 2015a; NAWS 2015), as is further detailed in Section 4.1 (below). Subsequent site visits confirmed the CUP expansion area is too disturbed to host CLT and WSP nesting habitat.

Special Status Marsh Birds. The Belding’s savannah sparrow (BSS) and light-footed Ridgway’s rail (LFRR) are both year-round residents and cryptic nesters in saltwater marshes dominated by pickleweed. Suitable marsh habitat exists south of Edison Canal in Ormond 600 feet south of the CUP boundary and south of Perimeter Road on NAWS property, beginning 500 feet south of the CUP boundary.

The LFRR (a subspecies of the Ridgway’s clapper rail) has been both state and federally listed since the 1970s in response to salt marsh development and degradation, and an increase in mesopredator (i.e., raccoon, red fox, opossum, and domestic animal) depredation (Lentz, 2005). A nesting pair was observed approximately 600 feet south of the CUP boundary on NAWS property from 2011–2014 consistent with CNDDB records (NAWS, 2012–2015). The LFRR has slowly recovered in its range from Point Conception to Baja, including Mugu Lagoon (Lentz, 2005; NAWS, 2015). The NAWS subpopulation was the eighth largest subpopulation in California in 2014 (Zembal, 2014). After doubling in size between 2001 and 2003, the rail population fluctuated between 14 and 19 breeding pairs from 2003 – 2007. The population has begun increasing again after a range-wide decline in 2008. The NAWS population mirrors the statewide recovery and is up from five pairs in 2008, but at 16 pairs detected in 2014 has decreased from the 23 pairs detected in 2013 (NAWS, 2015). At the portion of NAWS adjacent to the project site south of Perimeter Road there were three pairs detected in 2010, a single nesting pair and one male in 2011, two pairs in 2012 and 2013, and one pair in 2014 (Zembal, 2014). The population on the Coastal Conservancy property is unknown east of Arnold Road, but connected to NAWS habitat by the Edison Canal. In 2013 two juveniles were found shot on the Coastal Conservancy property on the east side on Arnold Road. Broadcast call counts were conducted at the Ormond Beach Nature Conservancy property in May 2013, but no vocalizations were heard. Incidental 2015 observations of this species have been recorded by bird watchers at the canal at Arnold Road (Sullivan et al., 2009).

In 1974, the BSS was listed as state endangered. Since then, census surveys every five years have shown this species recovering in larger marshes, such as Mugu Lagoon. The 2015 census found that the population had increased slightly at Point Mugu, from 1,042 territories in 2010 to 1,130 territories in 2015 (Rincon, 2015b). 2015 census data from Ormond marshes east of Arnold Road is not yet published, but the species is classified as locally common at Ormond marshes (Aspen, 2007). Suitable habitat is

mapped beginning approximately 600 feet from the southern edge of the proposed CUP boundary, past the Edison Canal (Aspen, 2007, Appendix C-7). Recent (2007, 2006) CNDDDB records begin at NAWS south of Perimeter Road approximately 600 feet south of the CUP boundary, and at Ormond approximately 3,500 feet southwest of the CUP boundary. Incidental 2015 observations of this species have been recorded by bird watchers in abundance at Ormond Beach in 2015 (Sullivan et al., 2009).

Observed and Potentially Occurring Special Status Species						
Map Key (1)	Survey/ Source (2)	Scientific Name (3)	Common Name	Species' Status (4)	Potential to Occur (5)	Habitat Requirements (6)
SSP1	NAWS, 2014	<i>Asio flammeus</i>	short-eared owl	SC	Moderate	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.
SSP2	CNDDDB	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	FE, SE, 1B.1	Moderate	Coastal salt marsh. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs.
SSP3	CNDDDB City of Oxnard, 2009	<i>Athene cunicularia</i>	burrowing owl	SC	Moderate	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.
SSP4	CNDDDB	<i>Buteo regalis</i>	ferruginous hawk	WL	Moderate	Occurs in variety of open grasslands, sagebrush flats, scrub habitats, marshes, low foothills; eats mostly lagomorphs, ground squirrels, and mice.
SSP5	CNDDDB	<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FE, SSC	None	Sandy beaches, salt pond levees & shores or large alkali lakes; needs sandy, gravelly or friable soils for nesting.
SSP6	CNDDDB	<i>Chloropyron martimum</i> ssp. <i>martimum</i>	salt marsh bird's-beak	FE,SE, 1B.2	Moderate	Coastal salt marsh and coastal dunes; limited to higher zones of salt marsh habitat.
SSP7	CNDDDB	<i>Cicindela senilis frosti</i>	senile tiger beetle	None	Low	Marine shoreline, from Central California coast south to salt marshes of San Diego. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.
SSP8	NAWS, 2014	<i>Circus cyaneus</i>	northern harrier	SC	Low	Coastal salt and freshwater marsh. Nests and forages in grasslands, from salt grass in desert to mountain cienegas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.
SSP9	Aspen, 2007	<i>Elanus leucurus</i>	white-tailed kite	SC,FP	Low	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching
SSP10	Aspen, 2007, City of Oxnard, 2009	<i>Eremophila alpestris actia</i>	California horned lark	WL	Moderate	Coastal regions, chiefly from Sonoma Co. to San Diego Co. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.

Observed and Potentially Occurring Special Status Species						
SSP11	NAWS, 2014	<i>Falco peregrinus anatum</i>	American Peregrine falcon	FP	Low	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.
SSP12	CNDDB	<i>Lasthenia glabrata ssp. coulteri</i>	Coulter's goldfields	1B.1, LIS	Moderate	Coastal salt marshes, playas, valley and foothill grassland, vernal pools; usually found on alkaline soils in playas, sinks, and grasslands.
SSP13	CNDDB	<i>Panoquina errans</i>	wandering (=saltmarsh) skipper	None	Moderate	Southern California coastal salt marshes; requires moist salt grass for larval development.
SSP14	CNDDB	<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	SE	Moderate	Coastal salt marshes, from Santa Barbara south through San Diego County; nests in salicornia on and about margins of tidal flats.
SSP15	CNDDB	<i>Rallus obsoletus levipes</i>	light-footed Ridgway's rail	FE, SE, FP	Moderate	Salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation; requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on mollusks and crustaceans.
SSP16	CNDDB	<i>Sorex ornatus salicornicus</i>	southern California saltmarsh shrew	SSC	Low	Marshy areas (fresh emergent wetland habitat, but also valley foothill riparian habitat and moist forests. Dense, mature riparian habitats with logs or litter are preferred for foraging and nesting.
SSP17	CNDDB	<i>Sternula antillarum browni</i>	California least tern	FE, SE, FP	None	Nests along coast from San Francisco Bay south to Northern Baja California; colonial breeder on bare or sparsely vegetated, flat substrates; sand beaches, alkali flats, landfills or paved areas.
SSP18	CNDDB	<i>Suaeda esteroa</i>	estuary seablite	1B.2, LIS	Moderate	Marshes and swamps; coastal salt marshes in clay, silt and sand substrates.
SSP19	CNDDB	<i>Thamnophis hammondi</i>	two-striped garter snake	SC	Low	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.
SSP20	Aspen, 2007	<i>Thamnophis sirtalis</i> spp.	South Coast garter snake	SC	None	Coastal plain from Ventura Co. to San Diego Co., from sea level to about 2788 ft. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.

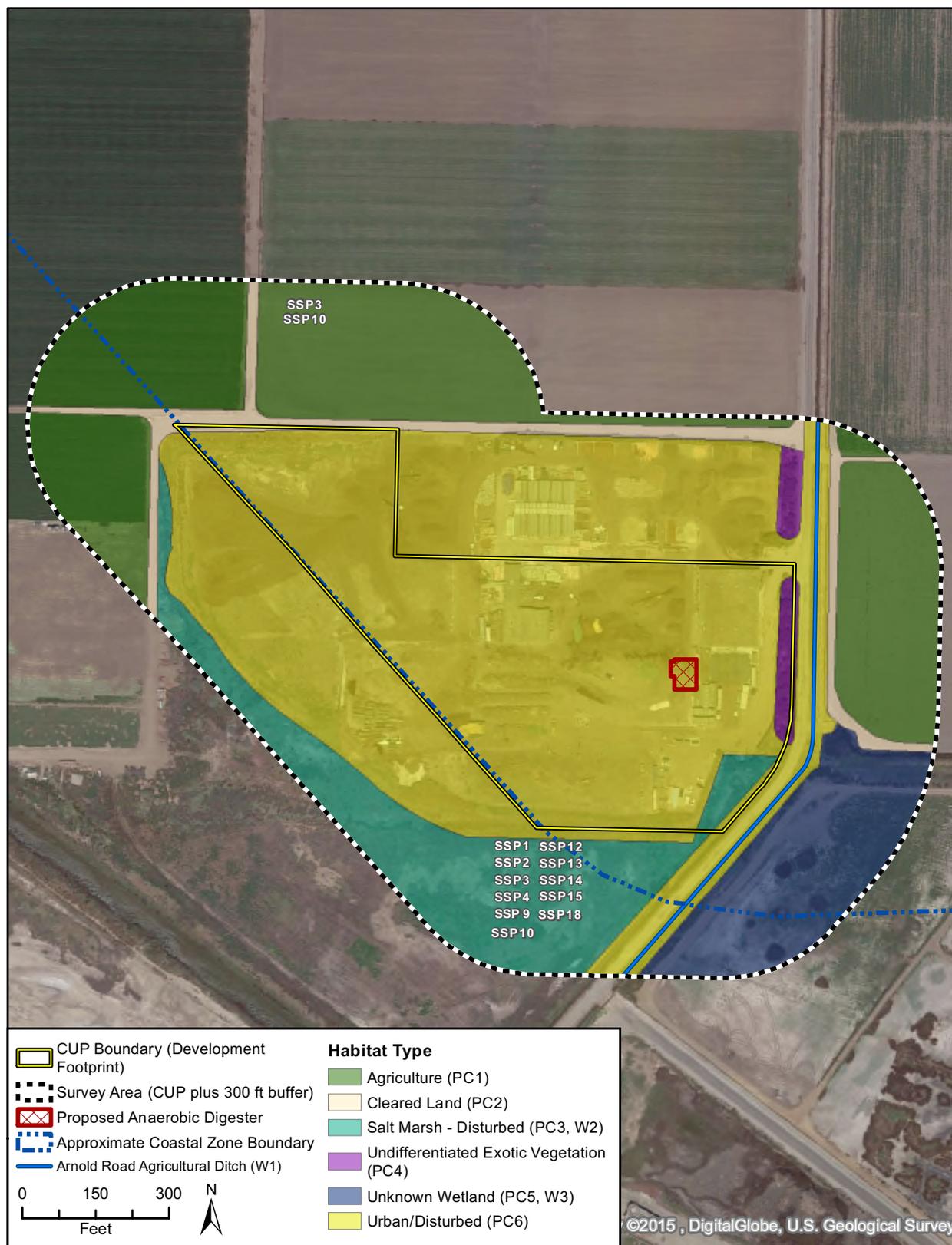
Special Status Species (continued)				
Map Key	Adequate Habitat Onsite	Adequate Habitat Size (7)	Acreage Impacted	Comments (8)
SSP1	Y	Unk	0.00	Documented at the Mugu Lagoon marsh. No suitable habitat or potential to nest within the CUP boundary. No project vicinity (5-mile) CNDDB records.
SSP2	Y	N	0.00	Tracked within 1 mile of the CUP boundary. No suitable habitat or potential to occur within the CUP boundary (including the proposed PSAD project).

Special Status Species (continued)				
SSP3	Y	Unk	0.00	Three recent (2009, 2010) CNDDDB records at NAWS. Also reported in south Oxnard sod fields (City of Oxnard, 2009). Ventura County is outside the current known nesting range; potential to occur as an overwintering resident in small numbers. Due to ongoing disturbance and lack of ground squirrel burrows, no potential to overwinter within the CUP boundary. Given lack of documented nesting in County, no potential to nest at the Agromin facility or in the surrounding agricultural fields. Suitable foraging habitat (and potentially fossorial mammal burrows) may be located off-site in ruderal, fallow agriculture, active agriculture, and agricultural ditches outside the actively disturbed CUP boundary but within the Study Area.
SSP4	Y	N	0.00	Tracked within 1 mile of the CUP boundary at Mugu Lagoon. Potentially suitable foraging habitat in marsh to south of CUP boundary. No suitable habitat or potential to nest within the CUP boundary.
SSP5	N	N	0.00	Tracked within 1 mile of the CUP boundary. Known to nest at Ormond Beach to the southwest. No suitable habitat within the CUP boundary.
SSP6	Y	Unk	0.00	Tracked within 1 mile of the CUP boundary as close as the backdunes of Ormond Beach near the power plant. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat or potential to occur within the CUP boundary.
SSP7	N	N	0.00	Tracked within 5 miles of CUP boundary. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat within the CUP boundary.
SSP8	Y	Unk	0.00	No suitable habitat or potential to nest within the CUP boundary. Documented foraging on shorebirds and marsh birds at Ormond East (NAWS, 2012 and 2014). No project vicinity (5-mile) CNDDDB records.
SSP9	N	N	0.00	Observed at dry duck ponds, and suitable foraging habitat present in the saltmarsh, albeit outside the Study Area (Aspen, 2007). No project vicinity (5 miles) CNDDDB records. No suitable nesting habitat in the CUP boundary, nor are primary prey species (e.g., California voles) expected to be present on-site during daytime operations. Multiple eBird records at the terminus of Arnold Road.
SSP10	Y	Unk	0.00	Species is regularly observed foraging in project vicinity sod farms, documented as a winter resident (Aspen, 2007). No suitable habitat or potential to nest or forage within the CUP boundary. No project vicinity (5-mile) CNDDDB records; nearest CNDDDB record is at the Camarillo airport.
SSP11	Y	Unk	0.00	2014 resident at Ormond East (NAWS 2014), and known to prey on shorebirds along the coast. No suitable habitat or potential to nest or forage within the CUP boundary. No project vicinity (5-mile) CNDDDB records.
SSP12	Y	Unk	0.00	Tracked within 1 mile of the CUP boundary. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat or potential to occur within the CUP boundary.
SSP13	Y	Unk	0.00	Tracked within 1 mile of the CUP boundary. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat or potential to occur within the CUP boundary.
SSP14	Y	Unk	0.00	Tracked within 1 mile of the CUP boundary, south of Perimeter Road on NAWS and 3,000 ft. southeast of the CUP boundary. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat or potential to occur within the CUP boundary.
SSP15	Y	Unk	0.00	Tracked within 1 mile of the CUP boundary, south of Perimeter Road on NAWS. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat or potential to nest or forage within the CUP boundary. Low potential to forage occur in the hunting club managed disturbed marsh within Survey Area; known within and south of Edison Canal and less disturbed areas on NAWS.
SSP16	Y	Unk	0.00	Tracked within 1 mile of the CUP boundary. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat or potential to occur within the CUP boundary.
SSP17	N	N	0.00	Tracked within 1 mile of the CUP boundary. Known to nest at Ormond Beach to the southwest. No suitable habitat or potential to occur within the CUP boundary.
SSP18	Y	Unk	0.00	Tracked within 1 mile of the CUP boundary. Potentially suitable habitat in marsh to south, though historical disturbance may be limiting. No suitable habitat or potential to occur within the CUP boundary.

Special Status Species (continued)

SSP19	N	Unk	0.00	Suitable habitat for this species is available primarily in the southern coastal salt marsh and coastal freshwater/brackish marsh habitats. No suitable habitat or potential to occur within the CUP boundary. Arnold ditch lacks preferred riparian growth and rocky bed habitat, and the surrounding marshes are brackish. Not likely to occur in managed (disced) Study Area disturbed wetlands.
SSP20	N	Unk	0.00	A south coast garter snake was observed crossing Arnold Road adjacent to the cultivated sod fields (Aspen, 2007). Suitable habitat for this species is available primarily in the southern coastal salt marsh and coastal freshwater/brackish marsh habitats, as mapped in Arnold Road agricultural ditch south of the CUP boundary in the Study Area (Aspen, 2007). However, the ditch lacks preferred riparian growth and rocky bed habitat, and the surrounding marshes are brackish. No suitable habitat or potential to occur within the CUP boundary. No project vicinity (5-mile) or regional (10-mile) CNDDB records; the only recorded occurrence in Ventura County is along the Santa Clara River in Santa Paula. Not likely to occur in managed (disced) Study Area disturbed wetlands.

FE Federal Endangered
 FT Federal Threatened
 FC Federal Candidate Species
 FSC Federal Species of Concern
 SFP California Fully Protected Species
 SE California Endangered
 ST California Threatened
 SR California Rare
 SSC California Species of Special Concern
 CDFG/NatureServe Rank
 G1 or S1 - Critically Imperiled Globally or Subnationally (state)
 G2 or S2 - Imperiled Globally or Subnationally (state)
 G3 or S3 - Vulnerable to extirpation or extinction Globally or Subnationally (state)
 California Rare Plant Rank (RPR)
 RPR 1A - California Native Plant Society/CDFW listed as presumed to be extinct
 RPR 1B - California Native Plant Society/CDFW listed as rare or endangered in California and elsewhere
 RPR 2 - California Native Plant Society/CDFW listed as rare or endangered in California but more common elsewhere
 RPR 3 - California Native Plant Society/CDFW listed as in need of more information.
 RPR 4 - California Native Plant Society/CDFW listed as of limited distribution or infrequent throughout a broader area in California.
 LIS Locally Important Species



Additional data provided by NOAA (coastal zone), 2014 and Sespe Consulting, Inc. (CUP boundary), 2015.

Species Map

Figure 2

Section 4: Recommended Impact Assessment & Mitigation

4.1 Sufficiency of Biological Data

Additional information needed to make CEQA findings and develop mitigation measures: No

Additional biology-related surveys or permits needed prior to issuance of land use permit: No

The proposed project site is fully disturbed. The completed surveys and the analysis contained herein are sufficient to complete this Focused ISBA. The analysis below is based on the 2013 MND, and changed circumstances and additional information since the public review of the 2013 MND. The 2013 MND was never approved by the County; however, based on consultation with the County, this ISBA builds on the 2013 MND impact analysis and mitigation measures.

4.2 Impacts and Mitigation

A. Species

Project: **PS-M**; Cumulative: **PS-M**

Direct Impacts

No special status plant or animal species were observed at the proposed project site or elsewhere within the CUP boundary. While the disturbed salt marsh to the south of the CUP boundary may provide suitable habitat for a variety of special status species, no habitat is within the proposed project area or within the CUP boundary, both of which are subject to heavy disturbance on a daily basis. The proposed project is not expected to directly impact special status plant or wildlife species.

As discussed above, fifteen (15) special status animal species occur, or have potential to occur, between the CUP boundary and the Pacific Ocean: senile tiger beetle, ferruginous hawk, northern harrier, American Peregrine falcon, short-eared owl, burrowing owl, white-tailed kite, California horned lark, wandering skipper, BSS, LFRR, WSP, CLT, two striped garter snake, and the southern California saltmarsh shrew. Two special status animals have the potential to occur in agricultural fields north of the site: the burrowing owl and California horned lark. As discussed under Section 4.2.C, *Ecological Communities—Waters and Wetlands* (below), the project will have no direct or indirect impacts to wetland habitat or hydrology; therefore, no direct effect on coastal salt marsh, wildlife or habitat. Wildlife is buffered from operational noise by the existing earthen berm, which will remain in place. Raptors, including the white-tailed kite, ferruginous hawk, and Peregrine falcon, may forage outside the CUP boundary in the Study Area, but no roosting or nesting habitat is present on-site.

Nesting Birds. The Federal Migratory Bird Treaty Act (MBTA) and the California Department of Fish and Game (CDFG) Code (3503, 3503.5, 3511, 3513 and 3800) protect most native birds. In addition, the federal and state endangered species acts protect some bird species listed as threatened or endangered. CDFG Code 3513 supports the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA. In addition, CDFG Codes (3503, 3503.5, 3511, and 3800) further protect nesting birds and their parts, including passerine birds, gulls, corvids, raptors, and state “fully protected” birds. Project-related impacts to birds protected by these regulations could occur during the breeding season because, unlike adult birds, eggs and chicks are unable to escape impacts.

Nesting birds may potentially occur within native habitats, ornamental trees, shrubs, and relatively dense herbaceous vegetation. The only on-site potential nesting habitat for migratory birds is within the exotic vegetation associated with the drainage basin. No special status bird species were observed during the Nesting Bird Habitat Assessment Survey, which focused on the area within the existing CUP boundary. The only area within the CUP boundary that could host habitat for nesting birds is adjacent to the

drainage basin, and no alteration of this vegetation is included in the proposed project. The project will not directly affect birds potentially nesting on-site, in the adjacent disturbed salt marsh, or nearby agricultural fields.

Indirect Impacts

As discussed above, fifteen special status animal species occur, or have potential to occur, between the CUP boundary and the Pacific Ocean and in agricultural areas north of the project site. As discussed under Section 4.2.B, *Ecological Communities—Waters and Wetlands* (below), the project will have no direct or indirect impacts to wetland habitat or hydrology; therefore, no effect on coastal salt marsh, wildlife or habitat. Wildlife is buffered from operational noise by the existing earthen berm, which will remain in place. No increase in noise adjacent to the disturbed saltmarsh would occur from extension of the CUP for four years, expansion of the boundary in the northern area of the project site, and construction of the PSAD. Raptors may forage outside the CUP boundary in the Study Area, but no roosting or nesting habitat is present on-site, and the proposed project would not result in removal of foraging habitat. The facility does not operate at night, and there is no existing or proposed night lighting that will affect wildlife. The Vector Control Plan and PBMP prohibit the use of rodenticides; therefore, no impacts will occur to special status raptor species and predators from rodenticide bio-accumulation.

Indirect Impacts from Predation to Special Status Bird Species

The salt marsh and beaches of the Ormond complex that begin south of the CUP boundary include habitat for nesting special status bird species. Increasing feedstock and compost storage to up to 40,000 cy has the potential to attract additional avian and terrestrial predators, which may then predate on special status bird species known to nest in the vicinity, such as the WSP, CLT, BSS, and LFRR. Analysis included in the PMBP (April 2015) and the 2013 MMD is incorporated herein by reference.

Little data exists on bird and rodent use of the various types of nontraditional waste management facilities, particularly those processing putrescible food waste. Gabrey (1997) found that birds are 350 times more attracted to traditional putrescible waste landfills than green waste composting sites. Fewer mammals were captured at green waste composting site, suggesting that green waste compost facilities would not serve as focal points for rodent populations. Blackwell and Seamans (2008) did not find the populations of small mammals (rodents) at a 25-acre food and green waste compost facility to be sufficient to attract larger mammalian carnivores (e.g., coyotes) or raptors. Blackwell and Seamans also found immediate bulking and grinding of wood is a deterrent in attracting mammals and birds. Studies above indicate that green waste is not a significant attractor for nuisance species and vectors at higher than background levels. Therefore the analysis below is primarily focused on the attraction of predators to putrescible (food waste) compost.

Indirect impacts may occur to nesting birds from the potential for the composting facility to attract scavenger birds, rodents, mesopredators, and top predators. Facilities that accept food waste provide an anthropogenic food supply for scavenging nuisance species, which can impact other, more sensitive biological resources through predation and/or competition. Indirect predatory impacts include both predation from attempted consumption, and effects on the behavior of shorebirds, which can include abandonment or neglect of young, resulting in reduced reproduction (Preisser et al., 2005). Additionally, in 2011, the facility began accepting food waste, which may have increased scavenger bird attraction as discussed in the 2013 MND (CalRecycle, 2015). The primary attractant for birds is the tipping area where delivery trucks initially deliver waste. Other existing attractants include initial processing and outdoor storage, blending and storage of food waste within the masonry building, and active outdoor windrow composting (TCM, 2013). The precise numbers of scavenger birds present at the facility or in the vicinity (i.e., Ormond Beach and NAWS) have not been monitored, but studies and observation indicate the number of gulls ranges from tens to several hundred (Ventura County 2013; Rincon 2015a). NAWS has an active year round predation management program (NAWS, 2002), and predation on nesting federally and state listed birds has been thoroughly studied on the base (Zimmerman & Golightly, 2006; Craig & Golightly, 2005). Loud noise and heavy activity would deter medium and large mammals from frequenting the facility during the day, but it possible they are present during the evening and after dark. However, signs of terrestrial predators were not observed on July 24, 2015. LEA inspection reports from

2011 through 2015 have not indicated that rodent control is an issue at the facility. The table below summarizes the potential of species with the potential to predate nesting birds at Ormond.

Special Status Nesting Bird Predator Analysis Summary			
Species	Local Habitat and Life History	Predation Threat	Potential for Project Indirect Nesting Bird Impact
Birds			
short-eared owl (<i>Asio flammeus</i>)	Native nocturnal species. Species of Special Concern. Passes through the coast irregularly, but known at NAWS (Lentz, 2005; NAWS, 2015)	Suspected in LFRR predation at NAWS.	Low. Project would not create habitat or perches, Vector Control Plan would limit on-site prey.
great-horned owl (<i>Bubo virginianus</i>)	Native year round nocturnal species.	Documented WSP and CLT predator at NAWS (Craig, 2006). Suspected in OE WSP and CLT predation. Relocation at NAWS as part of the Bird Airstrike Hazard Program (BASH).	Low. Project would not create habitat or perches, Vector Control Plan would limit on-site prey.
northern harrier (<i>Circus cyaneus</i>)	Native diurnal species, uncommon migrant and winter visitor. Recording foraging at Point Mugu. Species of Special Concern.	OE WSP and CLT predator in 2012, 2013, 2014. Recorded predating 6 WSP nests during 2014 spring migration (April). Raptors documented to have a large impact on LFRR predation. Relocation at NAWS as part of BASH.	None. Project would not create habitat or perches, Vector Control Plan would limit on-site prey.
American crow (<i>Corvus brachyrhynchos</i>)	Native diurnal year round resident. Nests and roosts in cypress, juniper, palms, present in the Cities of Port Hueneme and Oxnard. Highly intelligent, versatile omnivore. Highly intelligent, versatile omnivore.	Not recorded predating, irregularly observed at the beach (NAWS, 2002). One crow lethally removed from NAWS in 2013.	Low. Not observed in high numbers at the Agromin facility or NAWS. PBMP would address on-site attraction.
common raven (<i>Corvus corax</i>)	Native diurnal year round resident. Nests and roosts in cypress, juniper, palms, present in the Cities of Port Hueneme and Oxnard. Highly intelligent, versatile omnivore.	Documented OB WSP and CLT predator. Lethal control at OE. Develop avoidance techniques; live-trapping of specific individuals is difficult. Lethally removed at NAWS.	High. Not observed in high numbers at the Agromin facility. PBMP would address on-site attraction.
Peregrine falcon (<i>Falco peregrinus anatum</i>)	Native diurnal species, year-round resident at Ormond. Species of Special Concern.	Documented OE CLT predator, suspected LFRR predator. Raptors documented to have a large impact on LFRR predation. No NAWS lethal removal.	None. Project would not create habitat or perches, Vector Control Plan would limit on-site prey.
American kestrel (<i>Falco sparverius</i>)	Common native year-round diurnal resident. Large insects and small rodents are the main prey, but amphibians, reptiles, and birds are also taken.	Documented WSP CLT Predator at OE, relocated in 2014.	None. Project would not create habitat or perches, Vector Control Plan would limit on-site prey.
western gull (<i>Larus occidentalis</i>)	Native diurnal year round resident, potentially to a lesser extent when nesting on Anacapa Island. Urban and low tide opportunistic scavengers; not a targeted predator. 1500 acre home range (Ackerman et al., 2009). Studies have shown that birds may forage	Documented CLT and WSP predator at OE. Problem at OE prior to 2011; NAWS management and monitoring intensified in 2012. Lethally removed by NAWS in 2011, 2012, 2013, and 2014. Observed in low numbers at OB	High. Gulls have been observed to congregate at the Agromin site, likely as a result of the smell and potential availability of scrap food. PBMP would address on-site attraction. Gulls are not a significant predator of Ormond marsh bird nests.

	based on smell, and that avian olfactory is poorly understood (Steiger et al. 2008). A local population of gulls numbering in the tens to hundreds roosts periodically at the facility and adjacent agricultural fields.	2008-2013 (Barringer, 2015). Not a main 2014 predator at OE and OB.	
Heermann's gull (<i>Larus heermanni</i>)	Native diurnal migratory resident. Breeds in Gulf of California in Mexico, migrates to California in early summer. Common year round resident except March through May.	Not present during the spring. Lethally removed at NAWS as part of predatory management plan, but not removed in 2011, 2012, 2013, and 2014.	Moderate. Only present for the later part of the CLT and WSP breeding season. PBMP would address on-site attraction.
ring-billed gull (<i>Larus delawarensis</i>)	Native diurnal year round resident. Inland nesting, year round resident.	Documented CLT and WSP predator. Lethally removed from NAWS in 2012 and 2013.	High. PBMP would address on-site attraction.
California gull (<i>Larus californicus</i>)	Native diurnal migratory resident. California gull have also been reported at the Ormond, though generally only during the winter. Breeding locations in California include the San Francisco Bay and Mono Lake.	Not present during the spring. Lethally removed at NAWS as part of predatory management plan, but not removed in 2011, 2012, 2013, or 2014.	Moderate. Present for the later (summer) portion of the CLT and WSP breeding season. PBMP would address on-site attraction.
Reptiles			
Western diamondback rattlesnake (<i>Crotalus viridis</i>)	Native diurnal year round resident. Rattlesnakes are an important element in the coastal marsh ecosystem; with Mugu Lagoon one of the last remaining coastal marshes with rattlesnakes. It is not known what impact rattlesnakes have on rodent populations in the marsh, or the importance of their role in this habitat type (NAWS, 2002).	May pose a threat to clapper rails (NAWS, 2002). Not recorded preying on nests at locally.	Low. Not documented at the Agromin facility. Vector Control Plan would limit on-site prey.
Mammals			
Coyote (<i>Canis latrans</i>)	Native nocturnal species. Coyotes are known to suppress and exclude other mesopredator (e.g., skunks, raccoons, and opossums) populations at NAWS where they coexist through direct competition and even predation (Craig & Golightly, 2005). Coyotes are attracted to areas of concentrated human activity where food is made available, either intentionally or unintentionally (NAWS, 2002). Fecal samples indicate locally the species also feed on strawberries in nearby agricultural fields (Craig & Golightly, 2005). Urban/suburban southern California populations home range vary from 272 to 3,534 acres (Romsos, 1998). In 2003 and 2002 six individual coyotes had an average home range of 4,423 acres near NAWS (Craig & Golightly, 2005).	Documented significant OE CLT predator in 2014 and previous years. LFRR predator, but species not detected in fecal analysis (Craig & Golightly, 2005).	Low. Coyote population is not likely to increase as a result of small and medium mammals at an 11 acre composting operation (Blackwell & Seamans, 2008). A potential increase in coyote presence would have little effect on reproductive success of CLT and WSP due to pre-dispersal and dispersal seasonal home range fluctuation (Craig & Golightly, 2005). Omnivore, know to feed at dumps (CDFW, 2014).
Virginia opossum (<i>Didelphis virginiana</i>)	Introduced nocturnal nuisance species attracted to anthropogenic food sources. Home range of 18.8 to 46.0 hectares, may vary for males during the breeding and non-	Documented LFRR and CLT predator (USFWS, 2009; NAWS 2015). As part of 2014 predatory management, 30 were	High. Present at Ormond, with a territory size that would overlap with the proposed project and nesting habitat south of Edison Canal and south of Perimeter Road. Urban

	breeding season (Wright et al., 2012). NAWS opossum home ranges are between 0.0.4 km ² and 4.43 km ² , with average of estimate 0.78 km ² (Craig & Golightly, 2005)	lethally removed at OE alone (NAWS, 2014).	adapted opportunistic feeder, known to visit compost piles (CDFW, 2014). Feeds on fruits, nuts, green plants, insects, snails, snakes, frogs, birds and their eggs, and small mammals such as meadow voles, mice, and rats.
feral cat (<i>Felis domesticus</i>)	Introduced species. Home range of up to 1,351 acres (Horn et al., 2011).	Documented LFRR (USFWS, 2009) and Ormond BSS predator (Aspen, 2007). Lethally removed ta NAWS.	Moderate. Studies indicate not present in high numbers, but an effective predator when present. Present at Ormond, with a territory size that would overlap with the proposed project and nesting habitat south of Edison Canal and south of Perimeter Road. Carnivore, eats rodents and birds. Vector Control Plan would further limit on-site rodent prey.
striped skunk (<i>Mephitis mephitis</i>)	Native nocturnal species. Not documented as present in the project vicinity in 2012 and 2014 NAWS monitoring reports. In the context of Ormond sensitive habitats, skunks are considered nuisance species.	Documented LFRR predator at Seal Beach (USFWS, 2009). NAWS removed one skunk in 2011. Not detected in Coastal Conservancy studies, or nocturnal CLT OE predation studies (Zimmerman & Golightly, 2006). Skunks occasionally feed on ground-nesting birds, but their impact is usually minimal due to the large abundance of alternative foods (Knight, 1994).	Low. Regional reports show this species is not present in high numbers, or a significant nest predator at Ormond. Omnivore that prefers insects, and mice in the winter (CDFW, 2014). Vector Control Plan would further limit on-site prey (i.e., mice)..
house mouse (<i>Mus musculus</i>)	Invasive nocturnal species. Occurs in most habitat types in the region.	Not a documented nest predator.	None. Rodents would be controlled through adherence to the required Vector Control Plan. Home range would not overlap between the proposed project and nesting habitat south of Perimeter Road and Edison Canal.
long-tailed weasel (<i>Mustela frenata</i>)	Native species. Not locally common. Range between 51.8 and 180.3 HA (Gerhing & Swihart, 2004).	Included in NAWS predator management, removed in 2011 (NAWS, 2002; NAWS, 2012). Not common at OE (Zimmerman & Golightly, 2006).	Low. Species is not common at Ormond. Obligate carnivore, not expected to be attracted to food waste. Primary prey species is rodents, occasionally eats birds and eggs. A composting facility this size is not anticipated to attract rodents in excess of existing background levels (Blackwell & Seamans, 2008). Vector Control Plan would limit on-site prey.
raccoon (<i>Procyon lotor</i>)	Native nocturnal nuisance species attracted to anthropogenic food sources. Observed at Ormond and Mugu year round (Aspen, 2007; (Craig & Golightly, 2005). Tracks have never been seen on beach, but are present in the salt marsh (NAWS, 2014). Adult males occupy areas of about 3 to 20 square miles (8 to 52 km), compared to about 1 to 6 square miles (3 to 16 km) for females. At NAWS home ranges vary between 0.4 km ² and 4.43 km ² and average of 5.38 km ² , with a	Documented LFRR predator (USFWS, 2009), and present in Ormond marshes. Documented BSS predator at Carpinteria Salt Marsh. Not documented predator of OB WSP and CLT. OE CLT 2014 nest predator, 10 removed in 2014 (NAWS, 2015).	Moderate. Present at Ormond, with a territory size that would overlap with the proposed project and marsh BSS and LFRR nesting habitat south of Edison Canal and Perimeter Road. Not a significant predator of CLT and WSP. A potential increase in raccoon presence would have little to no effect on reproductive success of CLT and WSP due to pre-dispersal and dispersal seasonal home range fluctuation (Craig & Golightly, 2005). Urban adapted opportunistic omnivore, but will eat trash.

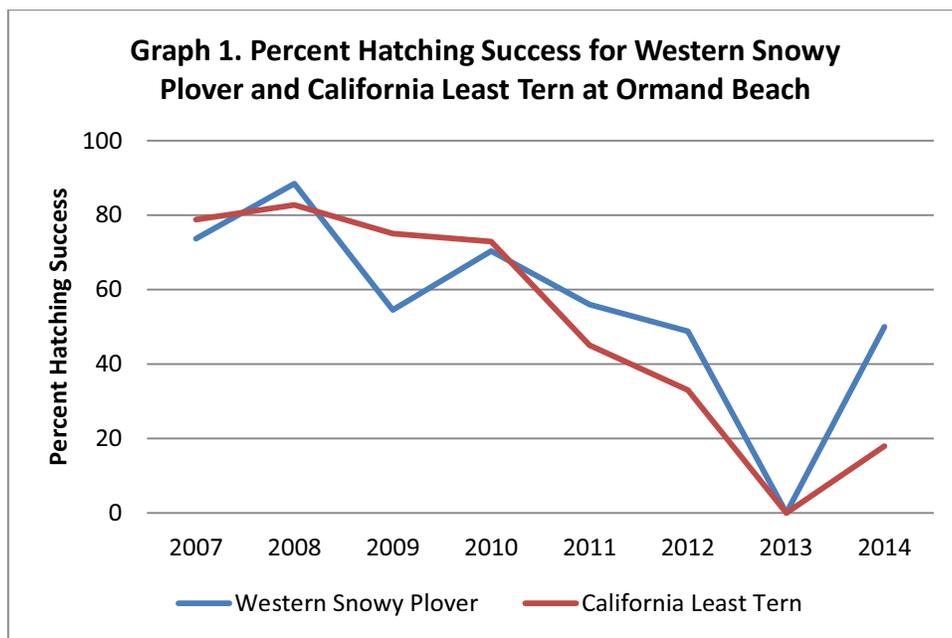
	larger home range during pre-dispersal and dispersal season (Craig & Golightly, 2005).		
Norway rat (<i>Rattus norvegicus</i>)	Invasive nocturnal species. Occurs in most habitat types in the region. Normally travels an area averaging 100 to 150 ft (30 to 45 m) in diameter, seldom travel farther than 300 ft (100 m) from their burrows to obtain food or water (Timm, 1994).	OB and OE WSP and CLT predator. Documented LFRR and BSS predator (Rush et al., 2012; USFWS, 2009; Aspen 2007). LFRR may be able deal effectively with Norway rats (Zembel, 2014).	Low. If introduced black or Norway rats are attracted to the garbage and increase in numbers and then leave the facility they could depredate native bird nests and young adjacent to the facility. However, nesting special status marsh birds are documented greater than 500 ft away, in suitable habitat south of Edison Canal and south of Perimeter Road. Therefore, rats if present at the facility would not be expected to predate special status birds. The Vector Control Plan would limit rodents on-site.
roof rat (<i>Rattus rattus</i>)	Invasive nocturnal species. Occur in most habitat types in the region. Urban California home range of 0.2-0.5 HA (Recht, 1985) and 0.22 HA to 1.87 HA in riparian forest (Whissono et al., 2007).	Roof rats are documented egg predators, but not at Ormond.	Low. Rodents would be controlled through adherence to the required Vector Control Plan. Home range would not overlap between the proposed project and nesting habitat south of Perimeter Road and Edison Canal.
California ground squirrel (<i>Spermophilus beecheyi</i>)	Native diurnal species. Occur in most habitat types in the region. Home range rarely exceeds of 225 ft (University of California, 2010).	Documented OB WSP and CLT predator. Documented LFRR predator (USFWS, 2009). OE predator control has reduced nesting CLT and WSP mortality (NAWS, 2014).	Low. Rodents would be controlled through adherence to the required Vector Control Plan. Home range would not overlap between the proposed project and nesting habitat south of Perimeter Road and Edison Canal.
red fox (<i>Vulpes vulpes</i>)	Introduced species. No longer present at NAWS or Ormond, which is likely due to the expansion of coyotes at Ormond (Craig & Golightly, 2005).	Documented LFRR and BSS predator in CA (Rush et al., 2012; USFWS, 2009), but not at Ormond. Documented BSS predator at Carpinteria Salt Marsh.	None. Species no longer present in region due to presence of coyotes.
OB: Ormond Beach, west of Arnold Road OE: Ormond East, under the management of NAWS east of Arnold Road			

The home range of an animal is determined by habitat composition, physiographic make-up, food distribution, and other survival factors. Bird migrations drive dramatic changes in the abundance and richness of shorebirds and gulls (Lafferty et al., 2013). Impacts from predation are discussed below for special status 1) ground dwelling bird species that could occur off-site in agricultural areas, 2) shorebirds, and 3) marsh birds.

Special Status Ground Dwelling Bird Species. The California horned lark and burrowing owl have the potential to occur in agricultural field, the Study Area, and beyond north of the CUP boundary (Figure 2). Ventura County is outside the known breeding range of the burrowing owl, therefore no impacts to nesting burrowing owls are anticipated. Incidental observations of the California horned lark indicate the species is common throughout the south Oxnard plain and Ventura County, and that the species may be a year-round resident but is observed more in the fall and winter (Sullivan et al., 2009). Given that no increase in putrescible waste is proposed, local abundance, large amount of surrounding nesting habitat (agricultural fields), adherence to state vector control regulations, and the existing NAWS predator management program, indirect predation impacts to the nesting California horned lark population from the continued use and expansion of the facility would be less the significant.

Special Status Shorebirds. As discussed under Section 3.4 above, CLT and WSP are known to nest beginning approximately 2,000 feet southwest of the CUP Boundary, at 1) Ormond Beach, and 2) at NAWS at Ormond East. Ormond and Ormond East are separated by a fence intended to keep recreational Ormond Beach users out of the NAWS military facility.

Ormond Beach CLT and WSP nesting colonies began to decline in 2008, experienced a population crash in 2013, and an increase in numbers in 2014 (Graph 1, *Percent Hatching Success*). It is uncertain why these species experienced a decline and crash in 2013, but in addition to high winds and tidal flooding the most likely causes are predation by common ravens and California ground squirrels at Ormond Beach (Rincon, 2013b), and opossums and northern harriers at Ormond East (NAWS, 2013). Avian predation of CLT and WSP chicks at Ormond East is documented before the facility began to accept food waste in 2011 (NAWS, 2012). Changes in regional weather may also be affecting nesting success, particularly for terns which forage for small fish in water bodies that may be changing due to low precipitation and higher temperatures.



Source: Hartley (2008–2010), Smith (2007, 2009, 2010), Gocal (2007), Rincon (2011–2013), Barringer (2014)

However, 2014 was a more successful nesting year for both CLT and WSP at Ormond Beach and Ormond East (Barringer, 2015; NAWS, 2015). The primary factors that affect breeding abundance, fluctuations in success and preferred nest locations at Ormond Beach include changes in forage prey availability, predation pressure, and various human-caused disturbances (Barringer, 2015a).

Regional historical nesting data for plovers is not readily available. A brief review of historical nesting data for McGrath State Beach for 2008 to 2012 shows a steady decline in the number of nests established and fledglings reported. The number of nests established at NAWS (outside Ormond East) has remained relatively stable, but the number of fledglings produced has declined from year to year and is generally similar to Ormond East and Ormond Beach. Hollywood Beach monitoring reported “phenomenal” nesting success in 2013 and 2014, possibly due to the increase in beach habitat as a result of harbor dredging (Barringer, 2015b). Regional beach (Ventura County) monitoring cite predation by both birds and mammals as an important factor, and vandalism at McGrath State Beach (Barringer, 2015b; NAWS, 2015; Hartley 2013). Mammals and common ravens tend to be a much greater threat to WSP and CLT egg nests, whereas other avian predators such as gulls and raptors are more likely to prey upon chicks, fledglings and adults (NAWS, 2014).

Scavenger Birds. Gulls have been well documented as predators of shorebird eggs, chicks, and occasionally adults, as discussed in the 2013 Focused ISBA, 2013 MND, and PBMP. Gull populations in the area follow seasonal cycles, with the greatest number of gulls occurring during post-breeding

dispersal and fall migration. Lafferty et al. (2013) determined that gull populations were lowest at Ventura County beaches during April through June, increasing in July to greatest abundance in August through October. Consequentially, fewer gulls are present during the egg-laying period for WSP and CLT, but the gulls become more abundant during the chick-raising time of July and August. Locally, gulls have been observed preying on WSP and CLT at Ormond East (2011). NAWS has a predator management program that includes a biologist or predator management professional present at the wrack line to haze congregating gulls, as well as attempt to haze northern harriers hunting in the colony, which has been shown to be effective (NAWS, 2013). Lethal management using firearms or Compound DRC-1339 avicide occurs at NAWS when “predator gulls” are detected preying a colony (NAWS, 2012).⁴ No gull predation was documented at Ormond Beach or Ormond East in 2014 for WSP and CLT (NAWS, 2015, Barringer 2015a). The proposed PSAD project component may reduce the number of gulls in the area by reducing the availability of accessible putrescible food waste within windrows by up to 1,000 cy. However, it should be noted that in studies cited above, putrescible waste ground into windrows with green waste has been demonstrated to abate vector attractant.

The Vector Control Plan and PBMP submitted to the County for the proposed project includes several methods for reducing the presence of gulls, as well as other birds and rodents. The primary means for reducing the presence of gulls will be covering food wastes with green wastes during temporary storage outdoors, as well as processing and storing food waste materials inside of a masonry building. The reduction of available food is expected to adequately reduce the number of gulls visiting the facility, thereby reducing the number of gulls in the near vicinity. This is also expected to reduce the presence of other nuisance bird species, such as common ravens. Bird wires will also discourage gulls from roosting and entering the facility, and success has already been observed with bird wires that have thus far been installed. In response to recorded CLT and WSP predation at Ormond East and other NAWS colonies, the NAWS predator management plan includes active human harassment on the beach, which has been demonstrated to be effective (NAWS, 2013- 2015).

As discussed under Section 2.0, *Project Design for Impact Avoidance or Minimization*, since the release of the 2013 MND the operator has taken proactive steps to reduce the scavenger birds present at the project site. Bi-monthly inspections by the County of Ventura Environmental Health Division as the Lead Enforcement Agency (LEA) show that in 2015 the Agromin facility has been in compliance with required vector controls aimed at discouraging birds from the facility (CalRecycle, 2015). Below are relevant excerpts from the LEA inspection reports, ordered from latest to oldest, since the release of the 2013 MND, in italics where taken directly from the reports.

June 15, 2015: No violations or areas of concern. *During the inspection, a load of foodwaste was dumped at the facility. The operators began aggressive bird control and discouraged birds from landing in the area. Processed green waste was immediately placed over the foodwaste. The operation appears well managed, no violations or area of concern observed at time of inspection.*

April 22, 2015: No violations or areas of concern.

March 24, 2015: No violations or areas of concern. *At time of inspection the food waste composting operation was in compliance with State Regulations.... Bird control was in place with the stringers over the food waste composting piles. Green waste compost was observed covering the food waste windrows. Odors were minimal.*

February 26, 2015: No violations or areas of concern. *The area was well managed. Seagulls were not present.*

January 27, 2015: §17867(a)(2) violation for immature flies (maggots) near foodwaste storage bunker. *The remainder of the foodwaste composting site appeared to be in compliance at time of*

⁴ All trapping activities were in accordance with all applicable laws and regulations, which include the Endangered Species Act (16 U.S.C. §1531-44), the Migratory Bird Treaty Act (16 U.S.C. §703-712) (Migratory Bird Depredation Permit number MB189470-1 and amendments), Title 14, section 465.5 of the California Code of Regulations and Wildlife Services Directive 2.450, sections 3a through 3d.

inspection... Bird control measures appear to be impacting the number of seagulls at the site. The number of seagulls observed on-site and off-site the operation area were less than 50 (sic).

December 10, 2014: No violations or areas of concern. *Vector control measures appear to be impacting the number of seagulls at the site. The number of seagulls observed on-site and off-site the operation area were less than 50. Odor was minimal.*

November 25, 2014: §17867(a)(2) violation. *Approximately 100 seagulls were observed on-site at time of inspection. Bird control measures have improved since last month's inspection but bird control still remains an issue. Continue and or enhance aggressive bird control measures and deterrent methods until bird population is under control.*

October 31, 2014: §17867(a)(2) violation. *Seagulls continue to be present at the site in large numbers, greater than 100. Seagulls were scattered intermittently by use of bird bombs and bird whistles. Seagull were observed flying to and from neighboring properties and compost sites...The means at controlling and or minimizing the seagulls at the site is currently ineffective.*

September 18, 2014: §17867(a)(2) violation. *Seagulls continue to be present at the site in large numbers. Operator effectively scattered the seagulls intermittently. Seagull were observed flying to and from neighboring properties and compost site. Bird control remains an issue.*

June 11, 2014: §17867(a)(2) violation. *Observed ~50-100 seagulls landing on the food waste/green waste stockpiles. Use of the bird whistler was employed, but with limited effect. The birds continued to stay in the general area. There were no mechanical scarecrows in operation at time of inspection. At time of inspection, no active composting was observed at the CASP composting site. The food waste/green waste was stockpiled inside and outside the building next to the CASP composting area. Odors were detected downwind of the stockpile area.*

March 31, 2014: Violations unrelated to vector control. *Bird control was in effect, an employee was observed patrolling the site using a bird control device as needed.*

January 23, 2014. No violations or areas of concern. *At the time of inspection the facility was found to be in compliance with Section 17867(a)(2) for bird control. Bird control measures included, but not limited to a propane sound cannon, stringers covering the food waste composting area and surrounding buildings, hand held bird screechers, and employees monitoring for the presence of seagulls at the facility. Food waste is mixed with green waste then stored within a building until composted. Current vector control measures appear adequate for this operation.*

Below are excerpts of gull activity from CLT and WSP monitoring reports since the circulation of the 2013 MND:

Barringer, 2015: In contrast to previous years where many predators were observed in or near the nesting colony... very few avian or mammalian predators were observed during surveys in 2014 after April. ... Even with the common presence of gull species due to the Agromin green waste recycling facility nearby, gulls have not been a notable predator of WSP or CLT at Ormond Beach.

NAWS: In 2014 a gull predated a WSP nest at Holiday Beach, and one western gull was lethally removed at Ormond East. In 2013, Ormond East had 8 unknown WSP avian predators and 17 unknown predators (most likely northern harriers), and seven gulls were removed. In 2012, no gulls were recorded predated WSP and CLT at Point Mugu, and five gulls were lethally removed.

LEA reports indicate that in the first half of 2015 bird abatement was successful, following multiple violations in beginning summer and extending into late fall of 2014. The trends of more gulls on-site during summer to winter 2014 may reflect the practices of the operator, or peak gull migration patterns. Gull abundance peaks in Ventura County earlier (August-September) than shorebird abundance (October through December) (Lafferty et al., 2013). If gull migration was attributed to the cause of increased presence during peak migration, early to mid-season (prior to late July) CLT and WSP broods would not be affected by migratory gull species that arrive later in the breeding season.

Gull abatement measures in 2015 have been successful in meeting LEA requirements, which based on the above referenced LEA reports is a criteria of less than 100 gulls. On July 24, 2015, gulls were not observed in large numbers or flocks. Regional gull ecology, nest predation, and migration patterns are complex and exact quantification of indirect impacts from the compost facility in comparison to surrounding land uses (e.g., agricultural fields, nearby existing cities and military facilities) would be difficult. The above reports and site visits have not shown ravens to be present in large numbers at the facility; however large flocks of ravens are known to be present in the southern Oxnard plain. The existing baseline of 5,000 cy of food waste on-site at any time is not changing. However, there is still potential for the project to result in adverse effects to sensitive species by subsidizing scavenger birds (e.g., if increasing numbers of gulls habituate to ongoing abatement measures or if the multiple-technique abatement is relaxed). Therefore, as evaluated in 2013 MND, indirect impacts to off-site nesting CLT and WSP from scavenger bird predation would be less than significant with mitigation requiring implementation of a PBMP.

The revised project description includes covering the tipping area with a ClearSpan™ structure, if dictated by the PBMP. Building design has been shown to affect scavenger gull use transfer stations, and birds are less likely to use transfer stations that are enclosed (Washburn, 2012). The addition of the fabric ClearSpan™ structure the PBMP would further reduce impacts from avian scavengers.

Rodents. As shown in the table above, if small mammals (e.g., California ground squirrel, Norway rat, and roof rat) were to be attracted to the Agromin facility, they would not be expected to predate CLT and WSP since rodent home ranges do not overlap between nesting colonies (beginning approximately 1,000 feet south) and the facility. The 2014 Ormond Beach CLT and WSP monitoring report documented a reduction in mammalian predators, likely due to drought (Barringer, 2015a). Management of rodents on-site is required under state law, and would be addressed through the Vector Control Plan. Ground squirrels would continue to be managed by NAWS east of Arnold Road, and control efforts have reduced mammalian predation over time (NAWS, 2015). No impacts from small mammals/rodent would occur to nesting WSP and CLT nesting colonies, based on existing Agromin and NAWS predator management and a lack of overlap in rodent home range between the facility and nesting colonies.

Large and Medium Mammals. Skunk, feral cat, raccoon, and red fox have not been documented as significant WSP and CLT predators at Ormond Beach or Ormond East. This may be in part of because coyotes keep their populations in check (Craig, 2005). An opossum was presumed responsible for CLT nest abandonment at NAWS in 2012 and one in 2013, and their home range may overlap with the facility and Ormond East and Ormond Beach WSP and CLT colonies. Mesopredators and coyotes would continue to be managed by NAWS, which have positive indirect effect on species present on the Coastal Conservancy property east of Arnold Road. As discussed above, populations of small mammals (rodents) at a 25 acre food and green waste compost facility were not sufficient to attract larger mammalian carnivores (e.g., coyotes) (Blackwell & Seamans, 2008). The Vector Control Plan does not address mesopredators, nor was the issue evaluated in the 2013 MND. Indirect impacts from opossum predation of WSP and CLT nesting colonies would be less than significant with mitigation measure requiring incorporation of mesopredator (including opossum) abatement into the Vector Control Plan.

Special Status Marsh Birds. As discussed under Section 3.4 above, LFRR and BSS are known to nest beginning approximately 600 feet southwest of the CUP Boundary, south of Perimeter Road and the Edison Canal.

Predation upon the LFRR by raptors, owls, Norway rats, ground squirrels, feral cats, opossum, and raccoons has been documented and has the potential to occur at Ormond marshes (USFWS, 2009; Aspen 2007; NAWS, 2014). Norway rats and feral cats are documented as the main predators of the less studied BSS statewide; in addition, the same predators that prey upon LFRR can be expected to prey upon the BSS given their similar habitat and nesting requirements. The mammalian species described above may also benefit from direct food subsidies at the facility, possibly resulting in impacts to marsh habitat 500 feet to the south of the CUP boundary. However, as discussed above no change to the putrescible waste baseline is proposed.

Scavenger Birds. The 2013 MND includes the following with regard to scavenger birds:

The Belding's savannah sparrow birds and light-footed clapper rail nest unexposed in dense salt marsh vegetation; they are cryptic and relatively hidden from view from scavenger birds. Indirect effects to salt marsh nesting birds from the attraction of scavenging predators will be minimal, given that scavenging birds are not an important predator of the nests of either species (USFWS, 2009; Powel, 2006). Indirect effects from squirrels and rats will be addressed through the Vector Control Plan, and with adherence to Bio MM-1 scavenger bird hazing activities will not affect the salt marsh birds.

As discussed in the table above and the 2013 MND, scavenger birds are not documented regionally as significant marsh bird predators. This may be because LFRR and BSS are cryptic pickleweed nesters, and not easily detected or targeted by opportunistic avian scavengers.

Raptors and Owls. Raptors are documented as the most significant predator of LFRR (USFWS, 2009). No raptor or perching habitat (e.g., telephone poles, fence posts) are proposed, and potential small mammal prey (rodents) that may be attracted to the facility are required by state law to be controlled. Peregrine falcons have been observed to prey on birds (e.g., pigeons), but generally not gull or corvids. As discussed above, populations of small mammals (rodents) at a 25 acre food and green waste compost facility were not sufficient to attract raptors (Blackwell & Seamans, 2008). With adherence to state vector control regulations the proposed project would not attract raptors and owls to facility, and the proposed project would have no impact on owl or raptor predation of BSS and LFRR.

Rodents. The Vector Control Plan also includes measures for control rodent populations at the facility, such as maintaining a trash-free area, removing excess compost/waste materials from along the walls of buildings, storing finished materials on pallets, keeping on-site landscaping trimmed to reduce cover for rodents, and utilizing traps if necessary (no anti-coagulants would be used) (TCM, 2013). These methods should be sufficient for the control of rodents. The 2013 MND states: *Indirect effects [to BSS and LFRR] from squirrels and rats will be addressed through the Vector Control Plan.* To the east of Arnold Road, NAWS conducts intensive predator management, and removed 56 California ground squirrels before and during the 2014 breeding season (NAWS, 2015). Furthermore, as shown in the table above, the home ranges of nuisance rodents, including the Norway rat, ground squirrels, and roof rat would not overlap between suitable nesting habitats beginning 500 feet south of the CUP boundary. As evaluated in the 2013 MND, indirect impacts as a result of the proposed project to the LFRR and BSS from rodent/small mammal predation would be less than significant.

Large and Medium Mammals. The coyote is the only top predator common at Ormond, and as discussed in the table above, it may discourage other mesopredators and so should be excluded from vector control management. As shown in the table above, the following mesopredators have home ranges that may overlap between the proposed project and suitable BSS and LFRR habitat: feral cats, opossum, and raccoons. Substantial evidence presented above indicated that green waste does not attract nuisance mammals. The amount of putrescible waste amount on-site at any one time (~5,000 cubic yard) is not changing; increase in transient predator attraction to the facility or an increase in existing population as a result of a change in baseline is not anticipated. Additionally, Ormond LFRR and BSS populations are generally increasing (Zemba, 2010; Rincon 2015b). The 2011 through 2014 NAWS monitoring reports do not indicate any negative effects (e.g., increased animal predation) on the LFRR at the far western arm of Mugu Lagoon (marsh north of Ormond East) since the facility began to receive putrescible waste in 2011. NAWS aggressive year-round predator management east of Arnold Road will continue to indirectly benefit nesting success in the Coastal Conservancy marshes and beaches south of the project site. NAWS trapped and removed 46 opossums and 12 raccoons in 2014 (NAWS, 2015). No data is currently available regarding populations of nuisance mammals at the facility; therefore, there are currently no baseline levels for comparison of the existing operations against future increases in green waste. As discussed above, the putrescible waste baseline is not changing. However, the above nocturnal species are not likely to be observed during LEA inspections; therefore their presence at the facility may go undetected. As discussed above, the 2013 Vector Control Plan does not address mesopredators, nor were mesopredator impacts evaluated in the 2013 MND. Therefore, indirect impacts to BSS and LFRR from mesopredators would be less than significant with a new mitigation measure requiring incorporation of mesopredator abatement into the Vector Control Plan.

Cumulative Impacts

The cumulative region of interest for impacts to biological resources can be defined as the watershed. The project site is located within the Santa Clara River Oxnard Sub-watershed and adjacent to the Calleguas Creek Watershed (Ventura County Watershed Coalition, 2015). The cumulative project lists for the County of Ventura, City of Oxnard, and City of Port Hueneme do not have projects that when considered with the proposed project would result in incremental effects or cumulatively significant impacts to special status shore and marsh birds within the region of interest (County of Ventura, 2015; City of Oxnard, 2015; City of Port Hueneme, 2014). The proposed project would not affect implementation of the Coastal Conservancy Ormond restoration plan. Beach revetment activities in the City of Port Hueneme would not significantly impact special status birds (City of Hueneme, 2014). Development in rural and agricultural areas of Ventura County is essentially under a moratorium as a result of several "Save Open Space and Agricultural Resources" (SOAR) ordinances and initiatives. The Ventura County SOAR ordinance, extended through 2020, requires County-wide voter approval of any change to the County General Plan involving the "Agricultural," "Open Space," or "Rural" land use map designations, or any change to a General Plan goal or policy related to those land use designations. Cumulative impacts to special status species would be less than significant.

Significance Finding – Project Impacts: Less than significant with mitigation.

Significance Finding – Cumulative Impacts: Less than significant with mitigation.

Avoidance and Minimization Measures

1998 CLT Mitigation Measure. The 1998 MND and CUP conditions of approval included a mitigation measure requiring surveys and relocation of CLT on-site prior to issuance of Zoning Clearance. However, based on the current condition and use of the proposed project site and review nesting data since 1998, this measure is not necessary as CLT would not be expected to nest within 1,000 feet the CUP boundary.

2013 MND Mitigation Measures. Existing Biological Mitigation Measure 1 (below) was included in the 2013 MND, with change shown in strikeout/underline. Recommended changes include enforcement action should the PBMP not be effective in deterring birds, a prohibition on bird nets that have the potential to entrap non-target species, and to encourage seasonal considerations. The existing bird control methods that generate noise would be prohibited under the PBMP, because of negative impacts on surrounding sensitive species. The proposed addition of the ClearSpan™ fabric structure the PBMP would further reduce impacts.

New Mitigation Measure. As discussed above, predation of nesting BSS and LFRR by medium sized mammals was not evaluated under the 2013 MND, or included in the 2013 Vector Control Plan. New Biological Mitigation Measure 1 would reduce predation impacts to less than significant by requiring mesopredators to be addressed in the Vector Control Plan, and providing a nexus for the Planning Division to monitor mesopredator abatement.

Programmatic/Off-site Mitigation. No agency approved mitigation programs (i.e., mitigation banks, in-lieu-fees) exist at Ormond Beach. Even if such a program were approved by the agencies, off-site indirect special status bird impacts would be difficult to quantify. Funding of the monitoring program, particularly by the Coastal Conservancy, is recommended under the *2014 Breeding Season Monitoring Report for Western Snowy Plover and California Least Tern for Ormond Beach, California* (Recommendation No. 5). However, there is no existing policy framework or legal nexus to impose WSP and CLT monitoring contribution as a mitigation measure/condition of approval for the proposed project. The proposed project is consistent with the Ventura County General Plan (2011) biological resource policies; no additional biological resource permit conditions are necessary to make the required CUP finding of General Plan consistency (§ 8111-1.2.1.1). The project is consistent with the County's Local Coastal Program since it is proposed entirely outside the coastal zone. Off-site nesting birds that could be indirectly impacted are under federal jurisdiction (NAWS) and the jurisdiction of the City of Oxnard.

Existing Biological Mitigation Measure 1: Predatory Bird Management Program (PBMP)

Purpose: The purpose of this mitigation is to augment the proposed Vector Control Plan, and avoid significant impacts during operation of the proposed facilities to special status bird species, by limiting the attraction of avian scavengers (e.g., gulls and corvids) that may also predate nests, and ensure compatibility with conservation efforts outlined in the *Recovery Plan for Western Snowy Plover* (USFWS 2007) and the *California Least Tern Recovery Plan* (USFWS 1985). The PBMP shall employ predatory bird behavior and habitat modification control methods that do not interfere with wildlife inhabiting and nesting within the Environmentally Sensitive Habitat Areas (ESHA) adjacent to the project.

Requirement: The Permittee shall implement a PBMP that deters solid waste avian scavengers such as gulls and corvids from the facility. The PBMP must describe:

- a. The specifications for bird wires installed over the tipping area configured specifically to dissuade predator species from being attracted to the facility.
- b. Methods that specifically address predatory bird behavior and habitat, and substantiate the safety and effectiveness of the proposed predatory bird behavior and habitat modification methods. The Permittee shall not use methods that interfere with wildlife use of the ESHA (e.g., noisemakers and propane cannons, distress calls, bird nets hazardous to migratory birds or other protected bird species, or falcons and dogs). Additional behavioral or habitat modification methods that may be incorporated and described in the PBMP to augment the bird wires include:
 - Kite decoys and “predeath” bird effigies;
 - Placement of an inert cover (e.g., green waste or physical barriers) over the food waste;
 - Active human harassment;
 - Non-toxic lethal control consistent with the MBTA permit requirements;
 - Addition of landing deterrents on roost sites; and
 - Reducing availability of anthropogenic sources of food and water.

Other control methods may be incorporated into the PBMP with evidence that they will not affect adjacent nesting birds or wildlife.

- c. An initial baseline of predatory bird activity, and methodology.
- d. Monitoring methodology, such as weekly point counts conducted by trained professional biologists (i.e., capable of identifying gulls to species and age class) to estimate numbers of gulls, determine which species of gulls are at the composting operation, and determine the general compass direction of gull arrivals and departures.
- e. Success criteria, such as no increase on the number of predatory birds.

It is expected that the management process will have to be adaptive, and the PBMP may be revised with approval from the Planning Director to reflect recommendations of the monitoring County-approved qualified biologist. Emphasis should be placed on bird management during the nesting season, when impacts could occur.

The Permittee shall prepare and submit bi-annual monitoring reports detailing the number of predatory birds using weekly point counts, or other survey method and duration recommended by the County-approved qualified biologist in consultation with CDFW and USFWS. The monitoring reports shall also evaluate the initial effectiveness and bird response to control methods. The methods will be adapted as necessary to ensure effectiveness. The semi-annual monitoring report shall qualitatively (e.g., general observations) and quantitatively (e.g., point count results) assess the effectiveness of the control methods employed. The semi-annual monitoring reports shall be submitted to the Resource Management Agency (RMA)–Planning Division, USFWS, and CDFW for the life of the CUP.

Timing: Prior to the issuance of a Zoning Clearance for use inauguration ~~for the time extension of the existing operation~~, the Permittee shall submit a PBMP for review and approval by the Planning Director. After Planning Director approval of the PBMP, but prior to issuance of a Zoning Clearance for use

inauguration, RMA-Planning Division staff shall inspect the facilities and/or review photo documentation for conformity with the physical habitat and behavioral modification components of the PBMP (e.g., bird wires). The Permittee shall submit semi-annual monitoring reports for consistency with the PBMP to the Planning Division and the USFWS and CDFW Ventura offices, by August 30 and February 28 of each year, for the life of the permit.

Documentation: The Permittee shall submit to the Planning Division a PBMP prepared by a County-approved qualified biologist that meets the requirements of this condition along with a performance security to implement and monitor the PBMP for the life of the CUP. The Permittee shall provide to the County a signed contract with a County-approved qualified biologist that includes a requirement to evaluate, monitor, and report on adherence to the requirements of this mitigation measure.

By August 30 and February 28 of each year, the Permittee shall submit bi-annual monitoring reports detailing the number of predatory birds on-site in weekly intervals during the prior six months and the effectiveness of the control methods to the Planning Division, USFWS, and CDFW. If changes to the PBMP are recommended during facility operation, they shall be submitted in writing to the Planning Division, CDFW, and USFWS.

Monitoring: The Permittee shall confirm with the RMA-Planning Division that a County-approved qualified biologist has been contracted to evaluate and monitor the requirements of this condition prior to issuance of a Zoning Clearance for use inauguration. The Permittee shall construct the physical behavioral and habitat modification components prior to the issuance of a Zoning Clearance for use inauguration. The RMA-Planning Division shall maintain copies of the signed contract, PBMP, and bi-annual monitoring reports submitted by the Permittee, in the project file. The RMA-Planning Division shall review the bi-annual monitoring reports for conformity with the requirements of this mitigation measure and the approved PBMP. If the PBMP is not effective in deterring predatory birds consistent with the success criteria specified in the Planning Director approved PBMP (including if specific design features are not permitted by the County or applicable agencies) all putrescible waste (or other waste demonstrated to attract predatory birds) shall be removed from the facility within 30 days of notice from the Planning Director. If notice is provided by the Planning Director or LEA, putrescible waste shall not be accepted until a CUP modification is approved based on updated environmental review and policy consistency analysis. The RMA-Planning Division has the authority to conduct site inspections to ensure ongoing compliance with this condition consistent with the requirements of § 8114-3 of the *Ventura County Non-Coastal Zoning Ordinance*.

New Biological Mitigation Measure 1: Mesopredator Abatement Vector Control Plan Augmentation

Purpose: The purpose of this mitigation is to augment the proposed Vector Control Plan and requiring monitoring, to avoid significant impacts during operation of the proposed facilities to special status bird species, by limiting the attraction mesopredators (e.g., opossums, feral cats, raccoons) that may also predate special status bird nests.

Requirement: The Permittee shall implement mesopredator abatement measures as part of the required Vector Control Plan, which shall be developed by a CDFW licensed trapper in consultation with a County-approved qualified biologist. This component of the Vector Control Plan shall include:

- Abatement, such as trapping for medium-sized mammals (e.g., feral cats, raccoons, and opossums), registered repellents, and/or exclusionary barriers (e.g., underground wire). Traps should be set at regular intervals along the entire perimeter of the CUP boundary. Traps may include Tomahawk traps or similar sized traps that will have large enough mesh to avoid trapping non-target small mammals, such as the southern California saltmarsh shrew. The inspection of traps, removal of captured nuisance animals, and release of non-target species will occur within 12 hours of trap deployment.
- Success criteria, such as no increase on the number of mesopredators during the nesting season.
- Monitoring Methodology, such as weekly reports. Monitoring must include identification to species, and location.

Any non-target species will be released in appropriate areas. Cats wearing collars will be transported to the Ventura County Animal Control, or if the collars have owner contact information, then the owner will be contacted. All trapping procedures must follow CDFW regulations, and any necessary approvals from the CDFW will be obtained prior to implementation. Poisoning is prohibited, unless approved by the Planning Division and allowed under the applicable CDFW permit. Top predators (i.e., coyote, bobcat) that naturally control the population of mesopredators shall not be euthanized.

Timing: Prior to issuance of a Zoning Clearance for use inauguration, the Permittee shall submit a Mesopredator Abatement Vector Control Plan for review and approval by the Planning Director. Prior to issuance of a Zoning Clearance for use inauguration, the Permittee shall provide a copy of a permit from CDFW that allows trapping of furbearing non-game mammals consistent with the Vector Control Plan.

Documentation: The Permittee shall submit to the Planning Division a Vector Control Plan that meets the requirements of this condition along with a performance security to implement and monitor the Vector Control Plan for the life of the CUP. Prior to issuance of a Zoning Clearance for use inauguration, the Permittee shall provide a copy of a permit from CDFW that allows trapping of furbearing non-game mammals consistent with the Vector Control Plan.

Monitoring of nuisance species must be conducted by a CDFW licensed trapper; monitoring by a County-approved qualified biologist is not required. By August 30 and February 28 of each year, the Permittee shall submit bi-annual monitoring reports detailing the number of mesopredators during the prior six months and the effectiveness of the control methods to the Planning Division, USFWS, and CDFW. If changes to the Vector Control Plan are recommended during facility operation, they shall be submitted in writing to the Planning Division, CDFW, and USFWS. Approval for changes is required by the Planning Director and Environmental Health Division (LEA).

Monitoring: The RMA-Planning Division shall maintain copies of the Vector Control Plan, and bi-annual monitoring reports submitted by the Permittee, in the project file. The RMA-Planning Division shall review the bi-annual motoring reports for conformity with the requirements of this mitigation measure and the approved Vector Control Plan. If the Vector Control Plan is not effective in deterring mesopredators consistent with the success criteria specified in the Planning Director approved Vector Control Plan (including if lethal removal is not permitted by applicable agencies) all putrescible waste (or other waste show to attract mesopredators) shall be removed from the facility within 30 days of notice from the Planning Director and/or LEA. If notice is provided by the Planning Director or LEA, putrescible waste shall not be accepted until a CUP modification is approved based on updated environmental review and policy consistency analysis. The RMA-Planning Division has the authority to conduct site inspections to ensure ongoing compliance with this condition consistent with the requirements of § 8114-3 of the *Ventura County Non-Coastal Zoning Ordinance*.

B. Ecological Communities

Project: **PS-M**; Cumulative: **PS-M**

Sensitive Plant Communities

No sensitive plant communities are present within the CUP boundary. No direct impacts would occur to Study Area sensitive communities No indirect impacts to sensitive communities would occur with adherence to state dust control regulations, which the facility is in conformance with (CalRecycle, 2015).

Significance Finding – Project Impacts: No direct or indirect impact to sensitive plant communities

Significance Finding – Cumulative Impacts: No cumulative impacts to sensitive plant communities.

Avoidance and Minimization Measures

None required

Waters and Wetlands

No water or wetlands are present within or adjacent to the proposed project. Disturbed marsh habitat is present to the south and southwest of the CUP boundary, but will not be affected by the proposed

project. An earthen berm currently separates the CUP area from the marsh, a portion of which lies within the coastal zone. This off-site privately owned habitat has been subject to periodic disturbance. No areas under the jurisdiction of US Army Corps of Engineers, California Regional Water Quality Control Board, and California Department of Fish and Wildlife have been identified in the CUP boundary.

The Ventura County Coastal Area Plan (2008) describes an intact dune-transition zone-marsh system associated with Ormond Beach. However, this description would be referring to wetlands found immediately adjacent to Ormond Beach near Arnold Road and adjacent to the Ormond Beach north of the Reliant Energy power plant. General Plan wetland buffer adjustments consistent with Biological Resources Policy 1.5.2-4 are discussed under the Waters and Wetlands table under Section 3.1, *Ecological Communities* (above). The potential transition zone between Ormond Beach and the disturbed marsh south of the CUP boundary is disrupted by a large man-made canal.

Significance Finding – Project Impacts: No direct or indirect impact to waters and wetlands

Significance Finding – Cumulative Impacts: No direct or indirect cumulative impacts to ecological communities.

Avoidance and Minimization Measures

None required

Environmentally Sensitive Habitat Areas

Ormond Beach includes several hundred acres of salt marsh and brackish or freshwater wetlands, coastal dunes and scrub, and upland areas that provide habitat for special status species that are considered ESHA under the Local Coastal Plan. No new development is proposed within the existing 100-foot ESHA buffer. The proposed anaerobic digester will be located more than 400 feet from the coastal salt marsh ESHA. A portion of the project site is located within the coastal zone, and was disturbed by the composting operation as recently as 2009. The existing composting facility is currently operating within the proposed CUP boundary, however, operations in the area would cease as part of the proposed project. 2013 MND Existing Biological Mitigation Measure 2 (below) will ensure that that operation will remain within the CUP boundary and outside the ESHA and coastal zone through requiring installation of fencing along the southern CUP boundary. No indirect impacts to ESHA would occur with adherence to state dust control regulations, in which the facility is in conformance (CalRecycle, 2015). With adherence to Existing Biological Mitigation Measure 2, the existing ESHA buffer is adequate and there will be no project specific or cumulative direct or indirect impacts to ESHA.

Significance Finding – Project Impacts: Less than significant impacts to ESHA with mitigation requiring coastal zone and CUP boundary demarcation.

Significance Finding – Cumulative Impacts: Less than significant impact to ESHA with mitigation requiring coastal zone and CUP boundary demarcation.

Avoidance and Minimization Measures

2013 MND Mitigation Measure. The following mitigation measure was included in the 2013 MND. Recommended changes are shown in strikeout/underline, and reflect that the wetland actually begins on the other side of the berm constructed along the former coastal zone boundary, 225 feet southeast of the updated coastal zone boundary. Specific design for fence posts is recommended so that birds and small reptiles do not become trapped in hollow posts, and so that raptor perching habitat is not inadvertently created.

Existing Biological Mitigation Measure 2: Fencing of ~~Project~~ CUP/Coastal Zone Boundary

Purpose: The purpose of this mitigation measure is to ensure that all development activities occur within the permitted project boundary to avoid impacts to the coastal wetland, located approximately 225 feet south of in the coastal zone boundary portion on the project parcel and south of the project parcel.

Requirement: The Permittee shall: (1) install silt-screen (or other acceptable) fencing along the CUP project site boundary along the coastal zone boundary only (fencing is not required adjacent to existing

agriculture or roads); and, (2) install signage on the fencing that informs employees that entry into, and development activities within, the coastal zone and wetland are prohibited. The silt-screen fencing shall be at least three feet high. The weather proof signage shall state: "Project and coastal zone boundary ~~and coastal wetland~~—do not enter." The Permittee shall submit: (1) a site plan that graphically illustrates the location of the fencing and signage; (2) elevations of the fencing, which graphically illustrate the height and design of the fencing; and, (3) plans for the signage that include the dimensions of, and copy to be provided on, the signage. Hollow fence posts shall be capped to avoid entrapment or injury of small birds and reptiles, and treated with anti-perching devices to prevent raptor (e.g., northern harrier) perching.

Timing: Prior to the issuance of the first Zoning Clearance for the project, the Permittee shall submit the plans for the fencing and signage to the Planning Division for review and approval. The Permittee shall install the fencing and signage prior to issuance of a Zoning Clearance for use ~~inauguration of the existing operations.~~

Monitoring and Reporting: The Planning Division maintains the approved site plan and fencing and sign plans in the project file. The Planning Division has the authority to conduct periodic site inspections to ensure ongoing compliance with this condition pursuant to the requirements of § 8114-3 of the *Ventura County Non-Coastal Zoning Ordinance*.

Section 5: Photos

Photos	
Location	
P1	
Map Key	
P1.1	
View Direction	
South	
Description	
View of eastern edge of expansion area looking south.	
Location	
P2	
Map Key	
P2.1	
View Direction	
South	
Description	
View of expansion area facing south.	

Photos	
Location	
P2	
Map Key	
P2.2	
View Direction	
Southeast	
Description	
Mulch piles can be seen on the east side of the expansion area.	
Location	
PP2	
Map Key	
P2.3	
View Direction	
Southwest	
Description	
View of western side of expansion area with berm visible. Non-native vegetation (hive horn bassia) in the foreground.	

Photos	
Location	
P3	
Map Key	
P3.1	
View Direction	
Southeast	
Description	
Large view of expansion area.	
Location	
PP4	
Map Key	
P4.1	
View Direction	
East	
Description	
View of expansion area with mulch piles in the background.	

Photos	
Location	
PP4	
Map Key	
P4.2	
View Direction	
Northeast	
Description	View of expansion area towards the northeast. Mulch piles and yellow fencing can be seen.
Location	
PP4	
Map Key	
P4.3	
View Direction	
Southeast	
Description	View of southern berm with the Pacific Ocean in the background.

Photos	
Location	
PP5	
Map Key	
P5.1	
View Direction	
North	
Description	View of expansion area towards the northeast.
Location	
PP5	
Map Key	
P5.2	
View Direction	
Northeast	
Description	View of eastern CUP boundary.

Appendix One

Summary of Biological Resource Regulations

The Ventura County Planning Division, as “lead agency” under CEQA for issuing discretionary land use permits, uses the relationship of a potential environmental effect from a proposed project to an established regulatory standard to determine the significance of the potential environmental effect. This Appendix summarizes important biological resource regulations which are used by the Division’s biologists (consultants and staff) in making CEQA findings of significance:

- Sensitive Status Species Regulations
- Nesting Bird Regulations
- Plant Community Regulations
- Tree Regulations
- Waters and Wetlands Regulations
- Coastal Habitat Regulations
- Wildlife Migration Regulations
- Locally Important Species/Communities Regulations

Sensitive Status Species Regulations

Federally Protected Species

Ventura County is home to 29 federally listed endangered and threatened plant and wildlife species. The U.S. Fish and Wildlife Service (USFWS) regulates the protection of federally listed endangered and threatened plant and wildlife species.

FE (Federally Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.

FT (Federally Threatened): A species that is likely to become endangered in the foreseeable future.

FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as endangered or threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

FSC (Federal Species of Concern): A species under consideration for listing, for which there is insufficient information to support listing at this time. These species may or may not be listed in the future, and many of these species were formerly recognized as "Category-2 Candidate" species.

The USFWS requires permits for the “take” of any federally listed endangered or threatened species. “Take” is defined by the USFWS as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct; may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.”

The Endangered Species Act (ESA) does not provide statutory protection for candidate species or species of concern, but USFWS encourages conservation efforts to protect these species. USFWS can set up voluntary Candidate Conservation Agreements and Assurances, which provide non-Federal landowners (public and private) with the assurance that if they implement various conservation activities to protect a given candidate species, they will not be subject to additional restrictions if the species becomes listed under the ESA.

State Protected Species

The California Department of Fish and Game (CDFG) regulates the protection of endangered, threatened, and fully protected species listed under the California Endangered Species Act. Some species may be jointly listed under the State and Federal Endangered Species Acts.

SE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

ST (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and

management efforts required by this chapter. Any animal determined by the commission as "rare" on or before January 1, 1985, is a "threatened species."

SFP (California Fully Protected Species): This designation originated from the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians, reptiles, and birds. Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations.

SR (California Rare): A species, subspecies, or variety of plant is rare under the Native Plant Protection Act when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Animals are no longer listed as rare; all animals listed as rare before 1985 have been listed as threatened.

SSC (California Species of Special Concern): Animals that are not listed under the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.

The CDFW requires permits for the "take" of any State-listed endangered or threatened species. Section 2080 of the Fish and Game Code prohibits "take" of any species that the California Fish and Game Commission determines to be endangered or threatened. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

The California Native Plant Protection Act protects endangered and rare plants of California. Section 1908, which regulates plants listed under this act, states: "no person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the commission determines to be an endangered native plant or rare native plant, except as otherwise provided in this chapter."

Unlike endangered, threatened, and rare species, for which a take permit may be issued, California Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

The California Endangered Species Act does not provide statutory protection for California species of special concern, but they should be considered during the environmental review process.

California Rare Plant Ranks (RPR)

Plants with 1A, 1B, 2 or 4 should always be addressed in CEQA documents. Plants with a RPR 3 do not need to be addressed in CEQA documents unless there is sufficient information to demonstrate that a RPR 3 plant meets the criteria to be listed as a RPR 1, 2, or 4.

RPR 1A: Plants presumed to be extinct because they have not been seen or collected in the wild in California for many years. This list includes plants that are both presumed extinct in California, as well as those plants which are presumed extirpated in California. A plant is extinct in California if it no longer occurs in or outside of California. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

RPR 1B: Plants that are rare throughout their range with the majority of them endemic to California. Most of the plants of List 1B have declined significantly over the last century.

RPR 2: Plants that are rare throughout their range in California, but are more common beyond the boundaries of California. List 2 recognizes the importance of protecting the geographic range of widespread species.

Plants identified as RPR 1A, 1B, and 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing.

RPR 3: A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them.

RPR 4: A watch list for plants that are of limited distribution in California.

Global and Subnational Rankings

Though not associated directly with legal protections, species have been given a conservation status rank by NatureServe, an international non-profit conservation organization that is the leading source for information about

rare and endangered species and threatened ecosystems. The Ventura County Planning Division considers the following ranks as sensitive for the purposes of CEQA impact assessment (G = Global, S = Subnational or State):

- G1 or S1 - Critically Imperiled
- G2 or S2 – Imperiled
- G3 or S3 - Vulnerable to extirpation or extinction

Locally Important Species

Locally important species' protections are addressed below under "Locally Important Species/Communities Regulations."

For lists of some of the species in Ventura County that are protected by the above regulations, go to http://www.ventura.org/rma/planning/ceqa/bio_resource_review.html.

Migratory Bird Regulations

The Federal Migratory Bird Treaty Act (MBTA) and the CDFW Code (3503, 3503.5, 3511, 3513 and 3800) protect most native birds. In addition, the federal and state endangered species acts protect some bird species listed as threatened or endangered. Project-related impacts to birds protected by these regulations would normally occur during the breeding season, because unlike adult birds, eggs and chicks are unable to escape impacts.

The MBTA implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and Russia for the protection of migratory birds, which occur in two of these countries over the course of one year. The Act maintains that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (Title 50 of the Code of Federal Regulations, Section 10.13 as updated by the 1983 American Ornithologists' Union (AOU) Checklist and published supplements through 1995 by the USFWS).

CDFW Code 3513 upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA. In addition, there are CDFW Codes (3503, 3503.5, 3511, and 3800) which further protect nesting birds and their parts, including passerine birds, raptors, and state "fully protected" birds.

NOTE: These regulations protect almost all *native nesting birds*, not just sensitive status birds.

Plant Community Regulations

Plant communities are provided legal protection when they provide habitat for protected species or when the community is in the coastal zone and qualifies as environmentally sensitive habitat area (ESHA).

Global and Subnational Rankings

Though not associated directly with legal protections, plant communities have been given a conservation status rank by NatureServe, an international non-profit conservation organization that is the leading source for information about rare and endangered species and threatened ecosystems. The Ventura County Planning Division considers the following ranks as sensitive for the purposes of CEQA impact assessment (G = Global, S = Subnational or State):

- G1 or S1 - Critically Imperiled
- G2 or S2 - Imperiled
- G3 or S3 - Vulnerable to extirpation or extinction

CDFG Rare

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. Though the Native Plant Protection Act and the California Endangered Species Act provide no legal protection to plant communities, CDFW considers plant communities that are ranked G1-G3 or S1-S3 (as defined above) to be rare or sensitive, and therefore these plant communities should be addressed during CEQA review.

Environmentally Sensitive Habitat Areas

The Coastal Act specifically calls for protection of “environmentally sensitive habitat areas” or ESHA, which it defines as: “Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (Section 30107.5).

ESHA has been specifically defined in the Santa Monica Mountains. For ESHA identification in this location, the Coastal Commission, the agency charged with administering the Coastal Act, has described the habitats that are considered ESHA. A memo from a Coastal Commission biologist that describes ESHA in the Santa Monica Mountains can be found at: http://www.ventura.org/rma/planning/ceqa/bio_resource_review.html.

Locally Important Communities

The Ventura County Initial Study Assessment Guidelines defines a locally important community as one that is considered by qualified biologists to be a quality example characteristic of or unique to the County or region, with this determination being made on a case-by-case basis. The County has not developed a list of locally important communities, but has deemed oak woodlands to be a locally important community through the County’s *Oak Woodland Management Plan*.

Tree Regulations

Selected trees are protected by the Ventura County Tree Protection Ordinance, found in Section 8107-25 of the Ventura County Non-Coastal Zoning Ordinance. This ordinance, which applies in the unincorporated areas of the County outside the coastal zone, regulates—through a tree permit program—the removal, trimming of branches or roots, or grading or excavating within the root zone of a “protected tree.” Individual trees are the focus of the ordinance, while oak woodlands are additionally protected as “locally important communities.”

The ordinance allows removal of five protected trees (only three of which can be oaks or sycamores; none of which can be heritage or historical trees) through a ministerial permit process. Removal of more/other than this may trigger a discretionary tree permit.

If a proposed project cannot avoid impacts to protected trees, mitigation of these impacts (such as replacement of lost trees) is addressed through the tree permit process—**unless the impacts may affect biological resources beyond the tree itself**, such as to sensitive status species that may be using the tree, nesting birds, the tree’s role as part of a larger habitat, etc. These secondary impacts have not been addressed through the tree permit program and must be addressed by the biologist in the biological assessment in accordance with the California Environmental Quality Act (CEQA).

A tree permit does not, however, substitute as mitigation for impacts to oak woodlands. The Public Resources Code requires that when a county is determining the applicability of CEQA to a project, it must determine whether that project “may result in a conversion of oak woodlands that will have a significant effect on the environment.” If such effects (either individual impacts or cumulative) are identified, the law requires that they be mitigated. Acceptable mitigation measures include, but are not limited to, conservation of other oak woodlands through the use of conservation easements and planting replacement trees, which must be maintained for seven years. In addition, only 50% of the mitigation required for significant impacts to oak woodlands may be fulfilled by replanting oak trees.

The following trees are protected in the specified zones. Girth is measured at 4.5 ft. from the midpoint between the uphill and downhill side of the root crown.

PROTECTED TREES			
Common Name/Botanical Name (Genus species)	Girth Standard (Circumference)	Applicable Zones	
		All Base Zones	SRP ₁
Alder (<i>Alnus</i> all species)	9.5 in.		X
Ash (<i>Fraxinus</i> all species)	9.5 in.		X
Bay (<i>Umbellularia californica</i>)	9.5 in.		X

Cottonwood (<i>Populus</i> all species)	9.5 in.		X
Elderberry (<i>Sambucus</i> all species)	9.5 in.		X
Big Cone Douglas Fir (<i>Pseudotsuga macrocarpa</i>)	9.5 in.		X
White Fir (<i>Abies concolor</i>)	9.5 in.		X
Juniper (<i>Juniperus californica</i>)	9.5 in.		X
Maple (<i>Acer macrophyllum</i>)	9.5 in.		X
Oak (Single) (<i>Quercus</i> all species)	9.5 in.	X	X
Oak (Multi) (<i>Quercus</i> all species)	6.25 in.	X	X
Pine (<i>Pinus</i> all species)	9.5 in.		X
Sycamore (<i>Platanus</i> all species)	9.5 in.	X	X
Walnut (<i>Juglans</i> all species)	9.5 in.		X
Historical Tree ³ (any species)	(any size)	X	X
Heritage Tree ⁴ (any species)	90.0 in.	X	X

X Indicates the zones in which the subject trees are considered protected trees.

1. SRP - Scenic Resource Protection Overlay Zone

2. SHP - Scenic Highway Protection Overlay Zone

3. Any tree or group of trees identified by the County or a city as a landmark, or identified on the Federal or California Historic Resources Inventory to be of historical or cultural significance, or identified as contributing to a site or structure of historical or cultural significance.

4. Any species of tree with a single trunk of 90 or more inches in girth or with multiple trunks, two of which collectively measure 72 inches in girth or more. Species with naturally thin trunks when full grown or naturally large trunks at an early age, or trees with unnaturally enlarged trunks due to injury or disease must be at least 60 feet tall or 75 years old.

Waters and Wetlands Regulations

Numerous agencies control what can and cannot be done in or around streams and wetlands. If a project affects an area where water flows, ponds or is present even part of the year, it is likely to be regulated by one or more agencies. Many wetland or stream projects will require three main permits or approvals (in addition to CEQA compliance). These are:

- 404 Permit (U.S. Army Corps of Engineers)
- 401 Certification (California Regional Water Quality Control Board)
- Streambed Alteration Agreement (California Department of Fish and Game)

For a more thorough explanation of wetland permitting, see the Ventura County’s “Wetland Project Permitting Guide” at http://www.ventura.org/rma/planning/ceqa/bio_resource_review.html.

404 Permit (U.S. Army Corps of Engineers)

Most projects that involve streams or wetlands will require a 404 Permit from the U.S. Army Corps of Engineers (USACE). Section 404 of the federal Clean Water Act is the primary federal program regulating activities in wetlands. The Act regulates areas defined as “waters of the United States.” This includes streams, wetlands in or next to streams, areas influenced by tides, navigable waters, lakes, reservoirs and other impoundments. For nontidal waters, USACE jurisdiction extends up to what is referred to as the “ordinary high water mark” as well as to the landward limits of adjacent Corps-defined wetlands, if present. The ordinary high water mark is an identifiable natural line visible on the bank of a stream or water body that shows the upper limit of typical stream flow or water level. The mark is made from the action of water on the streambank over the course of years.

Permit Triggers: A USACE 404 Permit is triggered by moving (discharging) or placing materials—such as dirt, rock, geotextiles, concrete or culverts—into or within USACE jurisdictional areas. This type of activity is also referred to as a “discharge of dredged or fill material.”

401 Certification (Regional Water Quality Control Board)

If your project requires a USACE 404 Permit, then you will also need a Regional Water Quality Control Board (RWQCB) 401 Certification. The federal Clean Water Act, in Section 401, specifies that states must certify that any activity subject to a permit issued by a federal agency, such as the USACE, meets all state water quality standards. In California, the state and regional water boards are responsible for certification of activities subject to USACE Section 404 Permits.

Permit Trigger: A RWQCB 401 Certification is triggered whenever a USACE 404 Permit is required, or whenever an activity could cause a discharge of dredged or fill material into waters of the U.S. or wetlands.

Streambed Alteration Agreement (California Department of Fish and Game)

If your project includes alteration of the bed, banks or channel of a stream, or the adjacent riparian vegetation, then you may need a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG). The California Fish and Game Code, Sections 1600-1616, regulates activities that would alter the flow, bed, banks, channel or associated riparian areas of a river, stream or lake. The law requires any person, state or local governmental agency or public utility to notify CDFG before beginning an activity that will substantially modify a river, stream or lake.

Permit Triggers: A Streambed Alteration Agreement (SAA) is triggered when a project involves altering a stream or disturbing riparian vegetation, including any of the following activities:

- Substantially obstructing or diverting the natural flow of a river, stream or lake
- Using any material from these areas
- Disposing of waste where it can move into these areas

Some projects that involve routine maintenance may qualify for long-term maintenance agreements from CDFG. Discuss this option with CDFG staff.

Ventura County General Plan

The Ventura County General Plan contains policies which also strongly protect wetland habitats.

Biological Resources Policy 1.5.2-3 states:

Discretionary development that is proposed to be located within 300 feet of a marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream (as identified on the latest USGS 7½ minute quad map), shall be evaluated by a County approved biologist for potential impacts on wetland habitats. Discretionary development that would have a significant impact on significant wetland habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less than significant level; or for lands designated "Urban" or "Existing Community", a statement of overriding considerations is adopted by the decision-making body.

Biological Resources Policy 1.5.2-4 states:

Discretionary development shall be sited a minimum of 100 feet from significant wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100 foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as a mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be "in kind" (i.e. same type and acreage), and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The replacement plan shall be developed in consultation with California Department of Fish and Game.

Coastal Habitat Regulations

Ventura County's Coastal Area Plan and the Coastal Zoning Ordinance, which constitute the "Local Coastal Program" (LCP) for the unincorporated portions of Ventura County's coastal zone, ensure that the County's land

use plans, zoning ordinances, zoning maps, and implemented actions meet the requirements of, and implement the provisions and polices of California's 1976 Coastal Act at the local level.

Environmentally Sensitive Habitats

The Coastal Act specifically calls for protection of "environmentally sensitive habitat areas" or ESHA, which it defines as: "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5).

Section 30240 of the Coastal Act states:

- (a) "Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas."
- (b) "Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas."

There are three important elements to the definition of ESHA. First, a geographic area can be designated ESHA either because of the presence of individual species of plants or animals or because of the presence of a particular habitat. Second, in order for an area to be designated as ESHA, the species or habitat must be either rare or it must be especially valuable. Finally, the area must be easily disturbed or degraded by human activities.

Protection of ESHA is of particular concern in the southeastern part of Ventura County, where the coastal zone extends inland (~5 miles) to include an extensive area of the Santa Monica Mountains. For ESHA identification in this location, the Coastal Commission, the agency charged with administering the Coastal Act, has described the habitats that are considered ESHA. A memo from a Coastal Commission biologist that describes ESHA in the Santa Monica Mountains can be found at: http://www.ventura.org/rma/planning/ceqa/bio_resource_review.html.

The County's Local Coastal Program outlines other specific protections to environmentally sensitive habitats in the Coastal Zone, such as to wetlands, riparian habitats, dunes, and upland habitats within the Santa Monica Mountains (M Overlay Zone). Protections in some cases are different for different segments of the coastal zone.

Copies of the Coastal Area Plan and the Coastal Zoning Ordinance can be found at: <http://www.ventura.org/rma/planning/Programs/local.html>.

Wildlife Migration Regulations

The Ventura County General Plan specifically includes wildlife migration corridors as an element of the region's significant biological resources. In addition, protecting habitat connectivity is critical to the success of special status species and other biological resource protections. Potential project impacts to wildlife migration are analyzed by biologists on a case-by-case basis. The issue involves both a macro-scale analysis—where routes used by large carnivores connecting very large core habitat areas may be impacted—as well as a micro-scale analysis—where a road or stream crossing may impact localized movement by many different animals.

Locally Important Species/Communities Regulations

Locally important species/communities are considered to be significant biological resources in the Ventura County General Plan.

Locally Important Species

The Ventura County General Plan defines a Locally Important Species as a plant or animal species that is not an endangered, threatened, or rare species, but is considered by qualified biologists to be a quality example or unique species within the County and region. The following criteria further define what local qualified biologists have determined to be Locally Important Species:

Locally Important Animal Species Criteria

Taxa for which habitat in Ventura County is crucial for their existence either globally or in Ventura County. This includes:

- Taxa for which the population(s) in Ventura County represents 10 percent or more of the known extant global distribution; or

- Taxa for which there are five or fewer *element occurrences*, or less than 1,000 individuals, or less than 2,000 acres of habitat that sustains populations in Ventura County; or,
- Native taxa that are generally declining throughout their range or are in danger of extirpation in Ventura County.

Locally Important Plant Species Criteria

- Taxa that are declining throughout the extent of their range AND have five (5) or fewer element occurrences in Ventura County.

The County maintains a list of locally important species, which can be found on the Planning Division website at: http://www.ventura.org/rma/planning/ceqa/bio_resource_review.html. *This list should not be considered comprehensive.* Any species that meets the criteria qualifies as locally important, whether or not it is included on this list.

Locally Important Communities

The Ventura County Initial Study Assessment Guidelines defines a locally important community as one that is considered by qualified biologists to be a quality example characteristic of or unique to the County or region, with this determination being made on a case-by-case basis. The County has not developed a list of locally important communities. Oak woodlands have however been deemed by the Ventura County Board of Supervisors to be a locally important community.

The state passed legislation in 2001, the Oak Woodland Conservation Act, to emphasize that oak woodlands are a vital and threatened statewide resource. In response, the County of Ventura prepared and adopted an Oak Woodland Management Plan that recommended, among other things, amending the County's Initial Study Assessment Guidelines to include an explicit reference to oak woodlands as part of its definition of locally important communities. The Board of Supervisors approved this management plan and its recommendations.

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Attachment A

Minor Modification Site Plan, CUP Application 5001-1

Dated May14, 2015

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Attachment B

County of Ventura Memorandum, August 20, 2013

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Memorandum

County of Ventura • Resource Management Agency • Planning Division
800 S. Victoria Avenue, Ventura, CA 93009-1740 • (805) 654-2478 • ventura.org/rma/planning

DATE: August 22, 2013
TO: Michelle Glueckert D'Anna
FROM: Holly Harris, Planning Division
SUBJECT: Additional Information Required for the Major Modification to CUP 5001 (PL13-0101), Agromin, 6859 Arnold Road, Ormond Beach

The following questions and comments need to be addressed in order to evaluate biological resources impacts under the California Environmental Quality Act (CEQA) and to determine project consistency with the Non-Coastal Zoning Ordinance (NCZO) and the Ventura County General Plan, including the Coastal Area Plan (CAP).

The proposed project is for a time extension to allow the ongoing operation of the facility, and permit a new anaerobic digester. Biological resource impacts were previously evaluated as part of the Mitigated Negative Declaration (MND) for CUP 5001, approved on May 7, 1998, based on an Initial Study Checklist prepared by ENSR Consulting and Engineering (October 27, 1997) (1997 ENSR IS Checklist). The analysis of impacts to biological resources should update the original CEQA analysis, evaluate the proposed project's impacts, and provide mitigation measures that:

- Address indirect off-site project impacts to special status species in adjacent saltmarsh wetlands and at Ormond Beach;
- Discuss the changes in circumstance as required under CEQA (§ 15162) since the 2008 approval, and update the 1998 MND analysis; and
- Provide a professional biological opinion regarding consistency with the NCZO, the General Plan and CAP policies regarding CEQA impacts, wetland buffers, and saltmarsh/wetland protections as discussed below.

Incompleteness Items

1. Focused Initial Study Biological Analysis (ISBA). The County concurs with the conclusion of the letter from Rincon Consultants (July 3, 2013) that floristic and wildlife surveys are not necessary since suitable habitat is not on-site. The focused ISBA only needs to include information that is required to complete the biological resources initial study questions included in the Initial Study Assessment Guidelines (April 26, 2011).

Therefore, the applicant must submit a focused ISBA that includes the sections from the Standards for ISBA Assessments (October 12, 2012), as described below.

Initial Study Coversheet and Checklist

Summarize the project's updated impacts in this checkbox.

Section 1, Project Footprint Description

Describe all proposed and existing structures, their approximate size, location, and purpose. Please also attach a reduced site plan showing the entire project site. This section must also describe any site configuration changes since the 2008 Minor Modification and 1998 MND. Specifically, describe if any grading occurred outside of the approved CUP footprint, including (but not limited to) areas within the coastal zone.

Under *Project Design for Impact Avoidance or Minimization*, please describe any known avoidance or minimization measures already incorporated into the project design and recommended by the Vector Control Plan (August, 2013).

Section 2, Survey Information

The applicant must clearly describe the purpose of the focused ISBA, which is to evaluate the project consistent with CEQA and provide substantial evidence for evaluation of general plan policy consistency. The generic example provided in the template is adequate, and the first bullet can be deleted since an on-site inventory is not required. Survey area mapping and tables are not required, but this section should include the survey information provided in the Nesting Bird Habitat Assessment (June 27, 2013), if the entire parcel was reviewed, and discuss if any off-site areas were surveyed.

Section 3, The Biological Inventory

As discussed above, an on-site survey is not required.

Section 3.1, *Plant Communities*, must describe vegetation alliances disturbance by coastal zone development, and any other changes that have occurred since the 1998 MND, or that were not analyzed in a subsequent entitlement. Complete the Vegetation Alliances Table and a map for plant communities both inside the coastal zone on the parcel and outside the parcel and project footprint. The Plant Communities Table should include the pre-disturbance condition for the coastal zone development. For the areas outside of the footprint communities, the report only needs to identify special status vegetation communities.

Section 3.1, *Environmentally Sensitive Habitat Areas (ESHA)*, must address the potential for any special status plant communities or coastal ESHA that may exist in or adjacent to the coastal zone portion, and if this area has been affected by development that was not evaluated in the ENSR IS Checklist.

Section 3.1, *Waters and Wetlands*, must describe the general location of all waters and wetlands located within 300 feet of the non-coastal area and 500 feet in the coastal area

of the project footprint. General Plan Policy 1.5.2-4 requires that the development be sited 100 feet from any wetland, unless a biologist recommends adjusting the buffer. In order to make the general plan consistency findings required for project approval (NCZO § 8111-1.2.1.a), the Wetland Table must be clear in recommending an appropriate buffer from all wetlands, given the criteria of Policy 1.5.2-4. The 1997 ENSR IS Checklist recommended “the proposed greenhouse should be sufficiently removed” from “narrow wetland habitat at the southeastern corner of the property and from the narrow saltmarsh community on the southern border.” The original CUP approval included a 50-foot buffer from the greenhouse (which is now parking), and did not include the drainage swale. Given that the berm and drainage basin was permitted in the saltmarsh and wetland, an updated evaluation as to whether the existing buffer is adequate is required. Additionally, the NCZO (§ 8107-36.4.3) requires that outdoor composting be located 100 feet from “surface water, including springs, seeps, wetlands, and intermittent streams” for outdoor composting. However, if the focused ISBA includes substantial evidence that potential impacts to water resources and surrounding properties have been adequately mitigated by design or terrain, the Planning Director may reduce the size of the buffer.

Section 3.2, *Species*. The submitted Nesting Bird Habitat Assessment adequately describes the on-site species. The Special Status Species Table only needs to include species with a low to high potential to occur on adjacent habitats, as identified by personal observations, previous biological reports, during background research, and in discussions with other agencies and experts. The applicant must prepare a map including all surrounding habitats. For example, the Belding’s savannah sparrow (*Passerculus sandwichensis beldingi*) and light-footed clapper rail (*Rallus longirostris levipes*) may be present immediately to the south of the project site.¹

The nesting bird analysis provided in the Nesting Bird Habitat Assessment is adequate for the project footprint, but should also discuss if the drainage swale was included in the survey. An inventory of potential protected nesting birds should also be included in this section. This section should include the information on the habitats of Western snowy plover (*Charadrius nivosus nivosus*) (plover), and California least tern (*Sterna antillarum browni*) (tern) provided in the Nesting Bird Habitat Assessment, and include historic nesting data and trends over the last five years (or as long monitoring data has been available).

Section 3.3, *Wildlife Corridors*. The 1997 ENSR IS Checklist evaluated impacts to wildlife corridors, and found that no impacts would occur since there are no corridors on-site. Therefore, this section may be omitted unless there would be increased noise, or if the project includes night lighting, which could adversely affect wildlife corridors that may be located within proximity to the project site. If this section is not omitted, section 4.2.C should address indirect impacts and mitigation measures.

¹ The approximate area as identified in the California Natural Diversity Database CNDDDB (accessed August 15, 2013), based on discussion with U.S. Fish and Wildlife staff, and www.ebird.com (accessed August 15, 2013).

Section 4.0. Recommended Impact Assessment and Mitigation

Section 4.1, Sufficiency of Biological Data. The report must provide the information required by this section.

Section 4.2, *Impacts and Mitigations*, must indicate whether the impact level under species, ecological communities, and corridors will be: No Impact, Less than Significant (LS), Potentially Significant But Mitigable (PS-M), or Potentially Significant (PS). For each LS, PS-M, and PS response, the applicant must provide an explanation of the evidence that supports the recommended finding.

A. Species. The 1997 ENSR IS Checklist evaluated impacts as significant, with residual impacts less than significant with mitigation requiring surveys for and relocation of nesting terns. Examples of indirect project impacts and circumstance changes that may need to be evaluated include:

- i. Indirect Plover and Tern Impacts. Beyond the nesting averages provided in the Nesting Bird Habitat Assessment, the recent data should be presented as a graph, showing nesting colony trends over at least the last 5 years for each species. The impact analysis must include a discussion of how these trends may differ or be similar to reference sites without a food composting facility, such as McGrath beach and Point Mugu beach. This section must include an analysis of increased plover and tern gull predation, and classify the impact. The impacts analysis must provide detailed information on the effectiveness of the proposed vector control methods and/or mitigation measures, and consider the feeding and behaviors and patterns of gulls. For example, would the bird wires recommended in the Vector Control Plan deter gull from frequenting the facility, or would the gulls still be attracted to the area? Also, provide information on whether corvids and rodents are present at the project site, and if existing and proposed vector control methods will adequately address predation impacts.
- ii. Other Special Status Species. The report must include an analysis of whether project operations or construction could indirectly affect special-status species that may be present in the saltmarsh and drainage facilities. The focused ISBA should evaluate indirect impacts of operation (e.g., lighting and noise) on adjacent special-status species and habitats. For example, could drainage ditch maintenance and brush clearing during breeding season affect nesting Belding's savannah sparrows?
- iii. Existing Mitigation Measures. The existing biological resource mitigation measure requires surveys and relocation of terns prior to issuance of a Zoning Clearance for construction. The report must provide a recommendation on whether this mitigation should be imposed on the current project, or if it can be improved to apply to avian species that may occur directly adjacent to the facility (e.g., Belding's savannah sparrow, light-footed clapper rail).

B. Ecological Communities. The 1997 ENSR IS Checklist determined that there would be no impacts to wetland habitat and Locally Import Species/Communities. The 1997 ENSR IS Checklist states “although the southwestern corner of the property site is located in the coastal zone, no activities are planned in the area. The proposed development is not anticipated to adversely impact coastal resources.” The report must describe if any development resulted in indirect or direct impacts (e.g., changes to adjacent wetland hydrology) and, if so, must include recommended mitigation measures. The impacts analysis should also consider CAP polices, including Central Coast Wetland Policies W-6 and W-9 that provide protections and guide mitigations of Ormond Beach saltmarsh.

2. Vector Control Plan. The report must specify if anti-coagulants or other rodenticides will be used on-site. If anti-coagulants or rodenticides will not be used, the Vector Control Plan should explicitly state so.

3. Policy Consistency. As discussed above, the project will need to be found consistent with the General Plan, including the CAP where applicable. Specifically, biological opinions requested under Item 1 will be used (in part) to determine whether the project complies with the General Plan Biological Resources Policies 1.5.2-3 and 1.5.2-4, and CAP Central Coast Polices B-1 and W-2. Consistent with General Plan Policy 1.5.2-5 and CAP Central Coast Wetland Policies W-6 and W-9, the County will be working with other agencies and jurisdictions to provide comprehensive and biologically sound management of coastal wetlands, including the Ormond Beach saltmarshes.

The full text of Ventura County General Plan and Coastal Area Plan can be found at the following web address:

<http://www.ventura.org/rma/planning/plans/general-plan/index.html>

<http://www.ventura.org/rma/planning/programs/local-coastal/index.html>

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Attachment C

*List of California Natural Diversity Database (CNDDDB)-
tracked species with recorded occurrences within at
least a 10-mile radius of the project site*

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Animal Species Tracked by CNDDDB within Ten Miles of the CUP Area

Scientific Name	Common Name	Global Rank	State Rank	Federal List	State List	CDFW*	Mile Radius from Project	Required Habitat
<i>Anniella pulchra pulchra</i>	silvery legless lizard	G3G4T3T4	S3	-	-	SC	10	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.
<i>Aspidoscelis tigris stepheneri</i>	coastal whiptail	G5T3T4	S2S3	-	-	SSC	10	Found in deserts & semiarid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.
<i>Athene cunicularia</i>	burrowing owl	G4	S2	-	-	SC	10, 5	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.
<i>Buteo regalis</i>	Ferruginous hawk	G4	S3S4	-	-	WL	10, 5, 1	Occurs in variety of open grasslands, sagebrush flats, scrub habitats, marshes, low foothills; eats mostly lagomorphs, ground squirrels, and mice.
<i>Catostomus santaanae</i>	Santa Ana sucker	G1	S1	FT	-	-	10	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, & algae.
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	G4T3	S2	FE	-	SC	10, 5, 1	Sandy beaches, salt pond levees & shores or large alkali lakes; needs sandy, gravelly or friable soils for nesting.
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	G4T1T2	S1	-	-	-	10, 5	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to Northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.
<i>Cicindela senilis frosti</i>	Senile tiger beetle	G4T1	S1	-	-	-	10, 5	Marine shoreline, from Central California coast south to salt marshes of San Diego. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	G5T3Q	S1	FC	SE	-	10, 5	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.

Animal Species Tracked by CNDDDB within Ten Miles of the CUP Area

Scientific Name	Common Name	Global Rank	State Rank	Federal List	State List	CDFW*	Mile Radius from Project	Required Habitat
<i>Coelus globosus</i>	Globose dune beetle	G1	S1	-	-	-	10, 5, 1	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensena. Inhabits foredunes and sand hummocks. Burrows beneath the sand surface and is most common beneath dune vegetation.
<i>Danaus plexippus</i>	Monarch butterfly	G5	S3	-	-	-	10, 5	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (Eucalyptus, Monterey Pine Cypress), with nectar and water sources nearby.
<i>Elanus leucurus</i>	White-tailed kite	G5	S3	-	-	SC,FP	10	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.
<i>Emys marmorata</i>	Western pond turtle	G3G4	S3	-	-	SC	10	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
<i>Eremophila alpestris actia</i>	California horned lark	G5T3Q	S3	-	-	WL	10	Coastal regions, chiefly from Sonoma Co. to San Diego Co. Also main part of San Joaquin Valley & east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.
<i>Eucyclogobius newberryi</i>	Tidewater goby	G3	S2S3	FE	-	SC	10, 5	Brackish water habitats along the California Coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. They need fairly still but not stagnant water and high oxygen levels.
<i>Gila orcuttii</i>	arroyo chub	G2	S2	-	-	SC	10, 5	Los Angeles basin south coastal streams. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation & associated invertebrates.
<i>Helminthoglypta traskii traskii</i>	Trask shoulderband	G1G2T1	S1	-	-	-	10	Known from Ventura, Los Angeles, Orange, and San Diego counties. Also reported from northwestern Baja California.
<i>Microtus californicus stephensi</i>	South coast marsh vole	G5T1T2	S1S2	-	-	SC	10, 5, 1	Tidal marshes in Los Angeles, Orange, and southern Ventura counties.
<i>Panoquina errans</i>	Wandering (=saltmarsh) skipper	G4G5	S1	-	-	-	10, 5, 1	Southern California coastal salt marshes; requires moist salt grass for larval development.

Animal Species Tracked by CNDDDB within Ten Miles of the CUP Area

Scientific Name	Common Name	Global Rank	State Rank	Federal List	State List	CDFW*	Mile Radius from Project	Required Habitat
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	G5T3	S3	-	SE	-	10, 5, 1	Coastal salt marshes, from Santa Barbara south through San Diego County; nests in salicornia on and about margins of tidal flats.
<i>Pelecanus occidentalis californicus</i>	California brown pelican	G4T3	S1S2	D	D		10, 5	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators.
<i>Phrynosoma blainvillii</i>	Coast horned lizard	G3G4	S3S4	-	-	SC	10	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.
<i>Poliophtila californica californica</i>	Coastal California gnatcatcher	G3T2	S2	FT	-	-	10	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.
<i>Reallus longirostris levipes</i>	Light-footed clapper rail	G5T1T2	S1	FE	SE	FP	10, 5	Salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation; requires dense ground of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.
<i>Riparia riparia</i>	Bank swallow	G5	S4S3	-	ST	-	10	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.
<i>Sorex ornatus salicornicus</i>	Southern California saltmarsh shrew	G5T1?	S1	-	-	SC	10, 5, 1	Coastal marshes in Los Angeles, Orange and Ventura counties. Requires dense vegetation and woody debris for cover.
<i>Sternula antillarum browni</i>	California least tern	G4T2T3Q	S2S3	FE	SE	FP	10, 5, 1	Nests along coast from San Francisco Bay south to Northern Baja California; colonial breeder on bare or sparsely vegetated, flat substrates; sand beaches, alkali flats, land fills or paved areas.

Animal Species Tracked by CNDDDB within Ten Miles of the CUP Area

Scientific Name	Common Name	Global Rank	State Rank	Federal List	State List	CDFW*	Mile Radius from Project	Required Habitat
<i>Thamnophis hammondi</i>	Two-striped garter snake	G3	S2	-	-	SC	10	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.
<i>Trimerotropis occidentifoides</i>	Santa Monica grasshopper	G1G2	S1S2	-	-	-	10	Known only from the Santa Monica Mountains. Found on bare hillsides and along dirt trails in chaparral.
<i>Tryonia imitator</i>	Mimic tryonia (=California brackishwater snail)	G2G3	S2S3	-	-	-	10, 5	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego county. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.
<i>Vireo bellii pusillus</i>	least bell's vireo	G5T2	S2	Endangered	Endangered	-	10, 5	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite.

*WL = Watch List; FP = Fully Protected; SC = Species of Special Concern

Plant Species Tracked by CNDDDB within Ten Miles of the CUP Area

Scientific Name	Common Name	Global Rank	State Rank	Federal List	State List	CNPS List	Mile Radius from Project	Required Habitat
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-veitch	G2T1	S1	FE	SE	1B.1	10, 5	Coastal salt marsh. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs.
<i>Atriplex serenana</i> var. <i>dauidsonii</i>	Davidson's saltscale	G5T2?	S2?	-	-	1B.2	10	Coastal bluff scrub, coastal scrub. Alkaline soil.
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	G4	S4	-	-	4.2	10	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire..
<i>Chirpopyron maritimum</i> ssp. <i>maritimum</i>	Salt marsh bird's-beak	G4?T1	S1	FE	SE	1B.2	10, 5, 1	Coastal salt marsh and coastal dunes; limited to higher zones of salt marsh habitat.
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Dune larkspur	G4T2	S2	-	-	1B.2	10	Chaparral, coastal dunes (maritime). On rocky areas and dunes.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	G2T2	S2.1	-	-	1B.2	10	Coastal scrub, coastal bluff scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas w/little soil.
<i>Dudleya verityi</i>	Verity's dudleya	G1	S1	FT	-	1B.2	10	Chaparral, cismontane woodland, coastal scrub. On volcanic rock outcrops in the Santa Monica Mountains.
<i>Eriogonum crocatum</i>	Conejo buckwheat	G2	S2.1	-	SR	2B.2	10	Chaparral, coastal scrub, valley and foothill grassland. Conejo volcanic outcrops; rocky sites.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	G4T3	S2.1	-	-	1B.1	10, 5, 1	Coastal salt marshes, playas, valley and foothill grassland, vernal pools; usually found on alkaline soils in playas, sinks, and grasslands.
<i>Malacothrix similis</i>	Mexican malacothrix	G2G3	SH	-	-	2A	10, 5	Coastal dunes.
<i>Senecio aphanactis</i>	Chaparral ragwort	G3?	S2	-	-	1b.2	10	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats.
<i>Suaeda esteroa</i>	Estuary seablite	G3	S2	-	-	1B.2	10, 5, 1	Marshes and swamps; coastal salt marshes in clay, silt and sand substrates.

Plant Species Tracked by CNDDDB within Ten Miles of the CUP Area

Scientific Name	Common Name	Global Rank	State Rank	Federal List	State List	CNPS List	Mile Radius from Project	Required Habitat
<i>Texosporium sancti-jacobi</i>	Woven-spored lichen	G3	S1	-	-	-	10	Chaparral. Open sites; in California w/Adenostoma fas., Eriogonum, Selaginella. At Pinnacles, on small mammal pellets.

Plant Species Communities Tracked by CNDDDB within 10 Miles of the CUP Area

Sensitive Plant Community	Global Rank	State Rank	Mile Radius from Project
Coastal and Valley Freshwater Marsh	G3	S2.1	10
Southern Coast Live Oak Riparian Forest	G4	S4	10
Southern Coastal Salt Marsh	G2	S2.1	10, 5, 1
Southern Riparian Scrub	G3	S3.2	10
Southern Sycamore Alder Riparian Woodland	G4	S4	10
Valley Needlegrass Grassland	G1	S3.1	10

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Attachment D

PL 13-0101 (Agromin CUP Modification Request)

Additional References

Rincon Consultants, Inc., August 17, 2015

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Attachment D: Additional References

- Aspen Environmental Group. July 2007. Final Biological Assessment Ormond Beach Oxnard, Ventura County California
- Barringer, D. 2015a. Ormond Beach: Western Snowy Plover and California Least Tern Final Report 2014. January, 2015
- Barringer, D. 2015b. Hollywood Beach: Western Snowy Plover and California Least Tern Final Report 2014. January, 2015
- Beason, R.C. 1995. Horned Lark (*Eremophila alpestris*). In The Birds of North America Online, No. 195 (A. Poole, Ed.). Cornell Lab of Ornithology, Ithaca, New York.
- Blackwell, B.F., Seamans, T.W. 2008. Food Scraps Composting and Vector Control. BioCycle, June 2008, 35-37
- Belant, J.L. 1997. Gulls in urban environments: landscape-level management to reduce conflict. Landscape and Urban Planning Volume 38, Issues 3–4, 15 November 1997, 245–258.
- [CDFW] California Department of Fish & Wildlife, 2014. California Department of Fish & Wildlife Trapping License Examination Reference Guide.
- California Code of Regulations, 2015. Title 14. Natural Resources Division 7. California Integrated Waste Management Board, Chapter 3. Minimum Standards for Solid Waste Handling and Disposal Article 6.0. Transfer/Processing Operations and Facilities Regulatory Requirements.
- CalRecycle. 2015. Lead Enforcement Agency Inspection. Accessible at <http://www.calrecycle.ca.gov/SWFacilities/Directory/56-AA-0165/Inspection/>
- Craig, E.T., Golightly, R.T. 2005. Coyotes and mesopredators in the coastal wetland at Naval Base Ventura County, Point Mugu, , Humboldt State University, Department of Wildlife, Arcata, California.
- Fox-Fernandez, N., Kendrick, J., Wingert, C., Turner, J. 2013. Western Snowy Plover (*Charadrius alexandrinus nivosus*) and California Least Tern (*Sterna antillarum browni*) Final Nesting Season Report for Ormond Beach, Ventura County, California 2013 Season.
- Fox-Fernandez, N., Wingert, C., Hongola, S.J., and Vander Pluym, D. 2012a. Western Snowy Plover (*Charadrius alexandrinus nivosus*) Final Nesting Season Report for Ormond Beach, Ventura County, California, 2012 Season.
- Fox-Fernandez, N., Wingert, C., Turner, J., Hongola, S.J., and Vander Pluym, D. 2011a. Western Snowy Plover (*Charadrius alexandrinus nivosus*) Final Nesting Season Report for Ormond Beach, Ventura County, California 2011 Season.
- Fox-Fernandez, N., Wingert, C., Turner, J., Hongola, S.J., and Vander Pluym, D. 2012b. California Least Tern (*Sterna antillarum browni*) Final Nesting Season Report for Ormond Beach, Ventura County, California 2012 Season.

- Fox-Fernandez, N., Wingert, C., Turner, J., Hongola, S.J., and Vander Pluym, D. 2011b. California Least Tern (*Sterna antillarum browni*) Final Nesting Season Report for Ormond Beach, Ventura County, California 2011 Season.
- Gabrey, S.W. 1997. Bird and small mammal abundance at four types of waste management facilities in northeast Ohio. *Landscape and Urban Planning* 37:223-233
- Gehring, T.M., Swihart, R.K. 2004. Home Range and Movements of Long-tailed Weasels in a Landscape Fragmented by Agriculture. *Journal of Mammalogy* 85(1):79-86.
- Gocal, C. 2007. 2007 Western Snowy Plover Breeding Season Report for Ormond Beach.
- Harley, C. 2008. Western Snowy Plover Survey, Ormond Beach, CA, 2008 Season.
- Harley, C. 2009. Western Snowy Plover Breeding Survey Ormond Beach, California 2009 Season.
- Harley, C. 2010. Western Snowy Plover Breeding Survey Ormond Beach, California 2010 Season.
- Hartley, C. 2013. Assisting Western Snowy Plover Recovery Efforts: Analysis of Nest Spatial Patterns
- Horn, J. A., Mateus-Pinilla, N., Warner, R. E. and Heske, E. J., 2011, Home range, habitat use, and activity patterns of free-roaming domestic cats. *The Journal of Wildlife Management*, 75: 1177–1185. doi: 10.1002/jwmg.145
- Knight, J.E. 1994. Prevention and Control of Wildlife Damage, Great Plains Agricultural Council, University of Nebraska, Lincoln, NE
- Lafferty, K.D., D.A. Rodriguez, and A. Chapman. 2013. Temporal and spatial variation in bird and human use of beaches in southern California. *SpringerPlus* 2013 (2):38.
- Lentz, J. 2005. Introduction to Birds of the Southern California Coast.
- Marschalek, D. A. 2010. California Least Tern Breeding Survey 2009 Season. Prepared for Department of Fish and Game, Sacramento.
- O'Connell, T. J., Beck, R. A. 2003. Gull predation limits nest success of terns and skimmers on the Virginia barrier islands. *Journal of Field Ornithology* 74: 66–73.
- Oxnard, City of. 2009. Ormond Beach Specific Plan Final EIR
- Oxnard, City of. 2015. Planning Division Quarterly Projects List.
- Port Hueneme, City of. 2014. Initial Study-Mitigated Negative Declaration, Hueneme Beach Park Shore Protection.
- Powell, A. N. 2006 Are southern California's fragmented saltmarshes capable of sustaining endemic bird populations? *Studies in Avian Biology* No. 32:198–204.

- Preisser, E.L., Bolnick, D.I., and Bernard M. F. 2005. Scared to death: the effects of intimidation and consumption in predator prey interactions. *Ecology* 86:501-509.
- Ventura County, 2011. Coastal Zone Boundary Determination.
- Ventura County, 2011. *Ventura County Initial Study Assessment Guidelines*.
- Ventura County, 2011. *Ventura County Non-Coastal Zoning Ordinance*.
- Ventura County, 2011. *Ventura County General Plan, Programs, and Policies*.
- Ventura County, 2013. Initial Study for Agromin Composting and Soil Amendment Facility Time Extension and SmartFerm Anaerobic Digestion Facility.
- Ventura County Watershed Coalition, 2015. Available at <http://www.ventura.org/wcvc/index.htm>
- Recht, M. A., 1988. The biology of domestic rats: telemetry yields insights for pest control. *Proceedings of the Vertebrate Pest Conference* 13:98–100.
- Rincon Consultants, Inc., 2013a. PL13-0101 (Agromin CUP Modification Request) – Planning History.
- Rincon Consultants, Inc., 2013b. Results of Nesting Bird Habitat Assessment for the Agromin Pilot Scale Anaerobic Digestion System Project, Ventura County, California,
- Rincon Consultants, Inc. 2015a. Predatory Bird Managements Plan.
- Rincon Consultants, Inc. 2015b. Personal Communication with Francesca Ferrara, Naval Base Ventura County.
- Romsos, J. S., 1998. Home range, habitat use, and movements of coyotes in a southern California urban environment. Master's thesis, Humboldt State University, Arcata, California.
- Rush, S A., Gaines K.F., Eddleman W.R., and Conway, C.J. 2012. Clapper Rail (*Rallus longirostris*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/340>
- Smith, R. et al. 2002. Ventura County Snowy Plovers 2002.
- Smith, R. 2003 Annual Snowy Plover Report for Hollywood Beach, Mandalay State Beach, McGrath State beach. Ormond Beach. Submitted to USFWS
- Smith, R. 2005, 2004 Annual Snowy Plover Report for Hollywood Beach, Mandalay State Beach, McGrath State beach. Ormond Beach. Submitted to USFWS
- Smith, R., 2006. 2005 Annual Snowy Plover Report for Hollywood Beach, Mandalay State Beach, McGrath State beach. Ormond Beach. Submitted to USFWS

- Smith, R., 2007. California Least Tern Breeding Survey, Ormond Beach, Ventura County. Submitted to CDFW
- Smith, R., 2008. California Least Tern Breeding Survey Ormond Beach, Ventura County 2008 Season. Submitted to CDFW
- Smith, R., 2009. California Least Tern Breeding Survey Ormond Beach, Ventura County 2009 Season. Submitted to CDFW
- Smith, R., 2010. California Least Tern Breeding Survey Ormond Beach, Ventura County 2010 Season. Submitted to CDFW
- Sullivan, B.L., C.L. Wood, M.J. Iliff, R.E. Bonney, D. Fink, and S. Kelling. 2009. eBird: a citizen-based bird observation network in the biological sciences. *Biological Conservation* 142: 2282-2292.
- Steiger, S.S., Fidler, A.E., Valcu, M., Kempenaers, B.. 2008. Avian olfactory receptor gene repertoires: evidence for a well-developed sense of smell in birds? *Proceedings of The Royal Society Biological Sciences*. DOI: 10.1098/rspb.2008.0607
- Timm, R.M. 1994. Norway Rats. Prevention and Control of Wildlife Damage. Cooperative Extension Division Institute of Agriculture and Natural Resources University of Nebraska – Lincoln.
- [TCM] Total Compliance Management. September 2013. Agromin Vector Control Plan.
- Wright, J.D., Scott Burt, S.M., and Jackson, V.L. Influences of an Urban Environment on Home Range and Body Mass of Virginia Opossums (*Didelphis virginiana*). *Northeastern Naturalist*, 19(1):77-86. 2012.
- Washburn, BE. 2012. Avian use of solid waste transfer stations. USDA National Wildlife Research Center – Staff Publications.
- Whisson D.A , Quinn, J.H., and Collins, K.C. 2007. Home Range and Movements of Roof Rats (*Rattus rattus*) in an Old-Growth Riparian Forest, California *Journal of Mammalogy*. Vol. 88, No. 3 (Jun., 2007), pp. 589-594.
- University of California. 2010 Pest Notes Publication 7438, Statewide Integrated Pest Management Program Agriculture and Natural Resources. Available at: <http://www.ipm.ucdavis.edu/PDF/PESTNOTES/pngroundsquidrel.pdf>
- [USFWS] U.S. Fish and Wildlife Service. August 10, 2009. Light-footed Clapper Rail (*Rallus longirostris levipes*) 5-Year Review: Summary and Evaluation.
- USFWS. 2007. Recovery Plan for the Pacific Coast Population on Western Snowy Plover.
- [NAWS] U.S Navy. 2002. Predator Management Plan for protection of breeding western snowy plovers, California least terns, and light-footed clapper rails at Naval Base Ventura County, Point Mugu.
- NAWS, 2012. Naval Base Ventura County Point Mugu Listed Species Monitoring Report 2011.

NAWS. 2013. Naval Base Ventura County Point Mugu Listed Species Monitoring Report 2012.

NAWS. 2014. Naval Base Ventura County Point Mugu Listed Species Monitoring Report 2013.

NAWS. 2015. Naval Base Ventura County Point Mugu Listed Species Monitoring Report 2014.

Zemba, R. 2010. A Survey of The Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*) in California 2010.

Zemba, R. 2014. Light-footed (Ridgway's) Clapper Rail Population Status and Management at Mugu Lagoon, Naval Base Ventura County Point Mugu, California, 2014.

Zeiner, D.C., Laudenslayer, W.F., K.E. Mayer, and M. White, eds. 1988. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

Zimmerman, P.P., Golightly, R. T. 2006. Nocturnal Predation of California Least Terns at Naval Base Ventura County, Point Mugu.

Predatory Bird Management Plan

Agromin Organics Recycling at 6859 Arnold Road, Oxnard, CA 93030

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Revised June 2020

County of Ventura
Planning Case No. PL13-0101
Attachment 12 - Predatory Bird
Management Plan

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2020 ADDENDUM TO JUNE 2016 PREDATORY BIRD MANAGEMENT PLAN

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2020 ADDENDUM TO JUNE 2016 PREDATORY BIRD MANAGEMENT PLAN

In 2020, the project description for the Agromin Shoreline composting facility changed such that composting of food waste would no longer be proposed as a source of materials for composting. It has been assumed, and generally observed, that food waste was the primary material that attracted gulls and ravens to the site.

In the absence of food waste, the attractant is no longer present and gulls and raven use should decline significantly or cease entirely. If this is the case, the need for predatory bird management, as presented in this Plan, likely is no longer needed.

Before the plan is entirely withdrawn, Agromin proposes to conduct a monitoring program designed to quantify predatory bird use post removal of food waste. This monitoring would be conducted twice per month for three months with a qualified biologist visiting and quantifying bird use approximately two hours. Concurrent to this periodic monitoring effort, the qualified biologist will install wildlife trail cameras set to take photos at regular intervals with views of the active working site. The photos will be collected during each of the monthly on-site visits and analyzed to quantify predatory bird use. The results of these two surveys will be presented to the County at the end of the three-month sampling effort. The results will be analyzed to determine the extent of predatory bird use and provide management recommendations addressing how best to proceed.

The remainder of this Plan has been left unchanged should it become needed pending the results of the initial surveys.

EXECUTIVE SUMMARY

Agromin is seeking a Minor Modification of its Conditional Use Permit (CUP) issued by the County of Ventura for its existing composting and soil amendment facility located at 6859 Arnold Road in unincorporated Ventura County, California. The applicant proposes installing a semi-mobile SMARTFERM Anaerobic Digestion System facility and expanding its operations through March, 2019. Since 1998, a composting facility at this location has periodically attracted opportunistic avian scavengers (i.e., various gull species and corvids such as common ravens and crows), sometimes in large concentrations, that commonly inhabit the area.

The Ventura County Initial Study for this project¹ notes that scavenging birds attracted to the site, especially in large concentrations, may indirectly impact nesting birds. Three nesting bird species are of particular concern, as they are special-status species protected under state and/or federal endangered species legislation. They are: California least tern (*Sterna antillarum browni*), a state and federally listed endangered species; western snowy plovers (*Charadrius alexandrinus nivosus*), a state Species of Special Concern and a federally listed threatened species; and, Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), a state-listed endangered species and a federally-listed Category 2 candidate species.

Mitigation Measure 1 of the project's Initial Study Mitigated Negative Declaration (MND) requires the preparation of a Predatory Bird Management Program (PBMP) to augment the applicant's proposed Vector Control Plan. The purpose of the PBMP is to establish objectives and define the methods for implementing a program designed to minimize use of the site by gulls and corvids. The PBMP describes the proposed methods, how they will be implemented, and how the effectiveness of the program will be monitored. The PBMP offers an adaptive management approach to an initial management program that will be designed and implemented based on the best available information and expertise. Monitoring results will be collected regularly and periodically; these data will guide future management decisions, which will be made based on which methods are successful and should be continued (and possibly increased) and which methods proved unsuccessful and should be abandoned.

The selection of methods proposed to deter predatory bird activity, and the extent to which they are applied, are based on a comprehensive review of available and/or allowable behavior and habitat modification control methods. BRC has selected methods that avoid impacting the three special-status species that occur and breed within the Environmentally Sensitive Habitat Areas (ESHA) west of the project site. The primary method proposed for deterring scavenging and predatory bird use at the project site is to ensure a daily presence of captive Harris' hawks (*Parabuteo unicinctus*) under the supervision of a permitted falconer; the intent is to sufficiently menace the scavenging birds so that they leave and do not return to the site.

Progress reporting is required twice-annually throughout the life of the CUP. Monitoring results will be reviewed in each progress report and any recommended changes from the prior period can only be undertaken with Ventura County's approval.

¹ Initial Study issued 13 December 2013.

1.0 INTRODUCTION

This Plan addresses the requirements of Biological Mitigation Measure 1 of the Ventura County Initial Study-Mitigated Negative Declaration that was prepared to meet Agromin's CUP Modification and Time Extension request. The existing Biological Mitigation Measure 1 requires the applicant submit to a Predatory Bird Management Plan (PBMP) to avoid significant impacts during operation of the proposed facility to special-status bird species. The plan is designed to limit the attraction of avian scavengers (i.e., gulls [*Larus sp.*] and ravens/crows: [*Corvus sp.*]) that might impact the breeding biology of these special-status species.

The proposed project would expand operations at the existing composting and soil amendment facility and would include the construction of a SMARTFERM Anaerobic Digestion System facility (PL13-0101) (Ventura County, December 13, 2013). The facility is located at 6859 Arnold Road, within unincorporated Ventura County, California (Figures 1 and 2). This report supplements the Vector Control Plan (September 2013) for continued operation of commercial soil amendment facilities and proposed installation and operation of a semi-mobile, small-scale anaerobic digestion system (SMARTFERM), manufactured by Zero Waste Energy, LLC.

1.1 OBJECTIVES

The objective of the PBMP is to ensure compatibility with conservation efforts outlined in the Recovery Plan for Western Snowy Plovers (USFWS 2007) and the California Least Tern Recovery Plan (USFWS 1985).

This Plan describes the measures selected to mitigate possible impacts to special-status bird species that reside nearby, how those measures will be applied, and how their effectiveness will be quantified and evaluated.

1.2 PREDATORY BIRD ISSUES

Gulls and corvids commonly occur in coastal agricultural environments. Their numbers can vary and depend largely on the abundance of food (Belant 1997; Liebezeit and George 2002). These species are also known to sometimes prey on shorebirds/waterbirds, including western snowy plover (WSP) and California least tern (CLT) (Thompson et al. 1997; Page et al. 2009).

Gulls and their effects on small shorebirds are not considered in the California Least Tern Recovery Plan (USFWS 1985), but they are discussed under action item 2.4.4 of the Recovery Plan for Western Snowy Plover (USFWS 2007). Recovery actions under this PBMP with respect to gulls and corvids include the possible control of gull nesting colonies near WSP nests, controlling gull roosting within WSP breeding areas, and removing corvid nests near WSP nests.

Gulls often congregate at the Agromin site, likely drawn there by the smell and availability of scrap food. There is no evidence of gull predation on eggs/young to the local colony of WSPs and CLTs. Common ravens are another predator that occurs at Ormond Beach and inland. There has been no

evidence or reports of predation at WSP or CLT nests by common ravens on or near Ormond Beach (Barringer 2015; Hartley 2016).

1.3 SPECIES OF CONCERN

Three nesting bird species are of particular concern near the project site as they are special-status species protected under state and/or federal endangered species legislation. They are: California least tern (CLT), a state and federally listed endangered species; western snowy plover (WSP), a state Species of Special Concern and a federally threatened species; and, Belding's savannah sparrow (BSS), a state-listed endangered species and a federally-listed Category 2 candidate species.

1.3.1 Western Snowy Plover

The western snowy plover is a California Species of Special Concern and a federally-listed threatened species that primarily inhabit surf-zone coastline habitats. The Pacific coast population was listed in 1993; its decline is primarily attributed to habitat loss. WSPs typically nest in association with CLT colonies (Powell and Collier 2000). This shorebird typically nests along barren margins of interior alkaline lakes, on coastal beaches, and around agricultural ponds. They can frequently be observed west of the project site in the nearby salt marsh habitat. Their nesting season generally overlaps that of the CLT. No direct impacts to this species or their nesting habitat are expected as a result of operations at the Agromin project site.

WSPs nest both north of and south of the power plant (Fox-Fernandez et al. 2012ab; 2013), with about 60% nesting north of the power plant (aka: North Ormond Beach) and about 32% nesting south of the power plant (aka: South Ormond Beach) in recent years. The WSP nesting colony nearest to the Agromin site is located at South Ormond Beach on the sandy beach/dune area, approximately 0.5 miles southwest of the facility. A few nests (perhaps 2 or 3) in recent years occurred within the salt flat area, approximately 1,000 feet west of the Agromin site. The nesting season for WSPs is considered to extend from March 1 through September 30.

1.3.2 California Least Tern

California least terns, a state- and federally-listed endangered species, nest in colonies on the ground adjacent to the project site, typically among the coastal dunes. CLTs forage on small fish found in the nearby Oxnard Drain, in nearby lagoons, and in the open ocean. CLTs overwinter in southern latitudes, but return to nest at historical colony sites in April and typically remain in the area through August. A previous restoration of the Oxnard Drain undertaken by a landowner adjacent to Agromin was intended to enhance the quality of the CLT's foraging habitat and increase populations of CLT prey. That project included the improving of flows and the deepening of a channel.

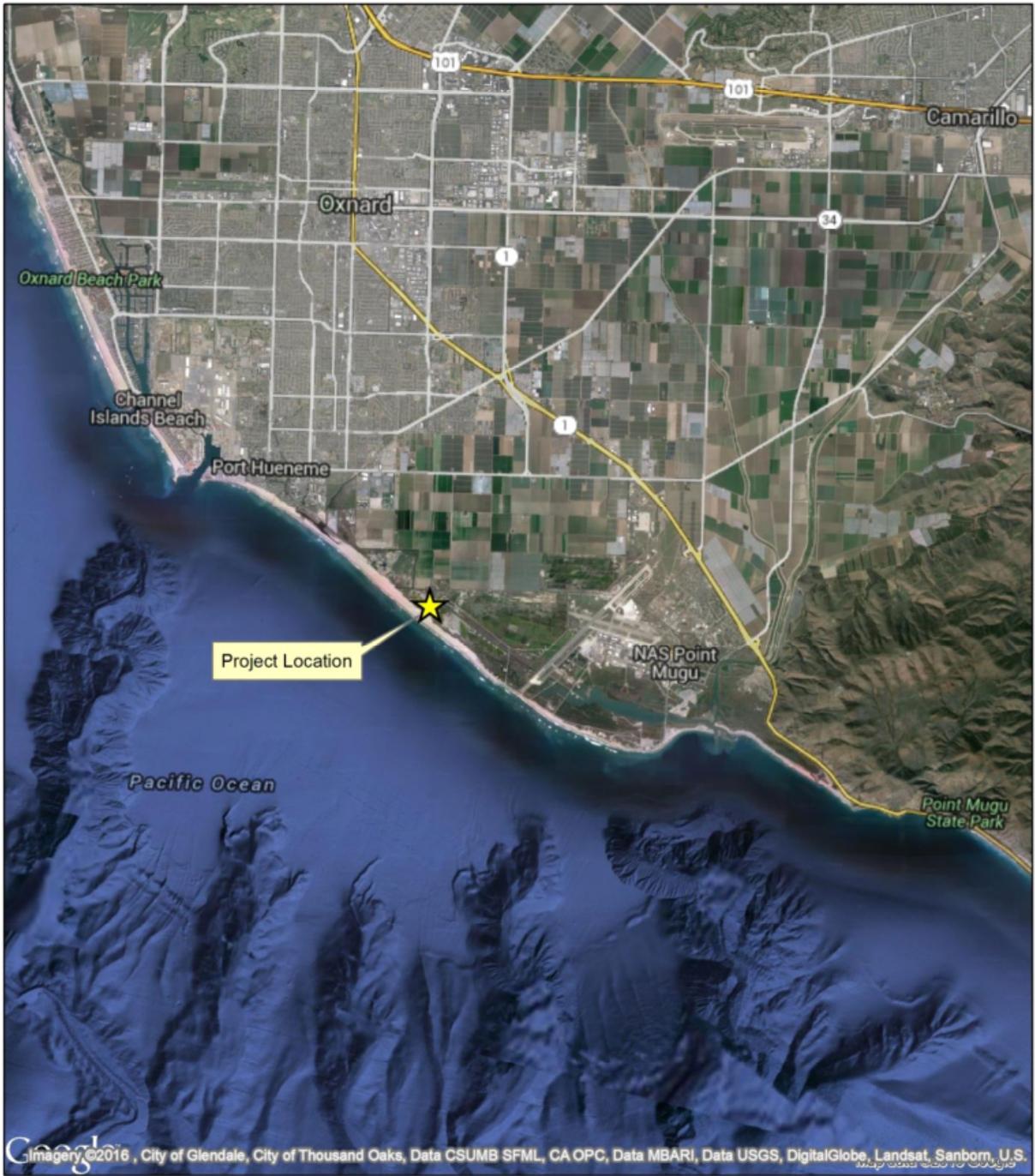


Figure 1. Project Vicinity

★ Project Location

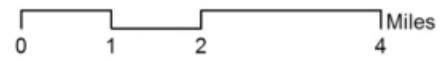
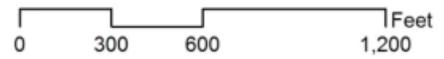




Figure 2. Project Location

 Project Boundary



California least terns have nested at both the North and South Ormond Beach areas for many years, with the largest number of nests (n = 81) in recent years occurring in 2008 (Smith 2008). CLTs generally nest in the same vicinity as WSPs, but the CLTs appear somewhat more seaward-bound based on survey reports prepared since 2007. CLTs typically nest from late April through mid-August; 2015 was the first year that CLTs failed to establish any nests on Ormond Beach (Hartley 2016). Only one pair of CLTs attempted to nest. The exact causes of the failure to nest are unknown, but are believed to be related to increased human activity.

1.3.3 Belding's Savannah Sparrow

Belding's savannah sparrow, a state-listed endangered species and a federally-listed Category 2 candidate species, is a resident songbird that occurs within coastal areas in southern California and Mexico. BSS usually prefer to nest in dense stands of pickleweed associated with salt marshes and mudflats. The species forages over a wider range of habitats.

Individuals can be observed foraging in the vegetation present along the edge of the Oxnard Drain west of the project site, especially on the coastal side of the ditch where the vegetation is more prominent. BSS are considered a resident species at this location. No comprehensive surveys for BSS have been conducted in recent years. A 2002 assessment completed for Southland Sod Farms, Inc. estimated that the general area probably supported about 15-20 nesting pairs of Belding's savannah sparrows at the time (Thelander 2002).

1.4 SUMMARY OF REQUIREMENTS

The PBMP is required to employ predatory bird behavior and habitat modification control methods that do not interfere with wildlife inhabiting and nesting within the Environmentally Sensitive Habitat Areas (ESHA) adjacent to the project. The elements of the PBMP are designed to deter avian scavengers from aggregating at the facility. The PBMP may be revised with approval from the Planning Director and in consultation with the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) to reflect recommendations of the monitoring by the County-approved qualified biologist. This process of applying an initial set of activities, monitoring their effectiveness, reassessing whether to continue them, and modifying or adding new activities as-needed to achieve a set goal is referred to as adaptive management.

According to the Initial Study-Mitigated Negative Declaration (MND), the PBMP must describe:

- Methods used to alter the behaviors and use of the project site by gulls and ravens,
- Methods used to quantify changes in predatory/scavenger bird activity,
- Data collection methods for monitoring the effectiveness of the program.
- Monitoring criteria for evaluating the success/failure of the program.
- Reporting requirements.

2.0 PREDATORY BIRD MANAGEMENT PLAN IMPLEMENTATION

The primary goal of this plan is to reduce the presence of gulls and corvids at the Agromin site to reduce the possibility for potential for gull and corvid predation of listed species present in offsite areas during the breeding season. The deterrents described below will be implemented throughout the year to reduce the presence of these animals on site; without a year-round effort, dispersal during the nesting season is more likely to be effective².

2.1 EXISTING CONDITIONS

2.1.1 Current Avian Scavenger Use Levels

No data sufficient for any statistical analyses are available to quantify the current use of the project site by avian scavengers. Interviews with staff at the facility indicate that gulls are the most common avian scavengers frequenting the site. Common ravens occur more sporadically and usually as individuals or small groups no larger than a few individuals. No large flocks of common ravens are reported.

Gulls are the most common group of avian scavengers using the project site. In general, the largest numbers of gulls occur most frequently and in the largest concentrations during the non-breeding season for gulls and for WSPs and CLTs (usually September to March). The gulls appear to have learned the circumstances when potential food sources may be available (i.e., when materials are being delivered to the site). Large flocks of over 100 gulls have been observed periodically.

2.1.2 Current Deterrents

Current deterrents in use include bird wires and Mylar flagging, guns firing cracker shells and screamer shells, covering of food material using mulch and textile covers, and occasionally the use of distress recordings of birds.

The bird wires with Mylar flags are strung over the exposed compost piles and food material tipping area. Bird wires and Mylar flags are also strung over the Organic Materials Blending Area building. The use of wires appears to be an effective deterrent to prevent the avian scavengers from roosting on the building. In contrast, no wires or flags are used on top of the building on the Agromin property to the north (which operates under a different permit process) and gulls regularly use this building as a roosting site.

According to Agromin staff, the current protocol for handling food material is to have a crew member be present for the arrival of all food material or mixed green material/food material trucks. Mulch is placed on top of the food material within a few minutes. The material is then transported via a loader into the processing area where it is ground and sorted. After grinding and sorting, the green material is transported to outdoor compost windrows and the food

² Agromin is responsible for attempting to control the presence of predatory birds within its project site. Corvid and gull use in areas adjacent to the project site (e.g., agricultural fields, game preserves, beaches, saltmarshes, and estuaries) is a natural occurrence and is beyond the scope of the PBMP.

material to covered aerated static pile rows located south and east of the Organic Materials Blending Area. Here the materials are immediately covered with textile fabric. A portion of the mixed green material and food material materials are planned for use within the proposed SMARTFERM units.

2.2 PROPOSED DETERRENT METHODS

For the PBMP to be effective, both the amount of food material and the length of time of the availability of food material for avian scavengers must be aggressively minimized. Scavenger presence is mostly determined by the amount of exposed food material within the Agromin facilities. Per the Vector Control Plan, Agromin must cover the food processing material for the SMARTFERM project with processed green material immediately (defined as within fifteen minutes) after tipping and move this blend of green material and food material into the organic materials blending area in the masonry building. Compliance with this control activity will greatly reduce the attraction of the initial tipping area to gulls.

Any existing open feedstock piles containing exposed food material beyond the Organic Material Blending Area shall be covered with textile fabric if exposed food material is planned to be present for longer than 24 hours. If the exposed food material within the piles is not planned to be present for longer than 24 hours, the piles shall be immediately leveled to the required windrow height and mixed/covered with green material so that the food material is not exposed. All food material must be full covered with green material prior to the close of business. Alternatively, these piles can be enclosed in a structure (masonry, concrete, or other) that has a gate or a door to allow the loader to access them for pile management.

Many methods are purported to be effective at deterring gulls, corvids, or other avian scavengers. The species involved and the individual circumstances at the facilities studied vary greatly. It is typical to develop an approach to deterrence specific to the local conditions and the local scavengers. Also, some of the available methods used elsewhere are simply not feasible for use at the Agromin site, or they result in a low cost-to-benefit ratio, or they are not permitted under the terms of the MND. Therefore, after considerable evaluation and consideration of a variety of factors, Agromin proposes an avian scavenger deterrence program using the following approach and techniques.

2.2.1 Bird Wire, Mylar Flagging, and Netting

The bird wires with Mylar flags will continue to be strung over the exposed piles and food material tipping area. Bird wires and Mylar flags are already strung over the Organic Materials Blending Area building. Their use appears to be a partially effective deterrent, mainly to prevent avian scavengers from roosting on the building.

Netting will be selectively used to exclude gulls from small, confined areas where scavengers are observed and where netting can be applied effectively. Nets have proven useful in preventing bird access to open buildings, to covering vehicles, and they may be of use in other situations where wire lines are not practical. Netting may potentially entangle other, non-target fully protected species; therefore, installations of netting will be limited to specific problem areas and the selection

of netting spacing will be based on avoiding entangling non-target species (grid widths of 5 inches or more). Nets will be monitored and if non-target protected species are being entangled, the use of nets may be discontinued.

Although the adjacent property to the north is outside of the CUP boundary, it is owned and operated by Agromin. The roof of the building in this area is currently used by roosting gulls. Therefore, to further reduce the attractiveness of the Agromin property to scavenger species, Agromin should also place bird wire and flags on this building using similar spacing and structure as the bird wire and flags on the Organic Materials Blending Area masonry building, as this currently appears to be effective.

2.2.2 Noisemakers

Noisemaker shells fired from pistols and/or shotguns are effective deterrents of avian scavengers. They tend to work best for dispersing groups of birds attempting to access food items that appear on the surface of piles just before they can be covered. These devices rarely cause the scavengers to entirely depart the facility; therefore, they are mostly useful as a localized and temporary dispersal tool. These devices already have been shown to be effective and will continue to be used. They are not expected to disturb any of the three special-status bird species that occur in the region.

2.2.3 Lasers

Hand-held lasers have recently proven to be an effective avian deterrent method under certain circumstances. We have little expectation that they will be a primary means of moving large numbers of scavengers any great distance from the project for extended periods during the day.

Like any method, the use of lasers has its limitations. For example, successful laser use appears to be somewhat species-specific and is least effective during bright daylight conditions (Blackwell et al. 2002). Like noisemakers, lasers tend to work best when used to move birds from one area of a project site to another; they are less effective at moving birds entirely away from facilities for extended periods of time. Their effectiveness is based on temporarily frightening individuals or small groups of birds when they see a laser-generated green dot very closely approaching them, seemingly out of nowhere.

We intend to experiment with commercially-available lasers manufactured specifically for this purpose to see if their use has a greater dispersal effect than noisemakers. We will evaluate whether or not lasers are more effective at dispersing avian scavengers than noise makers, if the behavior of the scavengers differs in terms of how far they disperse, and for how long they remain dispersed. Data on these experiments will be collected systematically for an effective analysis. If preliminary results support a conclusion that the effects of lasers are preferable to those of noisemakers, especially in this particular setting, we will consider integrating them into the overall list of tools available over the long term for dispersing scavengers.

2.2.4 Deploy Harris's Hawks to Disperse Avian Scavengers

Based on our review of available methods, and a few preliminary experiments at the Agromin project site, we believe that daily deployment of captive Harris's hawks (*Parabuteo unicinctus*) at the site has the greatest probability of achieving nearly all of the desired goals, i.e., dispersing avian scavengers away from the project site and for extended periods.

There are many species of raptors used in falconry that have recently been adapted to use in avian pest control programs. Each species has its own flight and behavioral characteristics. For the Agromin site, and given the proximity of several special-status bird species, Harris's hawks possess the perfect temperament and flight characteristics to be used to disperse avian scavengers.

In early April 2016, Agromin contacted a Camarillo-based avian pest control vendor who provided a demonstration of using Harris's hawks at the project site for federal, state, and county regulators. The demonstration successfully showed that (1) Harris's hawks are easily controlled by the falconer, (2) they can be flown within a small, controllable space, thus posing no threat to nearby special-status species, and (3), that gulls will leave the project site when a Harris's hawk is loose on the facility. No common ravens were present at the site during the demonstration; however, the falconer indicated that a raven's reaction to the presence of Harris's hawks is similar to that of gulls.

Agromin is ready to initiate a full-time program of avian scavenger dispersal using one, sometimes two, Harris's hawks at the project site. This activity requires that a licensed falconer with one or more trained Harris's hawks be present at the site whenever the facility is operating. The process involves releasing the Harris's hawk(s) whenever avian scavengers are present on the facility. The program will be operated so that the Harris's hawk(s) remain within the boundaries of the Agromin facility at all times.

3.0 MONITORING

It is important that field data be collected systematically to quantify all of the avian scavenger dispersal activities that are undertaken at the Agromin facility. These data will be essential to understanding the effectiveness of the program, to aid in evaluating whether the program is successful, and to justify any changes to the deterrent program using adaptive management techniques.

3.1 Monitoring and Measuring the Program's Effectiveness

The primary goal of the avian scavenger deterrent program is to ensure that no significant negative impacts occur as a result of the Agromin operations to any of the three special-status bird species that nest in the vicinity of the facility.

A secondary goal, which is directly related to achieving the primary goal, is to significantly reduce the frequency and overall numbers of gulls and common ravens that frequent the Agromin project site during operational hours to numbers and frequencies to acceptable levels (i.e., similar to those

at non-industrial sites in the same vicinity). BRC proposes a data collection system and monitoring program that will collect data of sufficient quantity and quality to measure the success of meeting these stated goals.

Gull and corvids occur year round throughout the region, though their numbers vary seasonally. The largest numbers occur in the region post-breeding season (late summer through spring). They are opportunistic foragers. They are distributed throughout the region largely based on the availability of food resources, which can change from day to day, at any given location. They also are accustomed to relying on artificial food sources to supplement more natural food sources. This is the typical foraging strategy for any opportunistic generalist species.

At any given time, the scavenging and predation patterns by both gulls and corvids can be affected by many different factors, only one of which is the possible presence of available food sources being present at the Agromin facility. If food is available at Agromin during their foraging sorties, then a few gulls finding those resources at that time can quickly become a flock or large concentration of many individuals. Conversely, if periodic foraging sorties to Agromin rarely result in finding food resources, then the site becomes less and less visited over time. It is the goal of the avian scavenger dispersal program to minimize the number of successful feeding events the site provides, thus making it a less frequented location. The end result is that at any given time, only a few ‘searching scavengers’ should be present at the facility, and they should be almost always unsuccessful at finding food resources.

3.1.1 Monitoring Avian Scavenger Activity at the Project Site

We propose initially establishing three types of systematic data collection schemes to monitor whether the overall objectives of the PBMP are being met. The frequency of monitoring for subsequent years will be dependent on the success of this program and the quality of the data we collect. Also, the level of the proposed monitoring will be evaluated in first annual report. At these reporting intervals, Ventura County has the option to modify the monitoring program based on a determination of whether the monitoring is meeting the PBMP’s goals.

The first monitoring program is a simple walking point count to determine the number of gulls and corvids present within the project site whenever a biologist or the falconer arrives on site. The will entail arriving at a standardized parking location to be used as a standardized starting point, then walking a standardized route around the general perimeter of the active work area and tabulating the numbers of scavengers observed as well as their behaviors (e.g, perched, flying low, flying high, foraging on piles, not foraging on piles, etc.), the time of day, and current weather conditions.

The data are collected onto a standardized data collection form that is automated using a tablet/smartphone. The geospatial data are automatically collected. BRC’s has developed a computer-based and cloud-based digital program called RAPTR[®] that is specifically designed for this purpose. This survey count will be completed within a set time period (15-20 minutes per survey) to help standardize the results. The data will be primarily used to compare scavenger use at the project site over time and to help identify any trends in use. In time, a large enough sample size will have been collected to conduct standard statistical treatments and tests

of significance. When the falconer is onsite to fly the Harris' hawk, he or she will complete a second walking survey after the day's deterrent activity has ended and before the falconer and the hawk(s) depart the site.

3.1.2 Monitoring Avian Scavenger Activities Interactions with CLTs/WSPs

The primary goal of the deterrent program is to ensure that special-status species are not affected by the Agromin operations. To monitor whether this goal is being met, we propose undertaking two types of monitoring. The first type is based on attempting to determine what avian scavengers do after they leave the Agromin facility due to the deterrent activities. The second is to monitor the nesting colonies of CLTs and WSPs while deterrent activities are underway to determine the level of predatory bird activity at the nesting colonies concurrent to the deterrent activities. These data will be analyzed to determine if there are any correlations between raven and gull activity at the Agromin project site and at the special-status bird nesting colonies in the same time periods.

It will be useful to document where gulls/ravens go after they are deterred from the Agromin site. We believe that collecting a sample of ~50 individual departure events will be sufficient to statistically characterize the movements of deterred avian scavengers during the CLT/WSP nesting season. From this sample of flights we can hopefully determine the extent to which scavengers depart from Agromin and then directly interact with the nesting colonies of either species.

BRC biologists will work with the falconer using radio communications to document the flight paths of harassed gulls/ravens as they depart the Agromin site. By maintaining visual contact with these departing birds between the Agromin site and the CLT/WSP colonies to the west, several observers working together can determine whether or not deterred scavengers visit the colonies, and whether they interact with CLT or WSP eggs, nests, or young.

3.1.3 WSP/CLT Disturbance Monitoring

Based on our review of recent annual reports documenting CLT and WSP nesting colony success, it is apparent that disturbances by a variety of sources are a significant and cumulative problem. Learning more about the types of disturbances in the colonies such as when those disturbances occur (i.e. daytime versus nighttime), temporal patterns to the disturbance activities, natural predation events by native species, the presence of people or pets in the colonies, and other useful parameters will hopefully aid in improving the annual productivity of these species and their long term nesting success at Ormond Beach.

Agromin and its consultants will work collaboratively with the various agencies responsible for monitoring the CLT and WSP colonies to learn more about the causes of disturbance to these species. BRC proposes installing a sufficient number of continuously operating, camouflaged or otherwise hidden wildlife 'trail cameras'. BRC biologists will strategically place the cameras so they are likely to record the causes of any nesting failures by either species. The approach is not statistically based; therefore, the study design (i.e., camera deployment) is subjective and intended to have the highest likelihood of collecting useful information about disturbance

activities. Agromin will fund the proposed ‘trail cam’ avian monitoring program and will provide the results to the appropriate agencies for their use in managing these two special-status species.

4.0 REPORTING

Agromin will submit bi-annual monitoring reports to the County³ throughout the duration of the CUP. These reports will summarize the effectiveness of the monitoring efforts based on analyses of data collected in the field and general observations. The monitoring reports will identify and recommend changes (if warranted) to the control methods undertaken. Quantitative data collection and statistical tests of significance will be applied to the fullest extent possible. General observations will be supported by field notes, photographs, and other qualitative data collection techniques.

5.0 REFERENCES

Barringer, D. 2015. Final 2014 breeding season monitoring report for western snowy plover and California least terns at Ormond Beach, Oxnard, CA. Report to Ventura Field Office. 32 pp.

Belant, J. 1997. Gulls in urban environments: Landscape-level management to reduce conflict. *Landscape and Urban Planning*, Vol 38, pp. 245-258.

Blackwell, B., G. Bernhardt and R. Dolbeer. 2002. Lasers as nonlethal avian repellents. *J. Wildl. Management*. 6(1): 250-258.

Fox-Fernandez, N., Wingert, S. J. Hongola, and J. Dreher. 2012a. Western snowy plover (*Charadrius alexandrinus nivosus*) Final Nesting Season Report, Ormond Beach, Ventura County, California, 2012 season. Rincon Consultants, Inc. Ventura, CA. 19 pp. + app.

Fox-Fernandez, N., Wingert, S. Hongola, and J. Dreher. 2012b. California least tern (*Sternula antillarum browni*) final nesting season report, Ormond Beach, Ventura County, California, 2012 season. Rincon Consultants, Inc. Ventura, CA. 18 pp. + app.

Fox-Fernandez, N., J. Kendrick, C. Wingert, and D. Vander Pluym. 2013. Western snowy plover (*Charadrius alexandrinus nivosus*) and California Least Tern (*Sternula antillarum browni*) Final Nesting Season Report for Ormond Beach, Ventura County, California. For Calif. Dept. Fish and Wildlife.

Hartley, C. 2016. Ormond Beach Western Snowy Plover and California Least Tern Breeding Survey, 2015 Season. Report to Chris Kofron, Recovery Permit Coordinator, USFWS, Ventura, CA. 29 pp + appendices.

Liebezeit, J. R. and T. George. 2002. A Summary of predation by corvids on threatened and endangered species in California and management recommendations to reduce corvid predation. Calif. Dept. of Fish and Game, Species Conservation and Recovery Program Report.

³ Due 30 August and 28 February.

- Page, G. W., L. E. Stenzel, J. S. Warriner, J. C. Warriner, and P. W. Paton. 2009. Snowy plover (*Charadrius alexandrinus*). Account 154. in A. Poole, editor. *In* The Birds of North America online. Cornell Lab of Ornithology, Ithaca, New York.
- Powell, A. N. and C. C. Collier. 2000. Habitat use and reproductive success of western snowy plovers at new nesting areas created for California least terns. *J. Wildl. Management* 64(1):24-33.
- Smith, R. 2008. California Least Tern Breeding Survey Ormond Beach, Ventura County, 2008 Season.
- Thelander, C. G. 2002. Sensitive biological resources assessment of the Oxnard Drainage District No. 3 Canal excavation and restoration project. Unpubl. Report. For Southland Sod Farms, Port Hueneme, CA. 6pp.
- U. S. Fish and Wildlife Service. 1985. California Least Tern Recovery Plan. Retrieved from: http://ecos.fws.gov/docs/recovery_plan/850927_w%20signature.pdf.
- U. S. Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751pp.

Review of the subject proposed project, Agromin CUP 5001-1, Conditional Use Permit Modification, Project Case # PL13-0101 is provided below. After review of the revised proposed action, we have determined that the proposed project may impact military operations, and provide the following analysis and recommendations for your consideration.

Summary of Recommendations

1. Coordinate with Naval Base Ventura County regarding bird deterrent activities to ensure bird attraction and dispersal do not impact air operations at Point Mugu and avoid hazards to flight safety
2. Update the Predatory Bird Management Plan to consider and avoid potential impacts to special-status species located on Point Mugu
 - a. Coordinate with Naval Base Ventura County to monitor nests on Point Mugu during the initial use of pyrotechnics to ensure Western Snowy Plovers are not leaving the nest due to disturbance
 - b. Ensure personnel utilizing lasers to haze birds are aware of aircraft operating in the vicinity, and avoid purposefully or accidentally pointing the laser at aircraft in accordance with Federal law
3. Update the Vector Control Plan to include a monitoring and response system for mosquitos, establish a rodent threshold, and more frequently monitor rodent traps
4. Avoid shiny surface fabric for the weather cover of the anaerobic digester
5. Ensure external lighting is directed downward

Noise and Safety Contours

The proposed project is located within the Naval Base Ventura County (NBVC) Military Influence Area. The proposed project is located outside of the Air Installation Compatible Use Zone (AICUZ) 65 Community Noise Equivalent Level (CNEL) high noise contour, and also outside of the accident potential zones for NBVC Point Mugu. However, the proposed project is located beneath a number of flight tracks for both Runways 03/21 and 09/27 and in areas subject to the NBVC Point Mugu airfield Imaginary Surfaces. Imaginary Surfaces are a complex series of imaginary planes that define airspace to remain free of obstructions around an airfield. The proposed project location falls within the Conical Surface for Runway 03/21 and within the Approach and Departure Clearance Surfaces for Runway 09/27, with a slope of 50:1 from the runway surface. At an estimated distance of 8,500 feet from the end of Runway 09/27, the maximum building height at the Agromin site should be no more than 170 feet. As such, the maximum proposed building height for the anaerobic digester of 33.5 feet is well below the threshold to impact the Imaginary Surfaces. However, we respectfully request that the material used for the weather cover avoid a shiny surface that may create glare. We also respectfully request that any lighting fixtures installed at the facility be directed downward to avoid impacting pilot's vision during take-offs and landings, especially during nighttime operations.

Bird and Wildlife Aircraft Strike Hazards

Another important consideration to evaluate the compatibility and potential impacts to military operations of the proposed project is its potential impact to risk of Bird and Wildlife Aircraft Strike Hazards, or BASH. The Federal Aviation Administration (FAA) and military recommend locating land uses that may attract birds at least 10,000 feet from active movement areas of airfields. Such bird-attracting land uses include transfer stations, landfills, golf courses, wetlands, stormwater ponds and dredge disposal sites. Given the Agromin facility's location approximately 8,500 feet from the NBVC Point Mugu runway, the Navy appreciates the proposed efforts to minimize bird attraction at the facility, and requests ongoing coordination with the project applicant to address any potential risks to aircraft or other military operations.

The Agromin facility is located within the area subject to the NBVC Point Mugu BASH Subzone recommended in the September 2015 NBVC Joint Land Use Study (JLUS). The JLUS recommends that land uses within a five-mile radius from the runway centerline may be subject to additional regulations to prevent attractants of birds and wildlife that could increase risks to flight safety.

Seventeen damaging wildlife/aircraft strikes at NBVC Point Mugu have occurred since 1980, resulting in over \$84M in cumulative damage costs. NBVC protects its air operations through implementation of the 2012 NBVC Bird/Wildlife Aircraft Strike Hazard Plan (BASH Plan). NBVC employs a BASH Coordinator and two full-time BASH Specialists to mitigate risk of bird-aircraft strikes. The NBVC BASH Program implements the NBVC BASH Plan, including hazing/dispersing wildlife, trapping and relocation, lethal control of certain species, waterfowl hunting, installation of anti-perching mechanisms on horizontal surfaces, wire girding or plastic flagging across open water, removal of abandoned structures, repair perimeter fences, improvements to tidally influenced and stormwater drainage, efforts to prevent stormwater accumulation, tree and woody vegetation removal to eliminate cover and perches, monthly wildlife surveys, regular wildlife hazard assessments, maintain currency of BASH and natural resources management plans (INRMP), efforts to improve reporting of wildlife/aircraft strikes and collection of remains for positive species identification, and employment of three full-time BASH management specialists through the USDA. (NBVC BASH Plan, 2012)

Consultation with the NBVC Natural Resources Program indicates that gulls and corvids, those birds most likely attracted to a composting facility, have not been found to be a significant contributor to BASH incidents at NBVC to date. However, it remains an important concern to ensure bird attraction and dispersal does not have an impact to air operations at Point Mugu. As noted above, coordination by the project application with NBVC is requested. Such coordination would be consistent with the BASH Plan recommendation, “Develop a close working relationship with adjacent landowners to minimize wildlife activity on their property.”

Special-Status Species

Beyond the need to minimize the risk of bird-aircraft strike hazards, it is important to consider potential impacts to listed threatened or endangered species. NBVC has the responsibility to manage significant environmental resources, including over 2,100 acres of wetlands at Point Mugu, the largest salt marsh habitat in Southern California, and five federally and one state-listed threatened or endangered species on NBVC Point Mugu.

Challenges related to special-status species can result in restrictions to military operations and reduce the value of an installation for testing and training by limiting the types of permissible activities in terms of composition, magnitude, or timing.

NBVC has an extensive Natural Resources Program to provide stewardship over threatened and endangered species, marine mammals, and other protected species and associated habitat. NBVC implements an Integrated Natural Resources Management Plan (INRPM) and has a team of natural resource managers and ecologists to provide excellent stewardship over the important natural resources within our charge.

Specific comments on the Updated Project Description and Attachments are provided below:

Attachment 7 – Predatory Bird Management Plan

Section 1.2 Predatory Bird Issues

The Predatory Bird Management Plan notes the congregation of gulls at the Agromin site, and states that “there is no evidence of gull predation on eggs/young to the local colony of WSPs and CLTs.” However, there is evidence of gull predation on Western Snowy Plovers (WSP) and California Least Tern (CLT) chicks on Naval Base Ventura County (NBVC) Point Mugu, just across the property fenceline, approximately 2,000 feet from the Agromin facility. In addition, there is an abundance of evidence of raven predation on WSP and CLT nests on Point Mugu, in close proximity to the Agromin facility. It is also likely that ravens have preyed on nests on Ormond Beach over the years, but have not done so recently, because all nests have enclosures to protect eggs from predators, such as ravens.

Section 1.3.2. California Least Tern

The PBMP notes that 2015 was the first year that CLTs failed to establish any nests on Ormond Beach, and only one pair of CLTs attempted to nest. However, it should be noted that there are hundreds of pairs of CLTs that regularly nest on the Navy beaches adjacent to Ormond Beach, within 2,500 feet of the Agromin facility.

Section 1.3.3. Belding’s Savannah Sparrow

The PBMP states, “No comprehensive surveys for BSS have been conducted in recent years.” However, in 2015, 20 pairs of Belding Savannah Sparrows were observed at the Ormond Beach Wetlands during the statewide BSSP survey (Zemba 2015).

Section 2.2.2. Noisemakers

The PBMP states that noisemaker shells are not expected to disturb any of the special-status bird species that occur in the region. However, if Western Snowy Plovers are nesting in the adjacent salt panne on Point Mugu, they may leave the nest due to pyrotechnics. If nests are within a determined distance (1,000 feet), nests should be monitored during the initial use of pyrotechnics to ensure plovers are not leaving the nest due to disturbance.

Section 2.2.3. Lasers

The Agromin facility is located adjacent to the Point Mugu airfield. Personnel utilizing lasers to haze birds should be aware of aircraft operating in the vicinity, and avoid purposefully or accidentally pointing the laser at aircraft. NBVC Air Operations reports lasers aimed at aircraft to the Federal Aviation Administration (FAA). Public Law 112-95 §311 prohibits knowingly aiming a laser pointer at an aircraft or in the path of an aircraft, subject to fines and imprisonment.

FAA Advisory Circular 70-1 (Outdoor Laser Operations) notes that lasers can have “potentially hazardous adverse effects ... on aircraft operators in the navigable airspace, [including] flash blindness and afterimage created when a laser beam interferes with the vision of the pilot or air crewmember, and glare when the laser beam illuminates the windshield of an aircraft.”

The NBVC BASH Plan (2012) notes that “Lasers, such as the Dissauder®, can be an effective tool for dispersing nighttime roosting birds, such as Snowy egrets, Great egrets, and Black-crowned night herons. Ambient light conditions influence the effectiveness of lasers; therefore, lasers are best used after dusk. Dispersal personnel must notify [Air Traffic Control] ATC before and after dispersal actions” within the airfield Primary Surface Area.

Section 2.2.4. Deploy Harris's Hawks to Disperse Avian Scavengers

While the PBMP states that the falconry program will be operated such that the Harris's hawk(s) remain within the boundaries of the Agromin facility at all times, it should also be stated that the hawk(s) do not soar above a determined elevation, such as 100 feet, such that the hawk would cause disturbance to birds nesting in the adjacent salt panne on Point Mugu. From a BASH perspective, falconry can be an effective response and deterrent measure.

Section 3.1.2. Monitoring Avian Scavenger Activities Interactions with CLTs/WSPs

The PBMP states that "nesting colonies of CLTs and WSPs" will be monitored during deterrent activities to ensure that special-status species are not affected by the Agromin operations. It should be noted that WSPs are not colonial nesters, but will nest within a tern colony.

The PBMP states that biologists will maintain visual contact with harassed gulls/ravens as they depart the Agromin site to determine whether or not deterred scavengers visit colonies or interact with CLT or WSP eggs, nests or young. Biologists should also coordinate with the Navy, as gulls can fly the same distance and depredate nests at Point Mugu after being hazed from the Agromin site. It is recommended that Agromin coordinate with the NBVC Natural Resources Program Manager, Mr. Martin Ruane, (805) 989-3808, in advance of deterrent activities.

Attachment 10 – Vector Control Plan. Section 4.0

Mosquito Section: The proposed Vector Control Plan does not have a monitoring system for mosquitoes. A monitoring system should include surveillance for larvae (i.e. checking pools of water that are not removed for larvae), a plan of action should larvae be found, and a timeframe for planned actions to occur. The surveillance and response system should state that when larvae are found, the treatment will occur within 5 days and will include either removal of the water source or application of larvicide using an identified product and/or methodology. The surveillance system should also include a monitor trap for adult mosquitoes and a process to identify the type of mosquitos to make sure none of the vector mosquito populations are becoming a problem.

Rodent Section: The Vector Control Plan should include a rodent threshold, establishing a point at which action will take place to control the population. The Vector Control Plan states that traps will be set, but only inspected once each week. Rather, traps should be checked daily. It is appropriate that no rodenticides are proposed and that dead animals will be immediately removed to prevent further vector attraction.

[Home Table of Contents](#)**§ 17852. Definitions.**

14 CA ADC § 17852

Barclays Official California Code of Regulations

Barclays California Code of Regulations

Title 14. Natural Resources

Division 7. Department of Resources Recycling and Recovery

Chapter 3.1. Compostable Materials Handling Operations and Facilities Regulatory Requirements

Article 1. General

14 CCR § 17852

§ 17852. Definitions.Currentness

(a) For the purposes of this Chapter:

(1) "Active Compost" means compost feedstock that is in the process of being rapidly decomposed and is unstable. Active compost is generating temperatures of at least 50 degrees Celsius (122 degrees Fahrenheit) during decomposition; or is releasing carbon dioxide at a rate of at least 15 milligrams per gram of compost per day, or the equivalent of oxygen uptake.

(2) "Additives" means material mixed with feedstock or active compost in order to adjust the moisture level, carbon to nitrogen ratio, or porosity to create a favorable condition. Additives include, but are not limited to, fertilizers and urea. Additives do not include septage, biosolids, or compost feedstock.

(3) "Aerated Static Pile" means a composting process that uses an air distribution system to either blow or draw air through the pile. Little or no pile agitation or turning is performed.

(4) "Aerobic Decomposition" means the biological decomposition of organic substances in the presence of oxygen.

(4.5) "Agricultural By-Product Material" means post-harvest agricultural by-products separated at a processing facility.

(A) Agricultural By-product Material includes, but is not limited to, solid or semi-solid materials from fruit, nut, cotton, and vegetable processing facilities such as stems, leaves, seeds, nut hulls and shells, peels, and off-grade, over-ripe, or under-ripe produce.

(B) Agricultural By-product Material does not contain packaging material, physical contaminants, or hazardous materials, and does not include wastewater, sludges, or additives.

(5) "Agricultural Material" means waste material of plant or animal origin, which results directly from the conduct of agriculture, animal husbandry, horticulture, aquaculture, silviculture, vermiculture, viticulture and similar activities undertaken for the production of food or fiber for human or animal consumption or use, which is separated at the point of generation, and which contains no other solid waste. With the exception of grape pomace or material generated during nut or grain hulling, shelling, and processing, agricultural material has not been processed except at its point of generation and has not been processed in a way that alters its essential character as a waste resulting from the production of food or fiber for human or animal consumption or use. Material that is defined in this section 17852 as "food material" or "vegetative food material" is not agricultural material. Agricultural material includes, but is not limited to, manures, orchard and vineyard prunings, grape pomace, and crop residues.

(6) "Agricultural Material Composting Operation" means an operation that produces compost from green or agricultural material additives, and/or amendments.

(7) "Amendments" means materials added to stabilized or cured compost to provide attributes for certain compost products, such as product bulk, product nutrient value, product pH, and soils blend. Amendments do not include septage, biosolids, or compost feedstock.

(8) "Anaerobic Decomposition" means the biological decomposition of organic substances in the absence of oxygen.

(9) "Biosolids" means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Biosolids includes, but is not limited to, treated domestic septage and scum or solids removed in primary, secondary, or advanced wastewater treatment processes. Biosolids includes the residue solids resulting from the co-digestion of anaerobically digestible

material with sewage sludge. Biosolids does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during the preliminary treatment of domestic sewage in a treatment works.

(10) "Chipping and Grinding Operations and Facilities" means an operation or facility, that does not produce compost that mechanically reduces the size or otherwise engages in the handling, of compostable material and:

(A) The site does the following:

1. The site handles only material, excluding manure, allowed at a green material composting operation or facility as set forth in section 17852(a)(22); and,
2. Each load of green material is removed from the site within 48 hours of receipt. The EA may allow a site to keep green material on-site for up to 7 days if the EA determines that the additional time does not increase the potential for violations of this Chapter.

(B) If the site fails to meet the definition of green material because it exceeds the contamination limits in section 17852(a)(21), the site shall be regulated as set forth in the Transfer/Processing Regulatory requirements (commencing at section 17400).

(C) If the site fails to meet the definition of this section because the green material remains on-site for a longer period of time than is allowed, then the site shall be regulated as a compostable material handling operation or facility, as set forth in this Chapter.

(11) "Compostable Material" means any organic material that when accumulated will become active compost as defined in section 17852(a)(1).

(12) "Compostable Materials Handling Operation" or "Facility" means an operation or facility that processes, transfers, or stores compostable material. Handling of compostable materials results in controlled biological decomposition. Handling includes composting, screening, chipping and grinding, and storage activities related to the production of compost, compost feedstocks, and chipped and ground materials. "Compostable Materials Handling Operation or Facility" does not include activities excluded from regulation in section 17855. "Compostable Materials Handling Operation or Facility" also includes:

- (A) agricultural material composting operations;
- (B) green material composting operations and facilities;
- (C) vegetative food material composting facilities;
- (D) research composting operations;
- (E) chipping and grinding operations and facilities; and,
- (F) biosolids composting operations at POTWs.

(13) "Curing" means the final stage of the composting process that occurs after compost has undergone pathogen reduction, as described in section 17868.3, and after most of the readily metabolized material has been decomposed and stabilized.

(13.5) "Digestate" means the solid and/or liquid residual material remaining after organic material has been processed in an in-vessel digester, as defined in section 17896.2(a)(14). Digestate intended to be composted pursuant to this Chapter may only be handled at a facility that has obtained a Compostable Materials Handling Facility Permit pursuant to section 17854.

(14) "Domestic Sewage" means waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

(15) "Disposal of compostable material and/or digestate" means:

- (A) 1. the final deposition of compostable material and/or digestate on land, unless excluded from this Chapter 3.1 pursuant to section 17855;
2. storing or stockpiling more than 200 cubic yards of compostable material, other than stabilized compost as defined in section 17852(a)(36) that meets the maximum metal concentration requirements of section 17868.2, on land for more than 30 days, except as provided in subdivision (A)3.; or
3. storing or stockpiling more than 200 cubic yards of agricultural material, green material, or compost for more than twelve months on land that is zoned for agricultural uses, unless the EA, after consultation with the applicable RWQCB and other agencies as the EA deems appropriate, makes a written finding that storing or stockpiling the material more than 12 months will not adversely affect the public health and safety or the environment.

(B) Disposal of compostable material does not include the use of compostable material:

1. for beneficial reuse at a solid waste landfill pursuant to Title 27, California Code of Regulations, section 20686; or
2. for mine reclamation in accordance with applicable law.

3. for land application as defined in section 17852(a)(24.5).

4. as specified in section 17852(a)(24.5)(B).

(C) Should the EA have reason to believe that a person is engaging in activities that meet the definition of disposal of compostable material or authorizing such activities on land the person owns or otherwise possesses, the burden of proof shall be on each person engaging in or authorizing such activities to demonstrate otherwise.

(D) If the activities at a site meet the definition of disposal of compostable material and/or digestate, the site shall be regulated as set forth in the Consolidated Regulations for Treatment, Storage, Processing or Disposal of Solid Waste (commencing at Title 27, California Code of Regulations, section 20005).

(16) "Dry Weight Basis" or "Dry Weight" means weight calculated on the basis of having been dried until reaching a constant mass that results in essentially 100 percent solids content.

(17) "Enclosed Composting Process" means a composting process where the area that is used for the processing, composting, stabilizing, and curing of organic materials, is covered on all exposed sides and rests on a stable surface with environmental controls for moisture and airborne emissions present.

(18) "EA" means enforcement agency.

(19) "Feedstock" means any compostable material used in the production of compost or chipped and ground material including, but not limited to, agricultural material, green material, vegetative food material, food material, biosolids, digestate, and mixed material. Feedstocks shall not be considered as either additives or amendments.

(19.5) "Film plastic" means sheet plastic 10 mil or less in thickness.

(20) "Food Material" means a waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption and that is separated from the municipal solid waste stream. Food material includes, but is not limited to, food waste from food facilities as defined in Health and Safety Code section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code section 111955, grocery stores, institutional cafeterias (such as prisons, schools and hospitals), and residential food scrap collection. Food material does not include any material that is required to be handled only pursuant to the California Food and Agricultural Code and regulations adopted pursuant thereto.

(A) "Vegetative Food Material" means that fraction of food material, defined above, that is a plant material and is separated from other food material and the municipal solid waste stream. Vegetative food material may be processed or cooked but must otherwise retain its essential natural character and no salts, preservatives, fats or oils, or adulterants shall have been added. Vegetative food material includes, but is not limited to, fruits and vegetables, edible flowers and plants, outdated and spoiled produce, and coffee grounds. Vegetative food material contains no greater than 1.0 percent of physical contaminants by dry weight, and meets the requirements of section 17868.5.

(21) "Green Material" means any plant material except food material and vegetative food material that is separated at the point of generation, contains no greater than 1.0 of percent physical contaminants by dry weight, and meets the requirements of section 17868.5. Green material includes, but is not limited to, tree and yard trimmings, untreated wood wastes, natural fiber products, wood waste from silviculture and manufacturing, and construction and demolition wood waste. Green material does not include food material, vegetative food material, biosolids, mixed material, material separated from commingled solid waste collection or processing, wood containing lead-based paint or wood preservative, or mixed construction and demolition debris. Agricultural material, as defined in this section 17852(a)(5), that meets this definition of "green material" may be handled as either agricultural material or green material.

(22) "Green Material Composting Operation" or "Facility" is an operation or facility that composts green material, additives, and/or amendments. A green material composting operation or facility may also handle manure and paper products. An operation or facility that handles a feedstock that is not green material, manure, or paper products, shall not be considered a green material composting operation or facility. "Green Material Composting Operation" or "Facility" does not include activities excluded from regulation in section 17855.

(23) "Handling" means the processing, transfer, and storage of compostable materials. Handling of compostable materials results in controlled biological decomposition. Handling includes composting, screening, chipping and grinding, and storage activities related to the production of compost, compost feedstocks, and chipped and ground materials.

(24) "Insulating Material" means material used for the purpose of minimizing the loss of heat from a compost pile undergoing the "Process to Further Reduce Pathogens" (PFRP), as described in section 17868.3. Insulating material includes, but is not limited to, soil and stabilized compost.

(24.5) "Land Application" means:

(A) The final deposition of compostable material and/or digestate spread on any land, including land zoned only for agricultural uses, under the following conditions:

1. On and after January 1, 2018, the compostable material and/or digestate does not contain more than 0.5% by dry weight of physical contaminants greater than 4 millimeters (no more than 20% by dry weight of this 0.5% shall be film plastic greater

than 4 millimeters), as specified in section 17868.3.1, at the time of land application;

2. The compostable material and/or digestate meets the maximum metal concentrations, as specified in section 17868.2, at the time of land application;

3. The compostable material and/or digestate meets the pathogen density limits, as specified in section 17868.3(b)(1), at the time of land application; and

4.

a. On land not zoned only for agricultural uses, the compostable material and/or digestate is not applied more frequently than once during a 12 month period, and, at the time of the land application, the compostable material and/or digestate shall not exceed 12 inches in total, accumulated depth on the land surface. The EA, in consultation with the Regional Water Quality Control Board, may approve alternative application frequencies and depths, if the EA after such consultation determines that the alternatives will not adversely affect public health and safety or the environment.

b. On land zoned only for agricultural uses, the compostable material and/or digestate is not applied more frequently than three times during a 12 month period, and, at the time of the land application, the compostable material and/or digestate shall not exceed 12 inches in total, accumulated depth on the land surface. The EA, in consultation with the California Department of Food and Agriculture to determine if the land application is agronomically beneficial and with the Regional Water Quality Control Board regarding water quality, may approve alternative frequencies and depths, if the EA after such consultation determines that the alternative will not adversely affect public health and safety or the environment. The Department shall coordinate all EA requests for consultation with the California Department of Food and Agriculture.

5. Verification of compliance with this subdivision must be provided to the EA upon request.

(B) This subdivision (a)(24.5) does not apply to:

1. the use of compost produced in compliance with Chapter 3.1 and/or 3.2 of this Division,

2. the use of compostable material and/or digestate for gardening or landscaping on a parcel of land 5 acres or less in size,

3. the final deposition of compostable material and/or digestate spread on land by a Federal, State, or local government entity, provided the material is applied in accordance with applicable law,

4. the final deposition of agricultural by-products material spread on land as authorized by the State Water Resources Control Board or a Regional Water Quality Control Board pursuant to Waste Discharge Requirements, a Waiver of Waste Discharge Requirements, a Resolution, or other issued requirements from the State Water Resources Control Board or a Regional Water Quality Control Board having jurisdiction, provided this final deposition does not adversely affect public health and safety or the environment.

5. the beneficial reuse at a solid waste landfill pursuant to Title 27, California Code of Regulations, section 20686, or

6. the beneficial reuse of biosolids pursuant to Part 503, Title 40 of the Code of Federal Regulations and State Water Resources Control Board General Order No. 2004-0012-DWQ, or site-specific Waste Discharge Requirements or other issued requirements from the State Water Resources Control Board or a Regional Water Quality Control Board having jurisdiction.

[NOTE: As specified in section 17850(d), nothing in these standards shall be construed as relieving any owner, operator, or designee from the obligation of obtaining all authorizations and complying with all requirements of other regulatory agencies, including but not limited to, local health entities, regional water quality control boards, air quality management districts or air pollution control districts, local land use authorities, and fire authorities.]

(25) "Manure" is an agricultural material and means accumulated herbivore or avian excrement. This definition shall include feces and urine, and any bedding material, spilled feed, or soil that is mixed with feces or urine.

(26) "Mixed Material" means any compostable material that is part of the municipal solid waste stream, and is mixed with or contains non-organics, processed industrial materials, mixed demolition or mixed construction debris, or plastics. A feedstock that is not source separated or contains 1.0% or more of physical contaminants by dry weight is mixed material.

(27) "Mushroom Farm" means an activity that produces mushrooms. The handling of compostable material at a mushroom farm prior to and after use as a growth medium is subject to regulation pursuant to this chapter and is not considered mushroom farming.

(27.5) "Nuisance" includes anything which:

(A) is injurious to human health or is indecent or offensive to the senses and interferes with the comfortable enjoyment of life or property, and

(B) affects at the same time an entire community, neighborhood or any considerable number of persons. The extent of annoyance or damage inflicted upon an individual may be unequal.

(28) "Operations Area" means the following areas within the boundary of a compostable material handling operation or facility:

- (A) equipment cleaning, maintenance, and storage areas;
 - (B) feedstock, active, curing and stabilized compost processing or stockpiling areas; and
 - (C) process water and stormwater drainage control systems.
- (29) "Operator" means the owner, or other person who through a lease, franchise agreement or other arrangement with the owner, becomes legally responsible for the following:
- (A) complying with regulatory requirements set forth in this Chapter;
 - (B) complying with all applicable federal, state and local requirements;
 - (C) the design, construction, and physical operation of the site; and
 - (D) site restoration.
- (30) "Owner" means the person or persons who own, in whole or in part, a compostable material handling operation or facility, or the land on which these operations or facilities are located.
- (31) "Pathogenic Organism" means disease-causing organisms.
- (32) "Physical Contamination" or "Contaminants" means human-made inert material contained within compostable material, digestate, or compost, including, but not limited to, glass, metal, and plastic.
- (33) "Process Water" means liquid that is generated during or used in the production of compost or chipped and ground materials.
- (34) "Research Composting Operation" means a composting operation, that is operated for the purpose of gathering research information on composting.
- (35) "Separated At The Point of Generation" includes material separated from the solid waste stream by the generator of that material. It may also include material from a centralized facility as long as that material was kept separate from the waste stream prior to receipt by that facility and the material was not commingled with other materials during handling.
- (36) "Stabilized Compost" means any organic material that has undergone the Process to Further Reduce Pathogens (PFRP), as described in section 17868.3, and has reached a stage of reduced biological activity as indicated by reduced temperature and rate of respiration below that of active compost.
- (37) "Static Pile" means a composting process that is similar to the aerated static pile except that the air source may or may not be controlled.
- (38) "Vector" includes any insect or other arthropod, rodent, or other animal capable of transmitting the causative agents of human disease.
- (38.5) "Vegetative Food Material Composting Facility" is a facility that composts agricultural material, green material, vegetative food material, additives, and/or amendments. A vegetative food material composting facility may also handle manure and paper products. An operation or facility that handles a feedstock that is not agricultural material, green material, vegetative food material, manure, or paper products, shall not be considered a vegetative food material composting facility. "Vegetative Food Material Composting Facility" does not include activities excluded from regulation in section 17855.
- (39) "Vermicomposting" means an activity that produces worm castings through worm activity. The EA may determine whether an activity is or is not vermicomposting. The handling of compostable material prior to and after use as a growth medium is subject to regulation pursuant to this chapter and is not considered vermicomposting.
- (40) "Windrow Composting Process" means the process in which compostable material is placed in elongated piles. The piles or "windrows" are aerated and/or mechanically turned on a periodic basis.
- (41) "Within-vessel Composting Process" means an aerobic process in which compostable material is enclosed in a drum, silo, bin, tunnel, reactor, or other container for the purpose of producing compost, maintained under uniform conditions of temperature and moisture where airborne emissions are controlled.
- (42) "Wood Waste" means solid waste consisting of wood pieces or particles which are generated from the manufacturing or production of wood products, harvesting, processing or storage of raw wood materials, or construction and demolition activities.
- (43) "Yard Trimmings" means any wastes generated from the maintenance or alteration of public, commercial or residential landscapes including, but not limited to, yard clippings, leaves, tree trimmings, prunings, brush, and weeds.

Credits

NOTE: Authority cited: Sections 40502, 43020 and 43021, Public Resources Code. Reference: Sections 43020 and 43021, Public Resources Code.

HISTORY

1. New section filed 6-30-95; operative 7-30-95 (Register 95, No. 26).
2. Amendment of subsections (k), (l) and (t), new subsection (x2), and amendment of subsections (aa)(2) and (ll) filed 4-7-97 as an emergency; operative 4-7-97 (Register 97, No. 15). A Certificate of Compliance must be transmitted to OAL by 8-5-97 or emergency language will be repealed by operation of law on the following day.
3. Amendment of subsections (k), (l) and (t), new subsection (x2), and amendment of subsections (aa)(2) and (ll) refiled 4-7-97 as an emergency; operative 4-7-97 (Register 97, No. 31). A Certificate of Compliance must be transmitted to OAL by 12-1-97 or emergency language will be repealed by operation of law on the following day.
4. Certificate of Compliance as to 4-7-97 order, including repealer of subsection (x2) and further amendment of subsection (aa)(2), transmitted to OAL 11-25-97 and filed 1-9-98 (Register 98, No. 2).
5. Amendment filed 4-4-2003; operative 4-4-2003 pursuant to Government Code section 11343.4 (Register 2003, No. 14).
6. Change without regulatory effect amending subsections (a)(5), (a)(11)-(13), (a)(15)-(16), (a)(21)-(22), (a)(24), (a)(36) and (a)(41) filed 8-23-2005 pursuant to section 100, title 1, California Code of Regulations (Register 2005, No. 34).
7. Amendment filed 11-10-2015; operative 1-1-2016 (Register 2015, No. 46).
8. Change without regulatory effect amending subsection (a)(24.5)(B)1. filed 5-11-2016 pursuant to section 100, title 1, California Code of Regulations (Register 2016, No. 20).

This database is current through 3/24/23 Register 2023, No. 12

Cal. Admin. Code tit. 14, § 17852, 14 CA ADC § 17852

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Division 7. Department of Resources Recycling and Recovery

Chapter 3.2. In-Vessel Digestion Operations and Facilities Regulatory Requirements

Article 1. In-Vessel Digestion Operations and Facilities Regulatory Requirements

14 CCR § 17896.2

§ 17896.2. Definitions.Currentness

(a) For the purposes of this Chapter:

(1) "Agricultural Material" means waste material of plant or animal origin, which results directly from the conduct of agriculture, animal husbandry, horticulture, aquaculture, vermiculture, viticulture and similar activities undertaken for the production of food or fiber for human or animal consumption or use, which is separated at the point of generation, and which contains no other solid waste. With the exception of grape pomace, agricultural material has not been processed except at its point of generation and has not been processed in a way that alters its essential character as a waste resulting from the production of food or fiber for human or animal consumption or use. Material that is defined in this section 17852 as "food material" or "vegetative food material" is not agricultural material. Agricultural material includes, but is not limited to, manures, orchard and vineyard prunings, grape pomace, and crop residues.

(2) "Agricultural Site" means activities located on land that is zoned for agricultural uses.

(3) "Biogas" is a gas resulting from the operation of an in-vessel digester at an in-vessel digestion operation or facility that is composed primarily of carbon dioxide, hydrogen, and methane.

(4) "Compost" means the product resulting from the controlled biological decomposition of organic solid wastes that are source separated from the municipal solid waste stream, or which are separated at a centralized facility.

(5) "Contact Water" means water that has come in contact with waste and may include leachate.

(6) "Digestate" means the solid and/or liquid residual material remaining after organic material has been processed in an in-vessel digester.

(7) "Digestion" means, pursuant to PRC 40116.1, the controlled biological decomposition, of organic solid wastes. Digestion includes:

(A) Aerobic digestion - the controlled biological decomposition of organic material in the presence of oxygen.

(B) Anaerobic digestion - the controlled biological decomposition of organic material in the absence of oxygen or in an oxygen-starved environment. Anaerobic digestion produces biogas and a residual digestate.

(C) Other controlled biological decomposition processes.

(8) "Dairy In-vessel Digestion Operation" means, except as otherwise specified in section 17896.6(a)(3), a dairy that receives imported solid waste feedstock for purposes of co-digestion, with manure in an in-vessel digester, in accordance with Waste Discharge Requirements issued by a Regional Water Quality Control Board. The Dairy In-vessel Digestion Operation may also co-digest agricultural material.

(9) "Distribution Center In-vessel Digestion Operation" means a site that receives, for the purpose of digestion in an in-vessel digester, unsold products from retail stores to which the products were originally sent. All unsold products shall be collected and processed in covered, leak-proof containers, and remain in the custody of the owner at all times. All unsold products that are putrescible shall be refrigerated at the retail store and shall be maintained at a core temperature of 13 degrees Celsius (55 degrees Fahrenheit) or less during transport to the operation.

(10) "EA" means enforcement agency as defined in PRC section 40130.

(11) "Film plastic" means sheet plastic 10 mil or less in thickness.

(12) "Food Material" means a waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption and that is separated from the municipal solid waste stream. Food material includes, but is not limited to, food waste from food facilities as defined in Health and Safety Code section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code section 111955, grocery stores, institutional cafeterias (such as prisons, schools and hospitals), and residential food scrap collection. Food material does not include any material that is required to be handled only pursuant to the California Food and Agricultural Code and regulations adopted pursuant thereto.

(A) "Vegetative Food Material" means that fraction of food material, defined above, that is a plant material and is separated from other food material and the municipal solid waste stream. Vegetative food material may be processed or cooked but must otherwise retain its essential natural character and no salts, preservatives, fats or oils, or adulterants shall have been added. Vegetative food material includes, but is not limited to, fruits and vegetables, edible flowers and plants, outdated and spoiled produce, and coffee grounds. Vegetative food material contains no greater than 1.0 of percent physical contaminants by dry weight, and meets the requirements of section 17896.61.

(13) "Hazardous Wastes" means any waste which meets the definitions set forth in Title 22, section 66261.3, et seq.

(14) "In-vessel Digester" means the sealed container(s) or sealed structure in which the entire digestion process occurs.

(15) "Large Volume In-vessel Digestion Facility" means a facility that receives an average greater than 100 tons of solid waste per operating day or greater than 700 tons (2,800 cubic yards) per week of solid waste for digestion in an in-vessel digester.

(16) "Limited Volume In-vessel Digestion Operation" means an operation that receives less than an average of 15 tons (or 60 cubic yards) of solid waste per operating day but shall not exceed 105 tons (or 420 cubic yards) per week of solid waste for digestion in an in-vessel digester. Additionally, the operation shall not exceed solid waste storage capacity limitations of the general design of the operation.

(17) "Litter" means all solid waste which has been improperly discarded or which has migrated by wind or equipment away from the operations area. Litter includes, but is not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state.

(18) "Manure" is an agricultural material and means accumulated herbivore or avian excrement. This definition shall include feces and urine, and any bedding material, spilled feed, or soil that is mixed with feces or urine.

(19) "Medium Volume In-vessel Digestion Facility" means a facility that receives an average of between 15 tons (or 60 cubic yards) and 100 tons of solid waste per operating day but shall not exceed 700 tons (or 2,800 cubic yards) per week of solid waste for digestion in an in-vessel digester. Additionally, the facility shall not exceed solid waste storage capacity limitations of the general design of the facility.

(20) "Nuisance" includes anything which:

(A) is injurious to human health or is indecent or offensive to the senses and interferes with the comfortable enjoyment of life or property, and

(B) affects at the same time an entire community, neighborhood or any considerable number of persons. The extent of annoyance or damage inflicted upon an individual may be unequal.

(21) "On-site" means located within the boundary of the operation or facility.

(22) "Operating Day" means the daily hours of operation for a facility or operation as set forth in the application, Enforcement Agency Notification or solid waste facilities permit.

(23) "Operating Record" means an easily accessible collection of records of an operation's or facility's activities and compliance with required state minimum standards under Title 14. The Record may include the In-vessel Digestion Facility Plan or In-vessel Digestion Report for facilities, and shall contain but is not limited to containing: agency approvals, tonnage and load checking records, facility contacts and training history. The record may be reviewed by state and local authorities and shall be available during normal business hours. If records are too voluminous to place in the main operating record or if the integrity of the records could be compromised by on-site storage, such as exposure to weather, they may be maintained at an alternative site, as long as that site is easily accessible to the EA.

(24) "Operations Area" means:

(A) the following areas within the boundary of an operation or facility as described in the permit application or Enforcement Agency Notification:

1. equipment management area, including cleaning, maintenance, and storage areas; and

2. material and/or solid waste management area, including unloading, handling, transfer, processing, and storage areas.

(B) the boundary of the operations area is the same as the permitted boundary of the operation or facility but may or may not be the same as the property boundary on which the operation or facility is located.

(25) "Operator" means the owner, or other person who through a lease, franchise agreement or other arrangement with the owner, that is listed in the permit application or Enforcement Agency Notification and is legally responsible for all of the following:

(A) complying with regulatory requirements set forth in these Articles;

(B) complying with all applicable federal, state and local requirements;

(C) the design, construction, and physical operation of the operations area;

(D) controlling the activities at an operation or facility as listed on the permit application or Enforcement Agency Notification.

(26) "Owner" means the person or persons who own, in whole or in part, an operation or facility and the land on which it is located. If the ownership of the operation or facility is not the same as the ownership of the land on which it is located, the owner of the land shall be identified as the "Land Owner" and the owner of the operation or facility shall be identified as the "Facility Owner."

(27) "Physical Contamination" or "Contaminants" means human-made inert material contained within compostable material, digestate, or compost, including, but not limited to, glass, metal, and plastic.

(28) "Putrescible Wastes" include wastes that are capable of being decomposed by micro-organisms with sufficient rapidity as to cause nuisances because of odors, vectors, gases or other offensive conditions, and include materials such as, but not limited to food wastes, offal and dead animals. The EA shall determine on a case-by-case basis whether or not a site is handling putrescible wastes.

(29) "Rendering" means all recycling, processing, and conversion of animal and fish materials and carcasses and inedible kitchen grease into fats, oils, proteins, and other products that are used in the animal, poultry, and pet food industries and other industries, as defined in Food and Agricultural Code section 19213.

(30) "Salvaging" means the controlled separation of solid waste material which do not require further processing, for reuse or recycling prior to in-vessel digestion activities.

(31) "Scavenging" means the uncontrolled and/or unauthorized removal of solid waste materials.

(32) "Sealed Container" means a tank, vessel, or similar apparatus capable of containing liquids and air-borne emissions during the entire digestion process to control odors or other nuisance conditions.

(33) "Sealed Structure" means a fully enclosed building capable of containing liquids and controlling air-borne emissions (e.g., negative air pressure) that could contribute to odors or other nuisance conditions.

(34) "Special Waste" includes but is not limited to:

(A) waste requiring special collection, treatment, handling, storage, or transfer techniques as defined in Title 22, section 66260.10.

(B) waste tires and appliances requiring the removal of mercury switches or chlorofluorocarbons.

(35) "Spotter" means an employee who conducts activities that include, but are not limited to, traffic control, hazardous waste recognition and removal for proper handling, storage and transport or disposal, and protection of the public from health and/or safety hazards.

(36) "Store" means to stockpile or accumulate for later use.

Credits

NOTE: Authority cited: Sections 40502, 43020 and 43021, Public Resources Code. Reference: Sections 40053, 43020 and 43021, Public Resources Code.

HISTORY

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**GEOTECHNICAL ENGINEERING REPORT
PROPOSED ANAEROBIC DIGESTER FACILITY
6859 ARNOLD ROAD
OXNARD, COUNTY OF VENTURA, CALIFORNIA**

Prepared For:

AGROMIN HORTICULTURE PRODUCTS
201 Kinetic Drive
Oxnard, California 93030

Attention: Mr. Jasch Janowicz, Facility Compliance and Project Development

County of Ventura
Planning Case No. PL13-0101
Attachment 15 - Geotechnical
Engineering Report

Project: 1558.10

December 12, 2012



Sincerely:

RJR ENGINEERING GROUP

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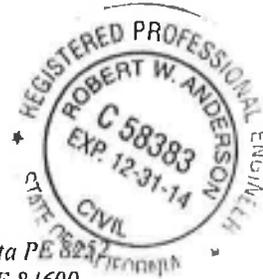
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Civil Engineering
Land Planning
Hydrology/ Flood Control
Geotechnical Engineering
Public Works Services
Storm Water Management

December 12, 2012
Project No. 1588.10

AGROMIN
201 Kinetic Drive
Oxnard, California 93030

Attention: Mr. Jasch Janowicz, Facility Compliance and Project Development

Subject: **GEOTECHNICAL ENGINEERING REPORT
PROPOSED ANAEROBIC DIGESTER FACILITY
6859 ARNOLD ROAD
OXNARD, COUNTY OF VENTURA, CALIFORNIA**

Dear Mr. Janowicz:

RJR Engineering Group (RJR) is pleased to submit our preliminary geotechnical engineering report for the proposed anaerobic digester facility located at the existing Agromin operations on Arnold Road in Oxnard, California.

This report summarizes the findings and conclusion of our preliminary studies. Our work involved a subsurface investigation, data research, and geotechnical analysis for the given site conditions. This work was the basis to form our opinions on the geotechnical factors that affect the proposed improvements. The report presents the results of the analysis including underlying assumptions of the existing conditions and facilities that Agromin intends to utilize, which includes accepting potential risks of excess settlement under static and earthquake conditions.

This report completes our scope of services in accordance with our professional agreement. Unless requested in writing, the client is responsible for the distribution and submittal of this report to the appropriate governmental agencies and members of the design team.

We sincerely appreciate the opportunity to be of service on this project. Should you have questions regarding this project or if we may be of any further assistance, please contact our office. We look forward to providing continued service.



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**GEOTECHNICAL ENGINEERING REPORT
PROPOSED ANAEROBIC DIGESTER FACILITY
6859 ARNOLD ROAD
OXNARD, COUNTY OF VENTURA, CALIFORNIA**

1.0. INTRODUCTION

1.1. General Information

This Consultant Report was prepared for Agromin Horticultural Products based on our Professional Services Agreement with RJR Engineering Group (RJR), dated October 25, 2012. This report presents results of the geotechnical assessment study performed by RJR, for the geotechnical evaluation of the proposed residential improvements to be located at 6859 Arnold Road in the Oxnard area of Ventura County, California. The approximate location of the site is shown on the Site Location Map included in Appendix A.

1.2. Available Information

As part of the study RJR was provided certain plans including an overall site plan and topographic survey. This report has been written based on our understanding of the proposed improvements and associated site improvements. Any changes in this data may result in new or additional recommendations and conclusions.

RJR as provided a limited site survey of the proposed location of the proposed operations, and the existing slab that will support the equipment. This plan was used as the base map for the Geotechnical Map utilized in this report.

1.3. Purpose

The purpose of our geotechnical investigation is to identify potentially adverse geologic and geotechnical conditions and ascertain the engineering properties of earth materials anticipated to be encountered during construction of the proposed development. Based on this information, RJR has performed detailed engineering analysis and provided detailed engineering assessment of potential geotechnical hazards at the site. Where applicable, RJR has provided potential mitigation measures that can be implemented during design.

Based on these findings and analysis prepared as part of this report, RJR has also provided a summary of the data compilation, analysis and recommendations for site design and development feasibility from a geologic and geotechnical standpoint.



2.0. STUDY SCOPE OF WORK

This geologic and geotechnical study was performed for the geologic evaluation of the existing site. The scope of the study is based on the requirements of the County of Ventura and professional due diligence. Based on these assumptions, RJR performed the following tasks:

1. Reviewed information relevant to the subject site and nearby area, including records and reports contained in our own files as well as data on published maps and available data. This data was utilized in evaluating various facets of the geologic and geotechnical conditions as well as analysis;
2. Explored, sampled and classified subsurface earth materials by means of subsurface exploration consisting of three (3) hollow stem auger borings.

Samples were visually classified in the field by RJR staff and returned to the laboratory for further evaluation and testing. Details of the subsurface exploration program are presented in this report.

3. Performed geotechnical soil testing on select soil and bedrock samples to determine and assess engineering properties and indices. The results of the test are discussed herein and summarized in Appendix B.

4. Compiled or reviewed pertinent maps and plates that was available in published reports for the subject area which include:

- a. Site Location Map
- b. Site Vicinity Map
- c. USGS Topographic Map
- d. Ground Acceleration Map from CDMG;
- e. Predominant Earthquake Magnitude Map from CDMG
- f. Depth to Highest Groundwater
- g. Geotechnical Map
- h. Geotechnical Cross-Sections

Copies of relevant plates are available in Appendix A and C;

5. Compiled a Cross Sections illustrating the results of the subsurface exploration through the area of proposed improvements;

6. Compiled lab and engineering data to perform the necessary engineering analysis;

7. Performed pertinent geotechnical engineering analysis for the project including:
 - Peak Ground Acceleration;



- CBC 2007 Seismic Analysis
- Earthquake Event Search
- Fault Location Search;
- Liquefaction, lateral spread and seismic settlement analysis;
- Initial Settlement Screening;
- Allowable bearing capacity, coefficient of friction, and passive resistance for the proposed conventional foundations;
- Coefficient of subgrade reaction determination for slabs;

8. Compiled corresponding data for the appropriate geotechnical design parameters and recommendations for the proposed design and construction;

9. Performed a detailed discussion, assessment and analysis of potential geotechnical hazards, and potential mitigation measures; and,

10. Prepared this geotechnical report containing the results, conclusions, and geotechnical recommendations and specifications for the proposed facility.



3.0. PROJECT FINDINGS AND GENERAL INFORMATION

3.1 Site Location and Conditions

The site is located on the west side of Arnold Road, in southeastern area the Oxnard Plains of Ventura County. A Google Earth image is presented on a plate in Appendix A. The project site is irregular shaped parcel that is approximately x acres (\pm) site, that is currently operated for recycling operations by Agromin.

The subject area is relatively flat, and is located at roughly Elevation +8 MSL, with a gentle regional gradient towards the south. The proposed improvements are proposed to use the existing concrete slab, located at the southwest corner of the site.

Vegetation across the site consists has been removed with scattered trees and shrubs. Surrounding land-uses are primarily agricultural farms.

3.2. Site Drainage Conditions

Drainage is by overland sheet flow from north to south controlled by the existing topography. Locally, runoff is generally diverted away from the concrete pad and ponds at various locations. No changes to the existing drainage are proposed at this time.

3.3. Proposed Development

Proposed development will consist of a new Anaerobic Digester Facility (ADF) that will be installed on, and utilize, the existing concrete slab, illustrated on Geotechnical Map. The ADF will be installed on the concrete slab, and associated improvements consist of:

- A receiving bay
- ADF Digesters
- Percolate storage containers below the floor of the digesters which will consist of 4 to 6 foot deep reinforced concrete subterranean facilities;
- A mechanical and electrical control container.

We understand that no other grading or drainage improvements are proposed at this time.

3.4. Previous Work

No records were found at the County of Ventura for previous geotechnical work at the site.



3.5. Subsurface Conditions

The subsurface program was conducted by RJR and consisted of:

- a. Three (3) 8 inch hollow stem auger borings.

All subsurface data was accumulated by representatives of RJR and transported to RJR for analysis and classification. The subsurface log of the borings is incorporated in Appendix B of this report. The fault trench log is incorporated in Appendix B of this report.

3.5.1. Subsurface Exploration Program

The description below pertains only to conditions observed at the site during our field investigation. The approximate exploration locations are illustrated on the Geotechnical Map enclosed in Appendix A.

A California Modified Sampler was used to obtain relatively undisturbed samples of soil encountered in accordance with ASTM D-3550. This sampler consists of a 3-inch O.D., 2.44-inch I.D. split barrel shaft that is driven a total of 18 inches into the materials at the bottom of the boring. The materials were retained in 1-inch brass rings, properly sealed, and returned to the laboratory for testing. An additional 2 inches of materials from each drive remained in the cutting shoe and was usually discarded after visually classifying the soil.

Samples were collected by one of the following methods:

- a. Samples collected from a sampler driven into the ground by use of a hydraulic hammer, dropped 30 inches using a 140 pound hammer (ASTM D1586). The Standard Penetration Rate for each 6 inch interval was recorded. The Standard Penetration Rate for the last 12 inch interval was reported on the logs. The standard penetration rates have been adjusted based on various corrections are reported as $(N_{60})_1$ values. The total number of blow counts required to drive the sampler the last 12 inches are typically reported on the final Log of Boring;
- b. Bulk samples were collected of excavation spoils or from the bucket auger, placed in plastic bags and sealed for subsequent testing;

All ring samples were placed into a designated plastic bag, placed into a plastic holding canister, properly labeled, and then carried in a foam carrier to reduce the potential for further disturbance.

The location of the excavations was determined by field observations and measurements with a GPS, sub-centimeter Magellan Total Station unit to determine the approximate horizontal and vertical location of the boring.



3.5.2. Subsurface Materials

The excavations were logged by RJR geologists in accordance with ASTM D-2488. It is important to note that the subsurface conditions, particularly groundwater levels and the consistency of near-surface soils may vary with the seasons, and especially with rainfall volumes. Therefore, most depths and boundaries between layers are approximate, because they may vary at different locations.

Fill: Artificial fill is present within the upper 2 feet of the site. Fill consists of loose to medium dense, dark brown, SANDY SILT.

Holocene Deposits: Holocene deposits are encountered stratigraphically below the upper disturbed soils. The undifferentiated deposits consist of interlayered near shore beach sands, estuary, alluvial deposits, and deltaic deposits. These soils consist of interlayered and discontinuous lenses of dark brown to dark grey SAND and SILT with interlayered gravel and clay. The clays are highly plastic, and soft and the sands are generally medium dense to dense in consistency.

3.6. Groundwater

Groundwater is the water occurring beneath the earth's surface that saturates the fractures and void space of rock or sediment. The majority of California's groundwater occurs in alluvial stream deposits. Alluvium consists of coarse deposits of sand and gravel as well as finer-grained deposits such as clay and silt. A number of factors dictate the degree to which a body of sediment or rock functions as a resource for groundwater. This includes porosity and permeability/hydraulic conductivity. Porosity is the ratio of the voids in a rock or sediment to the total volume of material and is an indication of how much groundwater can be stored within a certain material. Hydraulic conductivity is the measure of a rock or sediment's ability to transmit water, also it is often referred to as permeability.

Subsurface conditions can vary resulting in either an unconfined, confined, semi-confined, or perched groundwater condition. When a confining bed, rock unit or layer maintaining a low hydraulic conductivity is present, groundwater is typically under a confined, semi-confined, or perched groundwater condition. If groundwater is found below the confining bed, then groundwater is confined beneath, hence confined condition. If groundwater exists above a confining layer it is often perched on top of the confining bed. Under a perched condition, groundwater can be present both above and below a confining bed. An unconfined groundwater condition occurs when there is no confining bed or layer above the groundwater and the pressure on the surface of the groundwater is equal to atmospheric pressure. The top surface of the groundwater in an unconfined condition and referred to as the "groundwater table."

Groundwater is anticipated to fluctuate seasonally as a result of several factors including rainfall, irrigation, temperature, land use and other factors. Unusual rainfall patterns such as



those observed during El Nino and other weather phenomena may result in conditions not anticipated in this study. The assumptions and findings are based on the best available knowledge available at the time of this study and conditions may change or vary from the time of field exploration and observations.

According to CDMG, the historical high groundwater level for the project site is at a depth of approximately 5 feet. Groundwater was encountered at a depth of 4 to 6 feet in the area of drilling. We would anticipate that groundwater at or near the surface during periods of higher rainfall and/or surrounding irrigation should be anticipated.

3.7. Laboratory Testing

Laboratory tests were performed on representative “undisturbed” and bulk samples to obtain the geotechnical engineering properties of the various materials encountered. Tests were performed in accordance with the following references (except as noted):

- ASTM Standards for Soil Testing, latest edition;
- Uniform Building Code, latest edition;
- Caltrans Standard Test Methods, latest edition;
- Laboratory Soil Testing, U.S. Army, Office of the Chief Engineers, Engineering Manual No. 1110.

The project engineer reviewed all samples returned to the laboratory. Index tests are performed and all samples are re-classified in accordance with ASTM D2487. The laboratory test data appears to be consistent with the material-types encountered during the subsurface program. The results of pertinent laboratory tests used in the analysis are presented on the Subsurface Logs and Laboratory Data Sheets in Appendix B.

Laboratory Water Content and Density Determination: In-situ soil- water content and dry density tests were performed on select, intact samples in accordance with ASTM D 2216 and D2937.

Grain Size Distribution: The grain size distribution of the selected soil samples were performed in accordance with ASTM D422. In addition, to verify the amount of materials finer than No. 200 sieve, tests were performed in accordance with ASTM D1140, where applicable.

Maximum Density/Optimum Water Content: Maximum density tests were performed on selected bulk samples of on-site soil to determine compaction characteristics. All tests were performed in accordance with ASTM D1557 (56,000 ft-lbf/ft³), based on a minimum of four points at varying moisture contents.



Atterberg Limits: Atterberg Limits tests were performed to measure select samples engineering indices in accordance with ASTM D4318. These tests provide an index that can be utilized to correlate many engineering properties including consolidation properties, shear strength and expansion potential.

Direct Shear Tests: Multi-stage direct shear tests were performed on select samples to determine the consolidated “drained” shear strength of a specimen in accordance with ASTM D3080. Each test consists of three or more specimens tested at varying normal loads to determine the effects upon shear resistance and displacement, and strength properties. Samples (undisturbed or remolded) were loaded into the shear box, a normal load was added, and the water was added. The sample was permitted to sit for 24 hours, or longer if required to meet the required consolidation requirements (t_{50}), prior to testing.

The samples were sheared in a motor-driven, strain controlled, direct-shear testing apparatus at a strain rate of 0.001 inch per minute until the displacement is 10 percent of the diameter of the sample. The tests were performed to evaluate shear strength properties of the on-site materials.

Expansion Potential: Expansion index tests were performed on select near surface soils to evaluate the expansion characteristics in accordance with ASTM D4829-88 and/or UBC Standard 29-2. The results of the test are presented as “measured” and/or “weighted” if non-uniform soils occur to account for the effects of overburden. The results of the tests may be compared to the table presented below to qualitatively evaluate the expansion potential of the near-surface soils.

<u>Expansion Index</u>	<u>Potential Expansion</u>
0 – 20	Very Low
21 – 50	Low
51 – 90	Medium
91 – 130	High
Over 130	Very High

A summary of the test results are presented in Appendix B to summarize the results of the on-site geotechnical tests.

3.8. Chemical Testing

Chemical reactions that involve formation of expansive products in hardened concrete can lead to adverse effects. Expansion may initially take place without any concrete damage, however, with increasing internal stress may cause closure of expansion joints, deformation and displacement of different areas, cracking, spalling and pop-outs. The potential for sulfate attack and the corrosion of the reinforcing steel are typically evaluated by soil chemistry tests.



Degradation of concrete may occur as a result degradation of the concrete and/or in combination with the corrosion of reinforcing steel.

Corrosion Potential (Sulfates): Degradation of concrete as a result of chemical reactions between hydrated Portland cement and sulfate ions from an outside source may produce expansion of the concrete or may also result in a progressive loss of strength and loss of concrete mass.

Table 1 - REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE CONTAINING SOLUTIONS

Sulfate Exposure	Water Soluble Sulfate (SO ₄) in Soil, Percentage by weight.	Sulfate (SO ₄) in Water, ppm.	Cement Type	Maximum Water Cementitious Materials Ratio, By Weight, Normal Weight Aggregate Concrete ¹	Minimum f' _c , Normal Weight and Lightweight Aggregate Concrete, psi x 0.00689 (for Mpa)
Negligible	0.00 – 0.10	0 - 150	---	---	---
Moderate ²	0.10 – 0.20	150 – 1,500	II, IP(MS), IS(MS)	0.50	4,000
Severe	0.2 – 2.00	1,500 – 10,000	V	0.45	4,500
Very Severe	Over 2.00	Over 10,000	V plus pozzolan ³	0.45	4,500

¹ A lower water-cementitious materials ratio or higher strength may be required for low permeability or for protection against corrosion of embedded items or freezing and thawing

² Seawater.

³ Pozzolan that has been determined by test or service record to improve sulfate resistance when used in concrete containing Type V cement.

The degradation of concrete from the effect of corrosion of reinforcing steel or prestressing tendons in concrete is an electrochemical process. The electrochemical potential to form corrosion cells may be generated in two ways:

1. Composition cells may form when two dissimilar metals are embedded in concrete, such as steel rebars and aluminum conduit pipes, or when surface variations in the steel exist.

2. Concentration cells may be formed by differences in the concentration of dissolved ions in the vicinity of steel, such as alkalis, chlorides, and oxygen.

As a result, one of the two metals or different parts of the same metal becomes anodic and the other cathodic. The transformation of metallic iron to rust may be accompanied by an increase in volume, which is dependent on the state of oxidation, to as much as 600 percent



the volume of the original metal. Chlorides, pH, and resistivity may all be part of the reinforcement corrosion.

Corrosion Potential (Chlorides): Large concentrations of chlorides may adversely affect the reinforcing steel or prestressing strands (ferrous materials) within the concrete. When chloride concentration exceeds 18,000 ppm., mitigation measures are usually taken to protect any steel reinforcing within concrete and any steel or cast iron pipe that are in contact with the soil.

Corrosion Potential (pH): Acid rain (often with a pH of 4.0 to 4.5) can slightly etch concrete surfaces, however, strong acid water conditions may warrant special concrete designs or precautions, especially in submerged areas. Concrete with a low water-cement ratio, low permeability, and low to moderate cement content can increase the acid or corrosion resistance of concrete. Typically an acidic pH will not result in adverse concrete until the pH is less than 4.0.

Corrosion Potential (Resistivity): Electrical resistivity is the most common factor in determining soil corrosivity. The typical guidelines suggest mitigation when test results indicate the soil to be moderately corrosive per the following table:

Table 2: Soil Corrosion Potential

Soil Resistivity, Ohm-Cm	Corrosivity Category
0 – 1,000	Severely Corrosive
1,000 – 2,000	Corrosive
2,000 – 10,000	Moderately Corrosive
Over 10,000	Mildly Corrosive

The on-site soils should be assumed to be corrosive for purposes of design. We recommend that all concrete elements that will be in contact with soil be assumed to be designed and constructed with Type V concrete in accordance with the CBC, latest edition. Soil samples will be collected during rough grade to verify whether Type V concrete or other special mitigation measures are required.



4.0. SEISMICITY

4.1. Seismic Considerations

The site is located within the seismically active area of Southern California (*N 34.1213, W - 119.1538*), but outside a Fault Hazard Zone defined by the Alquist-Priolo Earthquake Hazards Act (APEHA) of 1972, revised in 1994. As illustrated by the following sections and analysis, the site is expected to experience moderate to severe ground shaking from both near and distant earthquake sources during the life of the proposed structure. The type and magnitude of the seismic hazard affecting the site are dependent on the distance and causative faults and the intensity and magnitude of the seismic event.

Ventura County is the only County that has not experienced a devastating earthquake on a fault within the County (Weber et al, 1973). The lack of seismic activity within the County is an anomaly given the active tectonic framework which consists of numerous regional and active faults that traverse towards or extend thru the County. Further, portions of Ventura County exhibit some of the greatest Quaternary deformation rates in California and the world. For instance, the Ventura anticline, located about 20 miles west of the site, has exhibited uplift rates of about 6 to 7 mm/yr for the last 40,000 to 100,000 years (Lajoie et al., 1982). That rate compares with typical coastal terrace uplift rates in other areas of California of about 0.3 to 0.5 mm/yr. The high deformation rate implies a high tectonic activity rate for the region, which has not historically been experienced.

Geodetic surveys indicate that the Ventura basin is experiencing crustal shortening in a north-south direction at a rate of about 16-38 millimeters per year (mm/y) over the past 200,000 to 300,000 years (Huftile, 1995). Based on that crustal shortening rate, the Ventura basin region should have experienced the equivalent of two moment-magnitude 7.5 earthquakes during the last 200 years. However, no large-magnitude earthquakes have occurred historically along the Simi-Santa Rosa, Oak Ridge, San Cayetano, Ventura, or other faults in the county, other than the San Andreas, which crosses the northeastern corner of Ventura County. Ventura County has been affected by earthquakes occurring in other geographic regions, such as the damage in Fillmore and Simi Valley due to the January 17, 1994, Northridge earthquake (magnitude 6.7). However, with the exception of a portion of the San Andreas fault (1857 rupture) that crosses the northeastern corner of Ventura County, earthquakes with magnitudes larger than 6.0 have not occurred historically on faults in Ventura County.

To better understand seismic hazards, the potential adverse affects can be divided into two general categories; hazards due to ground rupture and hazards associated with groundshaking and the secondary affects related to groundshaking.



4.1.1. Fault-Related Ground Rupture

General Discussion: In general terms, an earthquake is caused when strain energy in rocks is suddenly released by movement along a plane of weakness. In some cases, fault movement propagates upward through the subsurface materials and causes displacement at the ground surface. Surface rupture usually occurs along traces of known or potentially active faults, although many historic events have occurred on faults not previously known to be active.

The California Geologic Survey (CGS) establishes criteria for faults as active, potentially active or inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that demonstrate displacement within the past 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years may be considered inactive for most structures, except for critical or certain life structures. In 1972 the Alquist-Priolo Special Studies Zone Act (now known as the Alquist-Priolo Earthquake Fault Zone Act, 1994, or APEHA) was passed into law which requires studies within 500 feet of active or potentially active faults. The APEHA designs "active" and "potentially active" faults utilizing the same age criteria as that used by the CGS. However, the established policy is to zone active faults and only those potentially active faults that have a relatively high potential for ground rupture.

Ground rupture caused by movement along a fault could likely result in catastrophic structural damage to buildings constructed along the fault trace. Consequently, the State of California via the APEHA prohibits the construction of occupied "habitable" structures within the designated fault zone and must demonstrate that the structure does not encroach on a 50-foot setback from the fault trace. Per the Alquist-Priolo legislation, no structure for human occupancy is permitted on the trace of an active fault. The term "structure for human occupancy" is defined as any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year. Unless proven otherwise, an area within 50 feet of an active fault is presumed to be underlain by active branches of the fault. Local government agencies may identify additional faults, in addition to those faults mandated by the State, for which minimum construction setback requirements must be maintained.

Analysis: To assess the proximity of faults, EQFAULT analysis was performed. EQFAULT performs deterministic seismic hazard analyses using up to 250 digitized 3-D California faults as earthquake sources. The program computes estimated ground motion at a selected site using available attenuation relations. The analysis allows for a deterministic estimate of how future specific-scenario earthquakes may shake a project site. Table 1 illustrates the 10 nearest faults with distance in miles between the nearest point on the fault and the site, the maximum magnitude, estimated peak ground accelerations and the slip rate.



Table 3: Partial List of Nearby Regional Faults

Fault Name	Source Type	Distance Between Site and Surface Projection of Earthquake Rupture (Kilometers)	Estimated Maximum Peak Ground Accelerations (g)	Estimated Maximum Earthquake (M _w)	Slip Rate (mm/yr)	Fault Type
Anacapa-Dume	B	6.7	0.527	7.3	3.0	DS
Oak Ridge (Onshore)	B	7.2	0.436	6.9	4.0	DS
Simi-Santa Rosa	B	8.4	0.351	6.7	1.0	DS
Ventura - Pitas Point	B	13.0	0.255	6.8	1.0	DS
Malibu Coast	B	13.5	0.232	6.7	0.3	DS
Red Mountain	B	19.6	0.171	6.8	2.0	DS
Santa Cruz Island	B	22.7	0.148	6.8	1.0	DS
San Cayetano	B	23.2	0.145	6.8	6.0	DS
M. Ridge-Arroyo Parida-Santa Ana	B	23.8	0.132	6.7	0.4	DS
Santa Ynez (East)	B	28.0	0.097	7.0	2.0	SS

Reference: EQFAUI.T, Ver. 3.0

In addition to the faults listed in Table 3, other large faults in the Southern California area have the potential to impact the site. These include the two nearest Type A faults which are San Andreas Fault (50 miles) and the Garlock Fault (50 miles).

It should be understood that the prediction of future fault rupture is impossible and the lists are based on previously encountered faults or ground rupture. For instance, the 1994 Northridge Earthquake did not cause fault ground rupture but was a significant regional event.

Based on the current State mapping and knowledge of ground rupture, the risk is low to nil that the site will experience ground rupture.

4.1.2. Potential for Ground Shaking

General Discussion: The energy released during an earthquake propagates from its rupture surface in the form of seismic waves. The resulting strong ground motion from the seismic wave propagation can cause significant damage to structures. At any location, the intensity of the ground motion is a function of the distance to the fault rupture, the local soil/bedrock conditions, and the earthquake magnitude. Intensity is usually greater in areas underlain by



unconsolidated material than in areas underlain by more competent rock.

Earthquakes are characterized by a moment magnitude, which is quantitative measure of the strength of the earthquake based on strain energy released during the event. The magnitude is independent of the site, but is dependent on several factors including the type of fault, rock-type, and stored energy. Moderate to severe ground shaking will be experienced in the project area if a large magnitude earthquake occurs on one of the nearby principal late Quaternary faults and may cause structural damage to the on-site improvements.

Analysis: To assess the potential hazards associated with groundshaking, EQSEARCH was used to perform searches of a historical-earthquake catalog using an abbreviated (M=4.0 and above) and supplemented version of the California Division of Mines and Geology computerized earthquake catalog for the state of California. The program computes estimated ground motion at a selected site using available attenuation relations. The results from EQSEARCH, provides an estimate of how historical earthquakes may have shaken a project site. For each historic epicenter in the search area, EQSEARCH provides the data source, latitude, longitude, date, time, depth, magnitude, computed site-Modified-Mercalli-Intensity, and the approximate epicenter-to-site distance. Table 4-1 presents a summary of the analysis for the 10 nearest faults known to be able to cause an earthquake event.

Based on the analysis, historical records indicate that the area has experienced shaking from a number of seismic events over the course of the last century and a half. Some of the seismic events that likely resulted in varying degrees of ground motion at the site are the earthquakes of 1812, 1827, 1852, 1855, 1857, 1893, 1936, 1952, 1956, 1965, 1971, 1974, 1977, 1991, and 1994. The 1812 and 1857 events are thought to have occurred along the Mojave Segment of the San Andreas fault and caused significant damage to developed areas of southern and central California. Those earthquakes were estimated to have had moment magnitudes of approximately M7.1 and M7.8, respectively. The 1952 Tehachapi earthquake had an estimated moment magnitude of M7.7.

Ground shaking is primarily a function of the distance between an areas and the seismic source, the type of materials underlying the site and the motion of fault displacement. In addition, the Northridge (1994) earthquake showed how peculiarities in basin and other topographic effects could play a significant role in ground accelerations at particular areas. For instance, ground accelerations exceeding 1g were recorded at areas far from the epicenter of the Northridge earthquake. It is possible that accelerations near or over the upper bound earthquake ground motion could occur anywhere within or adjacent to the project area.

Detailed discussions of Probabilistic Seismic Hazard Analysis (PSHA) and Deterministic Seismic Hazard Analysis (DSHA) are presented in CDMG Open File Report 96-08/ U.S.G.S. Open File Report 96-706, and Department of Conservation, Division of Mines and Geology Special Publication 117. Extensive references of the available literature are presented in these references. The Southern California Earthquake Center indicates that local, possibly unknown or unrecognized surface faults present higher earthquake risks than known, large



regional faults for most areas of Southern California that may generate ground accelerations in excess of 1.0g

4.1.2a. Deterministic and Probabilistic Ground Acceleration Analysis

General Discussion: A brief screening of potential ground accelerations based on EQSEARCH and EQFAULT developed by Blake (2003). Detailed discussions of Probabilistic Seismic Hazard Analysis (PSHA) and Deterministic Seismic Hazard Analysis (DSHA) are presented in CDMG Open File Report 96-08/ U.S.G.S. Open File Report 96-706, and Department of Conservation, Division of Mines and Geology Special Publication 117. Extensive references of the available literature are presented in these references. The Southern California Earthquake Center indicates that local, possibly unknown or unrecognized surface faults present higher earthquake risks than known, large regional faults for most areas of Southern California that may generate ground accelerations in excess of 1.0g

Analysis: The number or frequency of large magnitude earthquakes that may occur during the life of the project cannot be predicted reliably. However, it is probable the study area will experience at least one major earthquake during the next 50 years.

Seismic analysis for the purposes of this study is based on a "Design Basis Earthquake Ground Motion" which would have a 10 percent probability of exceedance in a particular 50-year period (return interval of 475 years). A regional probabilistic seismic hazard evaluations prepared by California Division of Mines and Geology estimated that ground accelerations of approximately 0.59g (alluvium) for a Peak Horizontal Ground Acceleration (PHGA). This PHGA corresponds to a moment magnitude of 7.3 (Appendix C).

The potential hazards or adverse effects of groundshaking would depend on several factors that include the severity of ground shaking; the nature, depth, and extent of the seismic event; the type of structures involved; and, the local topography. Based on the observable affects from several events, including the Northridge (1994), San Fernando Earthquake (1971), Loma Prieta Earthquake (1989) and the Alaska Earthquake (1964), under-designed building foundations may fail resulting in excessive building settlement or collapse; underground tanks or buried utilities may be prone to uplift or failure; and, access roadways may become blocked or impassable, preventing emergency vehicles from accessing the sites. In addition, broken utility lines could result in fires, inhibit or contaminate water supplies and cut off services to the residences and structures.

4.1.2b. FRISKSP Program Development and Methodology.

FRISK was developed in 1978 by the USGS to perform site-specific probabilistic seismic hazard analyses. McGuire's (1978) program, FRISK, was based on methods originally developed by Cornell (1968, 1971), and Der Kiureghian and Ang (1975, 1977). The basic



assumptions of those methods are that the locations and timing of earthquakes from a seismic source are random (i.e., they follow a Poisson process). That type of probabilistic model is commonly used for seismic hazard analyses of important facilities throughout the world. A recent discussion of the usefulness of the Poisson process has justified its use, even where large earthquakes may be quasi-periodic (Cornell and Winterstein, 1988). In general, the Poisson process provides conservative values of ground motion for engineering purposes if sites of interest are affected by more than two earthquake sources (Algermissen et al., 1990). The program has hence been modified (Blake, 2000) to allow for the:

- a) modeling of dipping (inclined) and blind fault sources,
- b) use of a characteristic earthquake model,
- c) use and to allow the use of many of the more recently developed acceleration- and velocity-attenuation relations, and
- d) use and to allow deaggregation of the magnitude and distance contributions to seismic hazard.

FRISKSP models earthquake fault sources as vertical, horizontal, or inclined planes in space and evaluates the site-specific probabilities of exceedance of a given peak horizontal acceleration (or velocity) levels for each source. The underlying premise is that moderate to large earthquakes occur on known Quaternary faults, and that the occurrence rate of earthquakes on each fault is proportional to the Quaternary fault slip-rate. The program makes the assumption that the subsurface dip of each fault plane remains constant throughout the fault's length. This simplification can sometimes lead to either conservative or unconservative results in areas where changes in fault dip occur along a fault's strike.

The length or area-of-rupture of the fault, as a function of earthquake magnitude, is accounted for, and ground motion estimates at a site are made using the magnitude of the earthquake and the closest distance from the site to the rupture zone (depending on the attenuation relation selected). The program is able to explicitly account for uncertainty in the following areas:

- a) earthquake magnitude,
- b) rupture length or area given magnitude,
- c) location of the rupture zone on the fault,
- d) maximum possible magnitude of earthquakes, and
- e) acceleration at the site given magnitude of the earthquake and distance from the rupture zone to the site.

The program uses a truncated exponential distribution or a "characteristic" distribution for earthquake magnitude, a lognormal distribution for rupture dimension given magnitude, a uniform distribution for rupture location on faults, and a lognormal distribution of site acceleration given magnitude of the earthquake and distance from the rupture zone to the site.



The program calculates, by summing the expected numbers from all of the modeled sources, the total average annual expected number of occurrences of acceleration greater than each of several values requested. By assuming that earthquake occurrence can be modeled as a Poisson process, the probability of exceedance in a specified exposure period (typically corresponding to the useful life of a project) may be estimated from Yegian (1979):

$$P[A > a, t] = 1 - e^{-[\lambda(a)t]}$$

where:

$P[A > a, t]$ = conditional probability of an earthquake's acceleration (A) exceeding a specified acceleration (a) during a time interval (t) given that an earthquake will occur;

$\lambda(a)$ = average annual rate of occurrence of the specified acceleration level (a) or greater

Source Model Parameters. To use FRISKSP, the following input parameters are specified:

- i. *Site location*
- ii. *Fault name for each source*
- iii. *Line segment coordinates that provide reference traces for each of the fault sources*
- iv. *Coordinates that describe the subsurface geometry of each fault source*
- v. *Range of expected magnitudes from each fault source (minimum, maximum, and magnitude step increment)*
- vi. *Rate of seismicity from each source (number of events per year greater than reference magnitudes). That value can be specified directly as an earthquake rate or indirectly as a geologic slip-rate.*
- vii. *Selection of either a truncated exponential distribution of earthquake magnitudes or a "characteristic" distribution.*
- viii. *Seismotectonic beta-value for each source.* For each fault source, a seismotectonic beta-value, equal to the natural logarithm of 10 times the Gutenberg and Richter b-value, is specified. Consistent with Petersen et al. (1996), a Gutenberg and Richter b-value of 0.9 (beta-value of 2.072) was used for all faults in the source model. The estimated b-value used in the source model is generally consistent with b-values from the southern California historical seismicity record (Hileman et al., 1973; Friedman et al., 1976; Hutton et al., 1985).
- ix. *Distance between successive locations of earthquake rupture zones along each fault trace.* To account for horizontal variation in rupture locations, the program computationally moves the rupture zone along each fault. An incremental distance of about 1/20 of the fault length was used.
- x. *Distance between successive locations of earthquake rupture zones down the dip of each fault plane.* To account for down-dip variation in rupture locations, the program computationally moves the rupture zone down the dip of each fault. An incremental distance of 2.0 km was used for all faults in this study.



- xi. *Minimum depth to seismogenic rupture.* For some of the published attenuation relations (e.g., Campbell, 1997), seismogenic rupture is restricted to that portion of a fault below a depth of 3 km beneath the surface. As recommended by Campbell (1997), the closest distance to the rupture is calculated using the portion of the fault below that depth. The 3-km depth is specified in the input file as an attenuation relation coefficient. For attenuation relations by authors other than Campbell, a depth of 0 km is specified to indicate that distances can be measured from the shallowest portions of the fault sources. Variables for the rupture length or area vs. magnitude relation for each fault source. The program estimates modeled fault rupture dimensions using either a rupture length vs. magnitude relation, a rupture area vs. magnitude relation, or separate relations for rupture length vs. magnitude and rupture width vs. magnitude. Variables for the log of rupture length (or area) vs. magnitude relation are specified for each fault source. Those variables (A, B, and standard deviation) are parameters in the rupture-dimension vs. magnitude relation:

$$\text{mean } \log_{10}(L_r) = A + B(M)$$

where:

L_r = rupture length (km), rupture width (km), or area (sq-km)

M = magnitude (Mw)

For all of the fault sources in the model, a rupture area vs. magnitude relation was used. A and B were equal to -3.49 and 0.91, respectively (Wells and Coppersmith, 1994). A standard deviation of 0.24 was used for $\log_{10}(L_r)$.

- xii. *Relative seismicity contribution from each source.* A coefficient can be specified for each fault source to indicate the relative contribution that source provides to the total seismic hazard. That parameter allows seismicity to be subjectively distributed among the various sources, so as to model the relative probabilities of earthquakes occurring on each fault. For uniformity in the source model, most of the faults are assigned a coefficient of 1.0, thus providing no subjective redistribution of seismic hazard. However, for a few of the sources smaller coefficients are used to model the possibility of alternative sources or rupture scenarios (as CDMG does in their seismic hazard modeling for the state).

The estimation of ground motion expected from future earthquakes, to be used for seismic hazard analyses, is typically performed with empirically derived relations between various source characteristics and the amplitude of the ground motion parameter to be estimated. Common practice in southern California is to use empirical relations to estimate peak horizontal acceleration for seismic hazard analyses. Those empirical relations are typically derived from nonlinear, multiple regression analyses of the available strong ground motion database. Ground motion data recorded during historical earthquakes typically exhibit



considerable variability, which is influenced by such factors such as source-to-site distance, magnitude, fault type, directivity, travel path, recording-site soil conditions, fault geometry, rupture characteristics, etc. Because of the limited number of strong-motion records currently available, scientists do not have enough data to statistically consider all of those factors in their attenuation relations; therefore, most ground-motion attenuation relations only attempt to account for a few of them (i.e., typically source-to-site distance, magnitude, fault type, and soil conditions). Consequently, the available attenuation relations typically consider the variability that results from the other factors implicitly, by the specification of a standard deviation.

Many attenuation relations are available in the professional literature and recently a compilation of some of the current ones was presented in the January/February 1997 issue of *Seismological Research Letters* (vol. 68 no. 1). They differ in the way they use the available data and in which parameters they attempt to account for explicitly. Using available records, the authors of ground motion attenuation relations have suggested that the amplitude of peak horizontal acceleration varies with respect to: 1) earthquake magnitude, 2) source-site distance, 3) fault type, and 4) soil conditions. Various coefficients are used by those authors to account for the effects of those parameters. The source code used in FRISKSP has been modified to use the multiple attenuation relations and the code allows for the specification of coefficients to account for variations in: 1) earthquake magnitude, 2) source-site distance, 3) fault type, and 4) soil conditions. Based on the attenuation relationship, soil conditions are modeled by specifying an average shear wave velocity for the upper 100 feet of the site. For our analyses, we used an average shear wave velocity of 350 m/sec generally consistent with the deltaic, lagoonal and alluvial conditions at the site.

The result of the analysis provides an estimated ground motion that can be associated with a single earthquake magnitude.

Results of FRISKSP Analysis. In the study area, horizontal spectral accelerations with a 10 percent probability of exceedance in a 50-year time period (i.e., a 475-year return period) and a 100-year time period (i.e., a 949-year return period) using Bozorgnia, Campbell Niazzi (1999) attenuation relation which provide probability analysis for ground acceleration for near and far field events (Appendix C) and the associated hazard.

It should be noted that although the seismic hazard model used for this study predicts the probability of exceedance for various levels of acceleration in a given exposure period, the model is not able to account for the effect that the passage of time since past earthquakes has on future earthquake probability. Earthquakes result from the gradual buildup of stresses on faults until enough stresses have accumulated to cause an earthquake-producing rupture to occur. The earthquake rupture typically relieves at least some of the accumulated stresses, so that in the years immediately following a large earthquake on a fault (while stresses are still low) there is typically a relatively low probability of another large earthquake occurring again (Agnew et al., 1988). The longer the elapsed time since the last occurrence of a large earthquake on a fault, the greater the likelihood that a future earthquake will occur on that



fault. However, recent studies (Harris et al., 1995) have suggested that earthquakes can induce stresses on neighboring faults that may delay, hasten, or even trigger subsequent earthquakes on those faults. Therefore, although an earthquake may reduce the seismic hazard on its causative fault, it may increase the hazard on other nearby faults.

Hazard Deaggregation. Because probabilistic seismic hazard analyses compute ground motion probabilities from thousands of different earthquake magnitude and distance combinations, it is useful to perform hazard deaggregation to determine which of the modeled magnitude and distance contributions contributed most to the probability of exceedance of a selected ground motion (e.g., 950-year return period ground motion). FRISKSP has an option that allows the user to perform hazard deaggregation for specified peak ground accelerations (in this case, the 475- and 950-year-return-period accelerations). From our hazard deaggregation, we estimate that the 475- and 950-year modal magnitudes are about $M=6.5$ to $M=7$ and the modal distances are 0 to 5 km. The site location relative to nearby faults and return period vs. acceleration plots are presented on Plates in Appendix C.

The number or frequency of large magnitude earthquakes that may occur during the life of the project cannot be predicted reliably. However, based on the FRISK study and past historic events, it is probable the study area will experience at least one major earthquake during the next 50 years. The potential hazards or adverse effects of groundshaking would depend on several factors that include the severity of ground shaking; the nature, depth, and extent of the seismic event; the type of structures involved; and, the local topography. Based on the observable affects from several events, including the Northridge (1994), San Fernando Earthquake (1971), Loma Prieta Earthquake (1989) and the Alaska Earthquake (1964), substandard building foundations may fail resulting in excessive building settlement or collapse; underground tanks or buried utilities may be prone to uplift or failure; and, access roadways may become blocked or impassable, preventing emergency vehicles from accessing the sites. In addition, broken utility lines could result in fires, inhibit or contaminate water supplies and cut off services to the residence.

4.1.2c. California Building Code Design Criteria

The California Building Code requires seismic design based on a response spectra considering an earthquake with a 2 percent probability of exceedance in 50 years (return interval of 2,475 years). The seismic coefficients for the foundation should be designed using the CBC 2007 values. This site is located within a zone requiring structural design to resist earthquake loads. Section 1613A of the California Building Code (CBC) 2007 is based on the 2006 International Building Code which requires the mapped spectral response acceleration parameters. These parameters include a five percent critical damping at 0.2 seconds (S_s) and 1.0 seconds (S_1). In addition, a Site Category and Class as well as Site Coefficients F_a and F_v must be determined for use in the structural design relative to strong ground shaking.



The CBC assigns a Site Class based on the average soil properties within the upper 100 feet of the soil profile per Section 1613.5.5. Table 4 presents summary of these properties and classes.

Table 4: CBC 2007 Site Class Definitions

Site Class	Soil Profile	Average Properties in the Upper 100 feet (Section 1613.5.5)		
		Shear Wave Velocity, v_s (feet/second)	Standard Penetration Test, N_60 (blows/foot)	Undrained Shear Strength S_u (psf)
A	Hard Rock	> 5,000	-	-
B	Rock	2,500 to 5,000	-	-
C	Very Dense Soil and Soft Rock	1,200 to 2,500	> 50	> 2,000
D	Stiff Soil Profile	600 to 1,200	15 to 50	1,000 to 2,000
E ¹	Soft Soil Profile	<600	< 15	< 1,000
F ²	Profile Requiring Site-Specific Evaluation			

Note 1: Site Class E also indicates any profile with more than 10 feet of soil having the following characteristics: 1) Plasticity Index, $PI > 20$, Moisture Content $w \geq 40\%$, and Undrained Shear Strength $S_u < 500$ psf. The Plasticity Index, PI , and the moisture content, w , shall be determined in accordance with the approved national standards.

Note 2: Site Class F includes any profile containing soils having one or more of the following characteristics: 1) Soils vulnerable to potential failure or collapse under seismic loading such as liquefiable soils, quick and highly sensitive clays, collapsible weakly cemented soils, 2) Peats and/or highly organic clays ($H > 10$ feet of peat and/or highly organic clay where H = thickness of soil), 3) Very highly plasticity clays $H > 25$ feet with plasticity index, $PI > 75$, and, 4) Very thick soft/medium stiff clays ($H > 120$ feet).

Site Class, spectral accelerations and seismic design coefficients have been determined for the site based on Table 1613A.5.2 of the CBC 2007 and the USGS, "Earthquake Ground Motion Parameter Java Application".

Table 5: CBC 2007 Seismic Design Values

Seismic Category (Short Period):	D
Seismic Category (1 Second Period):	D
Site Class:	E
Spectral Response Acceleration Short Period (S_S):	2.113 g
Spectral Response Acceleration 1.0 Second (S_1):	0.918 g*
*See special provisions of Section 1613.5.6 since > 0.75	



Site Coefficient (F_a):	0.90
Site Coefficient (F_v):	2.40

See Appendix C for associated calculations and remaining design values. The values provided are provided for convenience and should be verified by the project structural engineer.

4.1.2d. Vertical Ground Motions

General Discussion: No suitable empirical method has been developed to analyze vertical ground accelerations. Borzorgnia, et.al. (1995) determined that near-field seismic events, ratios could exceed the horizontal motions. Subsequent recent studies by Borzorgnia, et. al., (1999) determined that at close distances and for large earthquakes, the peak vertical accelerations can be about 1.6 times the peak horizontal acceleration.

Analysis: Under the current codes no requirement has been set forth for vertical ground motions. The potential for amplification of long period waves due to local geomorphic and geologic conditions should be considered possible as it is for most development in the Oxnard basin.

4.1.2e. Duration of Groundshaking

Several methods are available to evaluate groundshaking duration. A simplified set of relationships was established by Bolt, B.A. and other, (1975). Based on this relationship, groundshaking at the site would be on the order of 20 to 30 seconds for a strong to severe earthquake.

Table 6: Estimated Duration of Groundshaking

Distance from Site (Miles)	Moment Magnitude (M_w)		
	6	7	8
6.2	12 seconds	26 seconds	34 seconds
31	3 seconds	22 seconds	28 seconds
62.1	0	4 seconds	6 seconds

* All values assume seismic wave frequency of greater than 2Kz



4.2. Hazards Associated with the Secondary Affects of Ground Shaking

Potential hazards resulting from the secondary effects of ground shaking include: liquefaction, lateral spreading, seismic compression/settlement, tsunamis, and landslide induced earthquakes.

4.2.1. Liquefaction

General Discussion: Seed (1979) defined liquefaction as a condition where a soil will undergo continued deformation at constant low residual stress or with low residual resistance, due to the buildup and maintenance of high pore water pressures, which reduce the effective confining pressure to a very low value. Pore pressure buildup leading to liquefaction may be due either to static or cyclic stress applications and the possibility of its occurrence will depend on the void ratio or relative density of a sand and the confining pressure. It may also be caused by a critical hydraulic gradient during an upward flow of water in a sand deposit. Other factors include but not limited to:

- magnitude and proximity of the earthquake;
- duration of shaking; soil types;
- grain size distribution; clay fraction content; density;
- angularity;
- effective overburden;
- cyclic loading; and,
- soil stress history.

Liquefaction is more likely in poorly-graded, saturated, low-density sands. With increasing overburden, density and increasing clay-content, the likelihood of liquefaction decreases. In regards to clay content, recent studies over the past ten years has demonstrated that clays with certain properties can be prone to liquefaction and thus the “Chinese Method” is not reliable, and therefore, both sand and clay deposits are herein evaluated and screened.

The semi-empirical field-based methods (Idriss & Boulanger, 2006), which evolved from the simplified procedure by Seed and Idriss (1971) are by far the most widely used methods in assessing the cyclic liquefaction potential of sand. The simplified procedure has two essential components:

- a) an analytical framework to organize past case history experiences; and,
- b) a suitable in situ index to represent soil liquefaction characteristics (Idriss & Boulanger, 2006). In situ penetration tests have proved to be useful for representing soil liquefaction characteristics because they not only provide an indication of denseness, but also reflect other important characteristics such as fabric, gradation, cementation, age, and stress history (Seed, 1979).



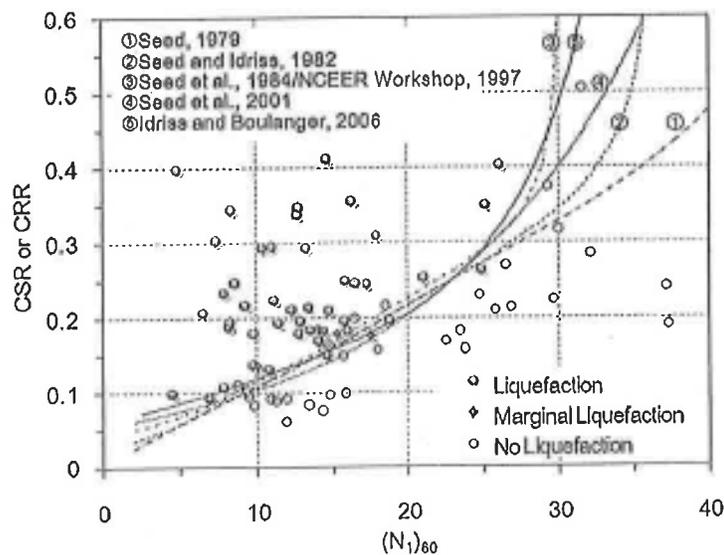
The simplified procedure provides a boundary curve that separates cases of observed liquefaction and those with no notable liquefaction in a two-dimensional plot of seismic loading, in terms of Cyclic Stress Ratio (CSR) versus a normalized in situ index test value. The boundary curve also serves as a correlation between the in situ index test value and the Cyclic Resistance Ratio (CRR). The term CRR may be considered as the maximum CSR that a soil can resist before liquefying. Traditionally, the result of the liquefaction potential analysis using the simplified procedure is presented in terms of a factor of safety (F_s) defined as the ratio of CRR over CSR. No soil liquefaction is predicted if $F_s > 1$. The assessment of liquefaction potential in terms of factor of safety is generally known as the deterministic approach.

Liquefaction Potential Assessment for Clean Sands: Four in situ index test methods have been identified by Youd et al. (2001) as having reached a level of sufficient maturity for the purpose of soil liquefaction potential assessment under the framework of simplified procedure. These tests include:

- 1) standard penetration test (SPT);
- 2) cone penetration test (CPT);
- 3) shear wave velocity (V_s); and,
- 4) Becker penetration test (BPT). BPT is used primarily for tests in gravelly deposits and readers interested in BPT are referred to Harder & Seed (1986).

Figure 1 presents the $CRR-(N_1)_{60}$ correlations published in the past 3 decades for clean sands (fines content, $FC < 5\%$) and earthquake events of magnitude $M = 7.5$. Fines are defined as particles passing #200 sieve (material < 0.075 mm).

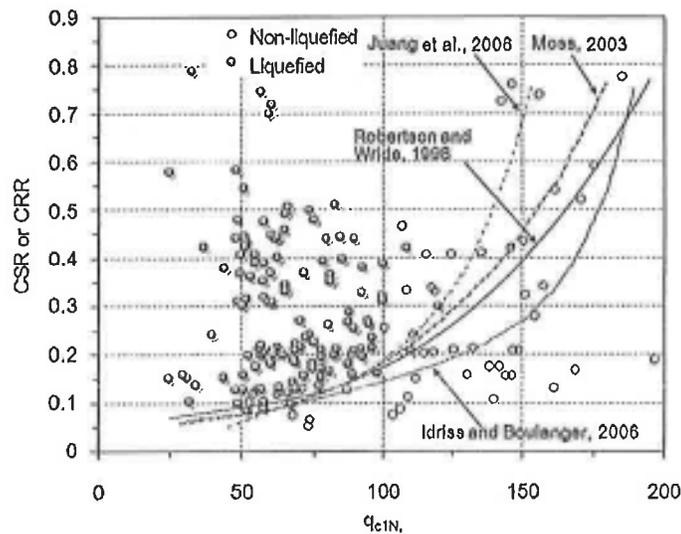
Figure 1: $CRR-(N_1)_{60}$ correlations published in the past 3 decades for clean sands (after Idriss and Boulanger, 2006)



The modifications in CRR- $(N_1)_{60}$ correlations over the years generally recognized a more significant increase of CRR as $(N_1)_{60}$ reached values about 30. A relationship between CRR and the SPT N value (number of hammer blows required to penetrate a split barrel sampler for 1 ft or 300 mm), corrected to a hammer energy ratio of 60% and normalized to an effective overburden stress (σ_{v0}') of 100kPa (or 1atm), [designated $(N_1)_{60}$] is used to represent the boundary curve.

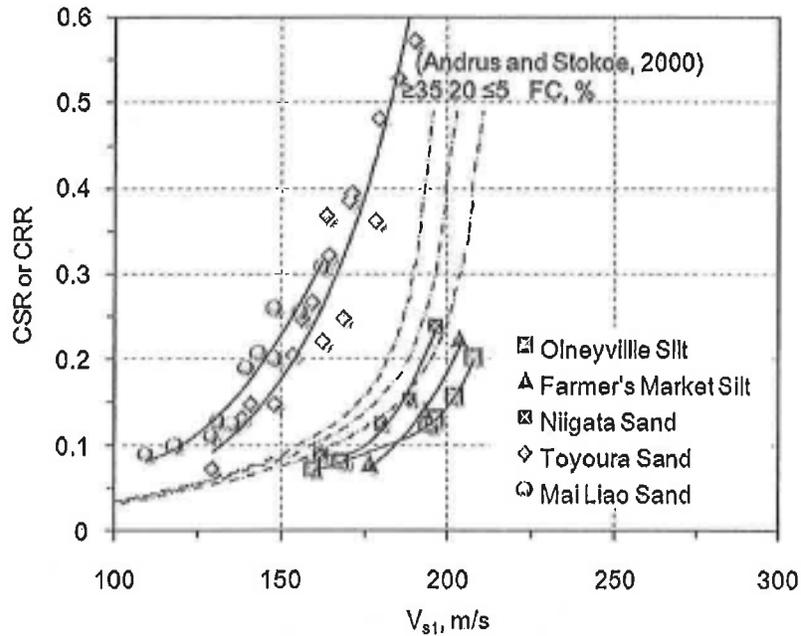
Figure 2 shows a selection of correlations between CRR and normalized cone tip resistance (q_{cIN}) published within the last decade for clean sands and earthquake events of magnitude $M = 7.5$. The q_{cIN} represents a CPT tip resistance normalized to σ_{v0}' of 100kPa and divided by atmospheric pressure and thus a dimensionless value.

Figure 2: A selection of CRR- q_{cIN} correlations published recently (after Juang et al. 2006)



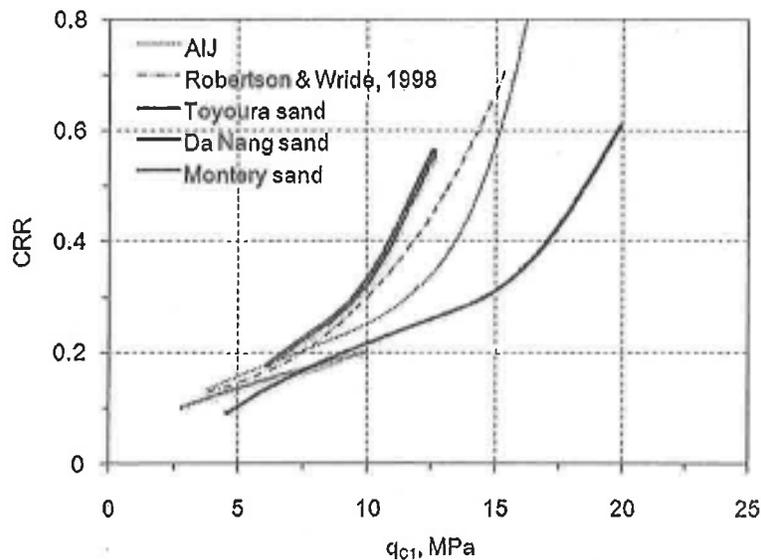
A third method for liquefaction evaluation involves field shear wave velocity (V_s) measurement. This procedure can be especially useful for sites underlain with gravelly materials where penetration tests such as SPT or CPT are not feasible. The V_s can also be easily measured in a triaxial cell using bender elements. By comparing the V_s from bender element test to the CRR obtained using the same soil specimen through cyclic triaxial tests, it is possible to verify or establish the CRR- V_{s1} correlations using reconstituted (Huang et al., 2005) or undisturbed samples (Baxter et al., 2008). Figure 3 shows the CRR- V_{s1} (V_s normalized to a stress level σ_{v0}' of 100kPa) correlations published by Andrus and Stokoe (2000).

Figure 3: The CRR- V_{s1} correlation proposed by Andrus and Stokoe (2000) and other sands/silts (after Baxter, 2008)



An important disadvantage in the use of V_s is a lack of sensitivity to the relative density, D_r . For a change of D_r of clean sand from 30 to 80%, the corresponding SPT N value would increase by a factor of 7.1 and q_c by a factor of 3.3. The same D_r would be expected to change the V_s by a factor of 1.4 based on available correlations (Idriss & Boulanger, 2006).

Figure 4: Comparison of the CRR- q_{c1N} correlations derived for three clean sands (after Ishihara and Harada, 2008).





Ishihara and Harada (2008) analyzed the correlations between SPT and CPT results and their relationship with the ratio of effective horizontal stress to vertical stress (K). The CRR values were estimated from the relative density (D_r). Figure 4 shows the comparison of the $CRR-q_{cl}$ correlations derived for three clean sands for $K=0.5$. The correlations by Robertson & Wride (1998) and AIJ (2001) are also included for reference.

When evaluating materials it is important to note that the $CRR-q_{cl}$ correlations can deviate significantly. Similarly, discrepancies can also be found among the CRR-N correlations derived for Toyoura sand and those reported by Youd et al. (2001) and JRA (1996).

Liquefaction Potential Assessment for Silty Sands: Natural sand deposits often contain various amounts of fines (silt and clay size particles). It has been reported that most cases of earthquake-induced liquefaction have actually occurred in silty sands (Yamamoto & Covert, 2001). Researchers have generally agreed that as fines contents exceed 5 percent, relative density ceased to be a reliable index to predict liquefaction potential (Seed et al., 1985; Ishihara, 1993). For fine grained soils, the cyclic resistance correlates well with the void ratio, where a lower void ratio corresponds to greater cyclic resistance (Ishihara, 1996). There is still a lack of compelling data as to what role the fines content plays in relation to liquefaction.

When the CRR of a sand with fines is determined through in situ index test using simplified procedure, the situation is more complicated as the available correlations are empirically derived mainly from field observations of soil behavior following earthquakes. Although different in magnitude and/or format, most available CRRs based on in situ index test value correlations for cohesionless silty sands suggest that a given index test value should correspond to a higher CRR as fines content increases. Alternatively, the in situ index test value should be increased to obtain an equivalent clean sand value. For the V_s method by Andrus and Stokoe (2000), the adjustment in the $CRR-V_{s1}$ correlations is included in Figure 3. The SPT penetration resistance (Idriss & Boulanger, 2006) is increased to an equivalent clean sand value, $(N_1)_{60cs}$ according to FC (in percent) as:

$$(N_1)_{60cs} = (N_1)_{60} + \Delta(N_1)_{60}$$

$$\Delta(N_1)_{60} = \exp\left(1.63 + \frac{9.7}{FC + 0.1} - \left(\frac{15.7}{FC + 0.1}\right)^2\right)$$

Based on Robertson & Wride (1998), for CPT the equivalent clean sand value should be determined based on the soil behavior index (I_c), using the following relationship:

$$(q_{11N})_{cs} = K_c q_{11N}$$

$$\text{For } I_c \leq 1.64 \quad K_c = 1.0$$

$$\text{For } I_c > 1.64 \quad K_c = -0.403I_c^4 + 5.58I_c^3 - 21.63I_c^2 + 33.75I_c - 17.88$$

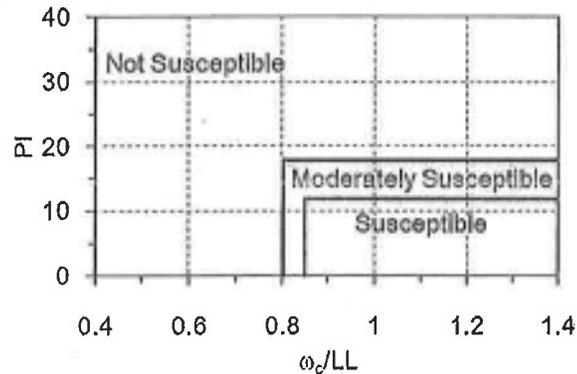


where: I_c is a function of q_t , sleeve friction, f_s and overburden stress.

Liquefaction Potential Assessment for Silts and Clays: Except for organic soils, as fines content exceeds 50 percent, the soil is classified as either silts or clays. Experience learned in Northridge, Kocaeli and Chi-Chi earthquakes showed that the seismic motion could cause ground failures in low-plastic silts and clays (Chu et al., 2004; Bray & Sancio, 2006).

Based on data collected in China that relate to earthquake induced liquefaction, Wang (1979) suggested that clayey soils containing less than 15 to 20 percent particles by weight smaller than 0.005mm and having a water content (w_p) to LL ratio greater than 0.9, are susceptible to liquefaction. Seed & Idriss (1982) further refined that statement and indicated that all of the following three conditions must be met: (1) percent of particles smaller than 0.005mm is less than 15%; (2) $LL < 35$; and, (3) ratio of $w_p/LL > 0.9$. These conditions are referred to as the “Chinese criteria” because of its origin. However, Bray & Sancio (2006) compiled data that included observations in recent earthquake events and proposed new liquefaction susceptibility criteria for silts and clays using PI and w_p/LL ratio, as shown in Figure 5.

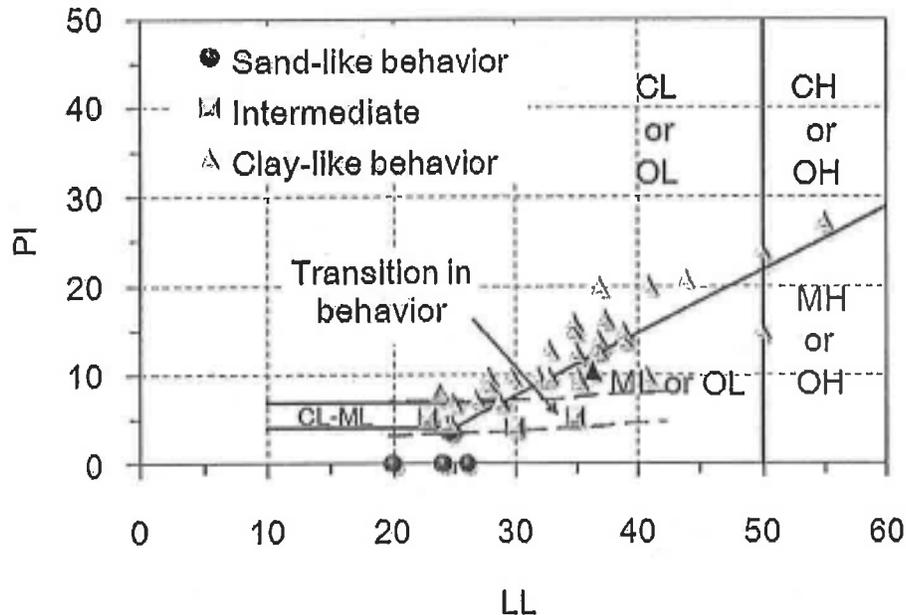
Figure 5: Liquefaction susceptibility criteria proposed by Bray & Sancio (2006)



As a result, the Chinese criterion is no longer used as part of the liquefaction analysis method. Now, the criteria proposed by Bray & Sancio (2006) consider liquefaction in a general term that includes the phenomenon of dramatic loss of shear strength due to increased pore-water pressure and reduced effective stress. It also considers cases where liquefaction leads to transient softening and increased cyclic shear strains, due to dilation as undrained shearing continues (i.e., cyclic softening). Boulanger & Idriss (2006) indicate that there can be fundamental differences in cyclic and monotonic undrained shearing behaviors between clay-like and sand-like fine grain materials.

Figure 6 shows screening criteria suggested by Boulanger & Idriss (2006) to first determine whether the liquefaction susceptibility should be evaluated as a clay-like (cyclic softening) or sand-like (liquefaction) material. For fine-grained soils considered as sand-like, the SPT or CPT based simplified procedure can be used to estimate their cyclic strength.

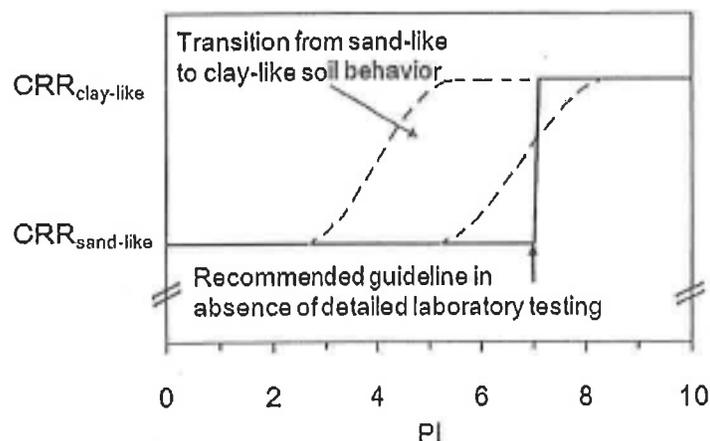
Figure 6: Atterberg limits chart showing representative values for clay-like, sand-like or intermediate behavior (from Boulanger & Idriss, 2006)



For practical purposes, fine-grained soils can confidently be expected to exhibit clay-like behavior if they have $PI \geq 7$ as shown in Figure 7. The clay-like soils are more likely to have stress-history normalized behavior.

The cyclic strength can be evaluated based on information from in situ testing, laboratory testing and available empirical correlations. For clay-like fine-grained soils, undisturbed sampling is relatively simple and low cost.

Figure 7: Transition from sand-like to clay-like behavior for fine-grained soils with increasing PI, and the recommended guideline (from Boulanger & Idriss, 2006).





Analysis: RJR performed detailed liquefaction analysis based on the standard penetration rates and laboratory engineering indices correlations. The analysis was performed utilizing the computer program Liquefypro. LiquefyPro offers multiple methods of calculation to evaluate the factor of safety against liquefaction as well as settlement due to earthquake from wet sand and dry sand. The program is based on the most recent methods recommended by NCEER Workshop and SP117 Implementation.

Methodology: The following presents a summary of the method analysis and key equations and values utilized in the analysis.

A. Standard Penetration Rate Simplified Analysis

CSR - Cyclic Stress Ratio Computations: The earthquake demand is calculated by using Seed's method, first introduced in 1971 (Seed and Idriss, 1971). It has since evolved and been updated through summary papers by Seed and colleagues. Participants in a workshop on liquefaction evaluation arranged by NCEER reviewed the equation recently in 1996. The equations is as follows:

$$CSR = 0.65 \left(\sigma_o / \sigma'_o \right) a_{max} r_d$$

where,

CSR is the cyclic stress ratio induced by a given earthquake,

0.65 is weighing factor, introduced by Seed, to calculate the number of uniform stress cycles required to produce the same pore water pressure increase as an irregular earthquake ground motion.

σ_o is the total vertical overburden stress. If fill is placed on ground surface, σ_o increases.

$\sigma'o$ is the effective vertical overburden stress. If fill is placed on ground surface, $\sigma'o$ increases. $\sigma'o$ is based on water table during earthquake.

A_{max} is the Peak Horizontal Ground Acceleration, PGA, unit is in g.

r_d is a stress reduction coefficient determined by formulas below (NCEER, 1997). See Stress reduction factor, r_d versus depth (After Seed and Idriss, 1971)

$r_d = 1.0 - 0.00765 \cdot z$	for $z \leq 9.15$ m
$r_d = 1.174 - 0.0267 \cdot z$	for 9.15 m $< z \leq 23$ m
$r_d = 0.744 - 0.008 \cdot z$	for 23 m $< z \leq 30$ m
$r_d = 0.5$	for $z > 30$ m

CRR - Cyclic Resistance Ratio from SPT/BPT: The CRR can be seen as a soil "strength". (NCEER 1996). The CRR liquefaction curves are developed for an earthquake magnitude of 7.5 and is hereafter called CRR7.5. To take different magnitudes into account, the factor of safety against liquefaction is multiplied with a magnitude scaling factor (MSF). In the graphical output, the CSR is divided by the MSF to give an accurate view of the liquefied zone. The computation of CRR7.5 from SPT is described below. The BPT data is merely converted to SPT before following the SPT procedure to determine CRR7.5.



Step 1 – Subsurface Conditions: RJR modeled the subsurface conditions based on the drilling conditions. Subsurface results from DH1 and DH2 were similar. Therefore, DH1 was utilized for the evaluation. In general, cohesive soils and layers of higher fine content that would be less prone to liquefaction were ignored to account for possible layer where cleaner sands, more prone to liquefaction, may occur.

An initial screening of the fine grained soils was performed to ensure that the clay soils were not prone to liquefaction. The fine grained soils encountered during the investigation were of moderate expansive nature, and determined to be non-expansive.

Groundwater conditions encountered during the study was between 4 to 6 feet. For purposes of this analysis, the groundwater levels were assumed to be at the ground surface.

Step 2 - Correction of SPT Blow Count Data: The procedures that relate SPT N-values to liquefaction resistance use an SPT blow count that is normalized to an effective overburden pressure of 100 KPa (or 1.044 tons per square foot). This normalized SPT blow count is denoted as N_1 , which is obtained by multiplying the uncorrected SPT blow count by a depth correction factor, C_n . A correction factor may be needed to correct the blow count for an energy ratio of 60%, which has been adopted as the average SPT energy for North American geotechnical practice. Additional correction factors may need to be applied to obtain the corrected normalized SPT N-value, $(N_1)_{60}$.

It has been suggested that the corrections should be applied according to the following formula:

$$(N_1)_{60} = N_m C_n C_e C_b C_r C_s$$

where:

- N_m = SPT raw data, measured standard penetration resistance from field
- C_n = depth correction factor
- C_e = hammer energy ratio (ER) correction factor
- C_b = borehole diameter correction factor
- C_r = rod length correction factor
- C_s = correction factor for samplers with or without liners

Corrections to Field SPT N-Values (modified from Youd and Idriss, 1997)

Overburden Stress Correction, C_n : C_n is an overburden stress correction factor given by:

$$C_n = (1/ \sigma'_{o})^{0.5}$$

where:

σ'_{o} = the effective vertical overburden stress in ton/ft², which is based on water table during SPT testing. If fill is placed after SPT testing, fill does not affect σ_{o} .

0.4 < C_n < 1.7 (SP117 and Youd et al. summary Report from 1996 NCEER and 1998 NCEER/NSF Workshops)



Hole Diameter Corrections, C_b : The borehole should not exceed 115 mm (4.5 inches) in diameter, because the associated stress relief can reduce the measured N-value in some sands. However, if larger diameter holes are used, the following factors can be used to adjust the N-values for them. When drilling with hollow-stem augers, the inside diameter of the augers is used for the borehole diameter in order to determine the correction factors.

<u>Borehole Diameter</u>	<u>Correction</u>
65 mm to 115 mm	1.0
150 mm	1.05
200 mm	1.15

Drive-Rod Length Corrections, C_r : The energy delivered to the SPT can be very low for an SPT performed above a depth of about 10 m (30 ft) due to rapid reflection of the compression wave in the rod. The energy reaching the sampler can also become reduced for an SPT below a depth of about 30 m (100 ft) due to energy losses and the large mass of the drill rods. C_r is calculated in the program based on depth of the sample. The rod length is different from the sample depth. The rod length is assuming 1.5 meter more than depth. It means that the rod is 1.5 meter above the ground level.

<u>Rod Length</u>	<u>Rod Correction</u>
3 m to 4 m	0.75
4 m to 6 m	0.85
6 m to 10 m	0.95
10 m to 30 m	1.0
>30 m	<1.0

Sampler Type Corrections, C_s : Corrections should be made for SPT samplers if liners are not installed. If a Modified California sampler is used, a conversion based on the annular space should be applied which typically varies from about 0.5 to 0.7.

<u>Sampling Method</u>	<u>Sampler Correction</u>
Standard sampler	1.00
Sampler without liners	1.20
California Modified sampler	0.70

Energy Delivery Correction, C_e : A rod energy ratio (ER) of 60% has generally been accepted as the reference value. The value of ER (%) delivered by a particular SPT setup depends primarily on the type of hammer/anvil system and the method of hammer release. Values of the correction factor used to modify the SPT results to 60% energy (ER/60) can vary from 0.3 to 1.6, corresponding to field values of ER of 20% to 100%.

<u>Location</u>	<u>Hammer</u>	<u>Release Method</u>	<u>Energy Correction</u>
United States	Safety	Rope and pulley	0.89
United States	Donut	Rope and pulley	0.72
United States	Automatic Trip	Rope and pulley	1.25



Step 3 - Fines Content Correction during Liquefaction: The CRR curves for the analysis are based on clean sand. To use these curves for soil containing fines such as silt and clay, the blow count data must be corrected for the fines content. The Fines Content correction are based on one of three methods:

- 1) Idriss & Seed, 1997: The fines content correction formulas below were developed by R.B. Seed and I.M. Idriss (1997). This option is available only for SPT input.

$$(N_1)_{60f} = \alpha + \beta (N_1)_{60}$$

$\alpha = 0; \beta = 1.0$	$FC \leq 5\%$
$\alpha = \exp[1.76 - (190/FC^2)]; \beta = 0.99 + FC^{1.5}/1000$	$5 < FC < 35\%$
$\alpha = 5.0; \beta = 1.2$	$FC \geq 35\%$

where

$(N_1)_{60f}$ is the corrected blow count.
FC is the fines content in %.

- 2) Stark & Olsen 1995: The average of the curves published by Stark and Olsen, 1995 is used for correction of $(N_1)_{60}$ for fines content, FC, by using the following formula:

$$(N_1)_{60f} = (N_1)_{60} + \Delta(N_1)_{60}$$

where

$(N_1)_{60f}$ is the corrected blow count.
 $\Delta(N_1)_{60}$ is the fines content correction (Seed, 1996)

- 3) Modified Stark & Olsen: In the above two methods, after Fines > 35%, $\Delta(N_1)_{60}$ is constantly at 7. There is no changes (or credit) for fines from 35% to 100%. This method allows for an increased correction factor after fines=35% and increases to Fines = 100%.

Step 4 - Calculation of CRR_{7.5}: CRR_{7.5} (Magnitude=7.5) is determined using the formula below (NCEER, 1997).

$$CRR_{7.5} = \frac{(a + b) (x + e) (x^2 + g) (x^3)}{(1+b) (x+d) (x^2+f) (x^3+h) x^4}$$

where,

$$\begin{aligned} x &= (N_1)_{60f} \\ a &= 0.048 \\ b &= -0.1248 \\ c &= -0.004721 \\ d &= 0.009578 \\ e &= 0.0006136 \\ f &= -0.0003285 \\ g &= -1.673 \cdot 10^{-5} \\ h &= 3.714 \cdot 10^{-6} \end{aligned}$$



The results of the analysis indicates that for a peak ground acceleration, based on State of California records for a 10 percent change of a 50 year event (0.46g for a Mw = 7.3 for alluvial conditions), would result in approximately 4.5 inches.

A sensitivity analysis for the modeled rendered settlement estimates on the order of 2 inches for ground accelerations on the order of 0.2g which would correspond to a moderate earthquake. However, events in excess of 0.46g continued to render settlements on the order of 4 to 5 inches, and the maximum amount of strain that would occur in the soil, regardless of the seismic event.

Mitigation: Several methods are available for the site depending on site development, to mitigate the anticipated dynamic settlements. We understand at this time, that the Client will not mitigate the potential risk, given the proposed agricultural land use.

4.2.2. Lateral Spreading

General Discussion: Lateral spread is the finite, lateral displacement of sloping ground (0.1 to < 6 percent) as a result of pore pressure buildup or liquefaction in a shallow, underlying soil deposit during an earthquake. Lateral spreading, as a result of liquefaction, occurs when a soil mass slides laterally on a liquefied layer, and gravitational and inertial forces cause the layer, and the overlying non-liquefied material, to move in a downslope direction. The magnitude of lateral spreading movements depends on earthquake magnitude, distance between the site and the seismic event, thickness of the liquefied layer, ground slope or ratio of free-face height to distance between the free face and structure, fines content, average particle size of the materials comprising the liquefied layer, and the standard penetration rates of the materials.

Widespread lateral spreading is generally not applicable to fine-grained soils, nor to sandy soils where:

- 1) Standard penetration values $[(N_1)_{60}]$ are greater than 15; and,
- 2) Where the standard penetration rates are less than 15 and the potentially vulnerable layer is less than 1 meter thick.
- 3) Liquefied layer has no free face or is inclined at a slope of less than 0.1 percent.

Further, the magnitude of ground displacement in a liquefaction failure is influence by the volumetric response of these sandy soils during liquefaction. A contractive soils response can lead to very dramatic failures while a dilative response tends to limit the magnitude of displacements. Therefore, a low confining pressure can result in a dilative behavior, even for a somewhat loose packing of soil grains.

A potentially significant phenomena in a lateral spread is the upward flow of pore water within the liquefied soils deposits without a change in the overall volume. In a liquefied state, individual grains tend to sink under the influence of gravity. The net result is for the



liquefied soil in a layer to progressively densify near the bottom and loosen/soften near the top. Therefore, there is a tendency for an upward migration of pore water and void space.

Lateral spread may occur over looser, weaker soil near the top of the liquefied deposit. If the liquefied soils is overlain with a relatively impervious layer, upward flowing pore water will be trapped and contribute to the formation of a weaker soil zone in the top portion of the liquefied deposit. Since the movement of water and soil grains takes time, Castro (1987) suggests that this phenomenon might develop in relatively thin layers but not throughout the depth of thick liquefied deposits. However, even in thick, uniform soil deposits, the tendency for soil grains to settle would result in formation of a progressively, slightly weaker soil toward the top of the liquefied deposit. However, it is important to note, that the general analysis assumes conservatively, undrained conditions (Seed, 1979). However, the migrations of pore water in a partially drained condition have a significant impact on the magnitude of displacements in the lateral spread. Stark and Mesri (1992) found that partial drainage of excess pore pressures can produce an increase in shear resistance as sliding progresses. Rapid drainage of excess pore pressures from the liquefied soil zone may be sufficient to stabilize the slide before large deformations occur.

Numerous researchers have consistently observed a correlation between horizontal surface displacements in a lateral spread and the thickness of the underlying liquefied soil deposit (Yasuda, et. al., 1992a; Tokida, et. al., 1993; Hamada, et. al, 1986; Bartlett and Youd, 1992a, 1992b, 1995; O'Rourke and Pease, 1997). The influences of the liquefied thickness are as follows:

- 1) Since shear deformations occur across the full depth of the liquefied deposits, the net surface displacement will increase the greater liquefied thickness. If the shear strain was constant with depth, the lateral displacement profile would be linear and, for a given shear strain, the net surface displacement would increase with liquefied thickness.
- 2) As the thickness of the liquefied soil deposit increases, a greater upward migration of pore water might occur. Then, the significance of the resulting soft zone near the top of the deposits would increase with increasing liquefied thickness.
- 3) The drainage path for excess pore pressures increases with the thickness of the liquefied soil. As a result, portions of a thicker liquefied deposit will remain liquefied for a longer period of time and cause greater surface displacements.

Horizontal displacements in a lateral spread can range up to several meters with smaller associated settlements. Characteristic patterns of ground deformation include ground fissures or tension cracks at the head of the slide. Subsidence typically occurs at the head of a lateral spread with heaving at the toe. Sand boils, a common indication of soil liquefaction, are frequently observed in the lower portions of a lateral spread. Lateral spread is defined here to include only lateral sliding of gently sloping ground due to soil liquefaction at relatively shallow depths and does not refer to the large horizontal slides associated with deep-seated liquefaction failures. This definition of lateral spread also specifically excludes two types of



liquefaction-induced ground failure that can produce similar patterns of surface movements. These types of slumping or embankments and tilting of retaining walls have a genetic failure mechanism involving rotational slide or slumping (Varnes, 1978).

Analysis: The subsurface data and layers were screened to assess layers that may be prone to lateral spreading. The initial criteria was to identify granular soils that have a $(N_1)_{60}$ less than 15. The standard penetration rates were sufficient close to this value, that to account for site variability, a lower value was assumed.

An analysis was performed based on Youd, Hansen and Bartlett (2002) to assess the potential and magnitude of potential lateral spread condition.

The analysis determined that the layer, if subjected to the design earthquake ($M_w = 7.3$) were to be subjected to liquefaction, would be prone to move towards a free face, a displacement on the order of 1 to 2 feet should be anticipated. The lower overburden pressure coupled with overlaying permeable soils (sand and gravel layers) may tend to decrease the larger magnitude displacements (Starke and Mesri, 1992). However, in any case, displacements in excess of 0.5 feet would generally be considered unacceptable.

Mitigation: Similar to the discussion in the "Liquefaction" section, unacceptable displacements have been predicted for the given model. At this time, the client has decided to accept the potential risk, and will not perform any mitigation measures at this time.

4.2.3. Seismic Compression/Settlement

General Discussion: Seismic settlement occurs when cohesionless materials (sands) densify as a result of ground shaking. Settlement of medium-dense sands could result from a strong earthquake even if groundwater did not rise and groundshaking did not induce liquefaction.

The analysis divides the soil deposit into very thin layers and calculates the settlement for each layer. The calculations are divided into two parts, dry soil settlement and saturated soil settlement.

The soil above the groundwater table is dry soil and soil below the groundwater table is saturated soil.

$(N_1)_{60}$	D_r (%)
3	30
6	40
10	50
14	60
20	70
25	80
30	90



The total settlement at a certain depth is the sum of the settlements of the saturated and dry soil.

Analysis: Seismic (dry) settlement was performed with Liquefypro in conjunction with the liquefaction analysis. The calculation is made for each layer of the soil deposit and is divided into six steps:

- Step 1: Estimation of G_{max} ;
- Step 2: Evaluation of shear strain-modulus ratio used to evaluate a cyclic shear strain;
- Step 3: Evaluation of shear strain using the shear-strain modulus ratio;
- Step 4: Evaluation of volumetric strain using the shear strain evaluated above;
- Step 5 - Magnitude correction of the volumetric strain because the figures used above are developed for a magnitude 7.5 earthquake;
- Step 6 - Evaluation of dry soil settlement using the magnitude corrected volumetric strain.

The results of the analysis indicate that seismic (dry) settlement will be negligible since the groundwater levels at the site are high.

It is important to note that if a strong to severe seismic event were to occur during a period of lower groundwater elevations, these estimates would be higher, and on the order of 1 to 4 inches.

Mitigation: The client intends to waive any potential risks, given the agricultural uses associated with the site.

4.2.4. Ground Lurching

General Discussion: Ground lurching occurs as a result of rolling seismic ground wave front striking stream banks, artificial embankments, bluffs and other geomorphic features at right angles resulting yielding of the materials in the unsupported direction. Soil lurching is likely to be most severe where the thickness of soft sediments varies to a noticeable degree under structures. The initial affect is to produce a series of more or less parallel cracks separating the ground into blocks. With increasing intensity lurch cracking develop ground fractures, cracks, and fissures, as well as, settlement, compaction, and sliding.

Evaluation: ; RJR estimates that displacements associated with ground lurching could occur in areas of the site, that would be similar risks associated with seismic settlement.

Mitigation: No mitigation measures are proposed at this time.



4.2.5. Seiches

General Discussion: Seiches are an oscillation of the surface of an inland body of water that varies in period from a few minutes to several hours. The key requirement for formation of a seiche is that the body of water be at least partially bounded, allowing the formation of the standing wave.

Seiches are often imperceptible to the naked eye, and observers in boats on the surface may not notice that a seiche is occurring due to the extremely long wavelengths. The effect is caused by resonances in a body of water that has been disturbed by one or more of a number of factors, most often meteorological effects (wind and atmospheric pressure variations), and seismic activity or by tsunamis. Gravity always seeks to restore the horizontal surface of a body of liquid water, as this represents the configuration in which the water is in hydrostatic equilibrium. Vertical harmonic motion results, producing an impulse which travels the length of the basin at a velocity, that depends on the depth of the water. The impulse is reflected back from the end of the basin, generating interference. Repeated reflections produce standing waves with one or more nodes, or points that experience no vertical motion. The frequency of the oscillation is determined by the size of the basin, its depth and contours, and the water temperature.

The longest natural period for a seiche in an enclosed rectangular body of water is usually represented by the Merian formula:

$$\text{Period}(T) = \frac{2L}{\sqrt{gh}}$$

Where,

- L is the length,
- h the average depth of the body of water, and
- g the acceleration of gravity.

Higher order harmonics are also observed. The period of the second harmonic will be half the natural period; the period of the third harmonic will be a third of the natural period, and so forth.

Lake seiches can occur very quickly: on July 13, 1995, a big seiche on Lake Superior caused the water level to fall and then rise again by three feet (one meter) within fifteen minutes, leaving some boats hanging from the docks on their mooring lines when the water retreated. The same storm system which caused the 1995 seiche on Lake Superior produced a similar effect in Lake Huron in which the water level at Port Huron changed by six feet (1.8 m) over two hours. On Lake Michigan, eight fishermen were swept away and drowned when a 10-foot seiche hit the Chicago waterfront on June 26, 1954. Lakes in seismically active areas, such as Lake Tahoe in California/Nevada, are significantly at risk from seiches. Geological evidence indicates that the shores of Lake Tahoe may have been hit by seiches and tsunamis



as much as 10 m (33 feet) high in prehistoric times, and local researchers have called for the risk to be factored into emergency plans for the region.

Earthquake-generated seiches can be observed thousands of miles away from the epicenter of a quake. Swimming pools are especially prone to seiches caused by earthquakes, as the ground tremors often match the resonant frequencies of small bodies of water. The 1994 Northridge earthquake in California caused swimming pools to overflow across southern California. The massive Good Friday Earthquake that hit Alaska in 1964 caused seiches in swimming pools as far away as Puerto Rico. The earthquake that hit Lisbon, Portugal in 1755 caused seiches in canals 2,000 miles (3,000 km) away in Scotland and Sweden. The 2004 Indian Ocean earthquake caused seiches in standing water bodies in many Indian states as well as in Bangladesh, Nepal and northern Thailand. Seiches were again observed in Uttar Pradesh, Tamil Nadu and West Bengal in India as well as in many locations in Bangladesh during the 2005 Kashmir earthquake. The 1950 Chayu-Upper Assam earthquake is known to have generated seiches as far as Norway and southern England. Other earthquakes in the Indian sub-continent known to have generated seiches include the 1803 Kumaon-Barahat, 1819 Allah Bund, 1842 Central Bengal, 1905 Kangra, 1930 Dhubri, 1934 Nepal-Bihar, 2001 Bhuj, 2005 Nias, 2005 Teresa Island earthquakes.

Nagasaki Bay is a typical area in Japan where seiches have been observed from time to time, most often in the spring. On March 31, 1979, the Nagasaki tide station recorded a maximum water-level displacement of 2.78 meters (9.1 feet), at that location and due to the seiche. The maximum water-level displacement in the whole bay during this seiche event is assumed to have reached 4.70 meters (15.4 feet), at the bottom of the bay. Seiches in Western Kyushu, including Nagasaki Bay, are often induced by a low in the atmospheric pressure passing South of Kyushu Island. Seiches in Nagasaki Bay have a period of about 30 to 40 minutes.

Seiches can also be induced by tsunami, a wave train (series of waves) generated in a body of water by a pulsating or abrupt disturbance that vertically displaces the water column. On occasion, tsunamis can produce seiches as a result of local geographic peculiarities. For instance, the tsunami that hit Hawaii in 1946 had a fifteen-minute interval between wave fronts. The natural resonant period of Hilo Bay is about thirty minutes. That meant that every second wave was in phase with the motion of Hilo Bay, creating a seiche in the bay. As a result, Hilo suffered worse damage than any other place in Hawaii, with the tsunami/seiche reaching a height of 14 m and killing 159 inhabitants. Seiche waves may continue for several days after a tsunami.

Evaluation: No ponding of water is proposed for the site. Therefore, the risk to the development is nil.

Mitigation: No mitigation measures are required.



4.2.6. Tsunamis

General Discussion: Tsunamis, or seismic sea waves, are large oceanic waves generated by earthquakes, submarine volcanic eruptions or large submarine landslides. They are capable of traveling long distances across ocean basins, and can force large quantities of water up onto shore at high velocities. The forces involved with tsunamis are of such large magnitude that the only positive means of protection is to avoid areas subject to tsunamis.

These waves have a long wavelength (distance from the crest of one wave to the crest of the succeeding wave), normally over 100 miles, and a very low amplitude (height from crest to trough). As these waves approach shallow water, the speed decreases from a deep water speed of over 600 m.p.h. to less than 30 m.p.h., and their energy is transferred from wave speed (velocity) to wave height (amplitude) waves as high as 80 to 100 feet. The intensity of the wave(s) is unpredictable and may continue for several hours. The waves can arrive onshore in intervals of up to an hour, and since there are usually a number of waves, the threat usually exists for as long as ten to twelve hours. Tsunamis are sometimes preceded by a trough which appears to be similar to an extremely low tide. The wave itself may follow the trough by 15 to 45 minutes.

Although the arrival time of waves can be predicted, the intensity of the wave when it reaches shore cannot be predicted. Tsunamis are a threat, not because they are extensive or frequent, but because the destruction they cause can be devastating. Tsunamis can cause loss of life from drowning, and they can cause extensive damage to structures on or near beaches and river mouths. In addition, water systems can be contaminated, power supplies disrupted, transportation systems blocked or disrupted, oil and gas pipelines compromised, and communications pathways along the coast destroyed. There can also be an increased occurrence of fire from broken oil or gas tanks or lines, as well as flooding from blocked rivers, etc.

Ventura County is subject to threats from both tele-tsunamis (distant generated, transoceanic) and locally generated events in the Santa Barbara Channel and Gulf of Catalina.

Ventura County has not been seriously impacted by a tsunami since the early 18th Century. Historical records, confirmed by geologic exploration, indicate that a tsunami occurred in the Santa Barbara Channel around 1812. Sea waves as large as 30 to 35 feet reached Santa Barbara, and 10 to 12 feet in Ventura. The source of this event is thought to be related to a sub-aerial landslide generated from a local source.

The most significant remote tsunami to hit southern California was in 1960, when an 9.5 Magnitude earthquake off the coast of Chile generated a tsunami resulting in 4 ½ foot waves at Santa Monica and Port Hueneme, and caused major damage to the Los Angeles and Long Beach harbors.

The 1964 Good Friday Alaskan Earthquake (Magnitude 9.2) generated a tsunami that caused major damage to port facilities up and down the California Coast, and 11 deaths in Crescent



City, California. Bolt and others (1977) reports wave run-up elevations on the order of nearly 20 feet above mean sea level in the Crescent City area. However, only minor damage was reported in either Ventura Harbor or the Port of Hueneme.

Recent events have included the August 15, 2007 Peru-Northern Chile Mw 8.1 event. The tsunamis heights were thought to be relative small (less than 10 feet) but resulted in waves inundating up to 2 kilometers inland, killing 7 people. The December 26, 2004 Sumatra-Andaman Islands earthquake (MW9.0) generated a series of large tsunamis which killed over 225,000 people ranging from the south Asia to east Africa. This event demonstrated that the waves travel on a larger global scale and if they occur as a result of a significant seismic event, geomorphic features, such as small islands, do not offer sufficient protection from waves that can travel up to 1 mile inland and to elevations in excess of 50 feet above mean sea level.

Based on the Ventura County Operational Area Tsunamis Evacuation Plan (August, 2006) the tsunami threat is mainly confined to the immediate beach areas and river mouths (deltas). All of the coastal areas in Ventura County are susceptible to tsunamis. Most of the land between the beach and the cliffs on both the north and south coasts is included within the hazard zone. The hazard zone is delineated as roughly the elevation of 33 feet (10 meters). However, effects of structures and topography may locally affect the inland extent of the tsunami (runup). Various studies estimate that the population of the potential inundation area in Ventura County is approximately 40,000 - 45,000 (daytime) and 25,000 (night).

Analysis: Due to the proximity to the ocean and the low inland elevation there is a risk of impacts related to tsunamis'.

Mitigation: No mitigation measures are available to mitigate against this risk..

4.2.7. Earthquake-Induced Landslides

General Discussion: Hazards to the improvements of the property include earthquake induced landslides which encompasses several categories. Landslides are downslope motions of conglomerations of earth materials or bedrock or combinations of both. Landslides are a more defined unit and are similar to slumps, but are on a larger scale. They can move in a translational movement or rotational settlement or motion. It occurs because of the loss of ability of earth materials to maintain their integrity at a specific gradient and settle or into lesser gradient or position of greater equilibrium. This category encompasses these features which develop as a result of the increased loading from seismic energy.

Analysis: Based on the relatively lower slope gradients at the residence and pool, the risk of seismically induced landslides is judged to be low to nil. The surrounding area and the local areas with steeper slopes (greater than 2:1) may be prone to earthquake induced landslides.



Mitigation: Proper drainage devices and slope cover should be implemented and regular maintenance should be maintained to reduce the future potential of slope instability as recommended herein. No other measures are required.

4.2.8. Slope Deformation

General Discussion: Newmark's method treats a landslide or sliding block as a rigid-plastic body, (i.e. the mass does not deform internally), experiences no permanent displacement at accelerations below the critical or yield level, and deforms plastically along a discrete basal shear surface when the critical acceleration is exceeded. The Newmark's sliding block analysis for estimating seismic displacements requires an initial estimate of the yield acceleration for a selected cross section. The yield acceleration is the horizontal seismic force required to produce a safety factor of 1.0.

Analysis: The site is essentially flat, and the risk is nil.

Mitigation: No measures are required.



5.0. GEOTECHNICAL CONSIDERATIONS

5.1. Regional Geology

The proposed site is located regionally within the western Transverse Ranges geologic/geomorphic province of California. This province is characterized by generally east-west trending mountain ranges composed of sedimentary and volcanic rocks ranging in age from Cretaceous to Recent. The western Transverse Ranges province of Southern California is characterized by east-west trending folds and faults, which contrast with the regional northwest-southeast structural trend that predominate in the Peninsular Ranges and the California Continental Borderland. The different structural trend of the western Transverse Ranges results from the convergence created by the "big bend" of the San Andreas fault at the northeastern limit of the province.

Major east-trending folds, reverse faults, and left-lateral strike-slip faults reflect regional north-south compression and are characteristic of the Transverse Ranges. The proposed site development is located within the Channel Islands Harbor and is within the southwestern part of the Oxnard Plain. The onshore Oxnard Plain and Santa Clara River Valley together with the adjacent offshore Ventura Mainland Shelf and Santa Barbara Channel form the Ventura Basin, which is the dominant structural element of the western Transverse Ranges.

The Ventura Basin is an elongated depression that bisects the Transverse Ranges between Point Conception and the San Gabriel fault. The basin is bounded on the north by the Santa Ynez Mountains and on the south by the Santa Barbara Channel Islands. To the west, the basin merges with the Santa Maria basin at the Santa Ynez Mountains. The Ventura basin is filled with a thick sequence of Mesozoic and Cenozoic sedimentary deposits estimated to be more than 6,100 meters (20,000 feet) in total thickness. The Oxnard Plain and Ventura Mainland Shelf is a prograding delta that resulting from the deposition of sediments transported to the coast by the Ventura and Santa Clara Rivers. The Santa Clara River is the largest river in Southern California in terms of discharge and suspended sediment load, and is the largest source of sediment to the area. During periods of lowered sea levels, these two large rivers crossed the exposed delta and transported sediments directly to the shelf edge. Both the Ventura and Santa Clara Rivers have migrated or avulsed across the coastal plain and shelf through geologic time. Geologic evidence suggests that the Santa Clara River has migrated as far south as the Hueneme Canyon during periods of lowered sea level in the Late Pleistocene (Dahlen, 1992).

5.2. Regional Geotechnical Setting

USGS topographic maps of the project vicinity indicate that the surface topography in the general area is relatively flat and is characterized by a very gentle slope of less than 1 percent to the southwest. Historic maps for this region indicate that the predevelopment geomorphology along this section of coast included coastal dunes and back dune lagoons, estuaries, wetlands, and meandering streams. The lagoons in this region were part of five



smaller lagoons or wetlands between Hueneme and Mugu. This suggests that those lagoons were remnants of major drainage systems that were active during historical periods of sea level low stands, when sea level was as much as 350 feet lower than present.

5.3. Potential Geotechnical Hazards Analysis

5.3.1. Landslides

General Discussion: The subject of landslides is a widely encompassing subject and cannot be fully covered in a brief summary; however, landslides are downslope motions of earth materials or bedrock or combinations of both. Landslides are a more defined unit and are similar to slumps, but are on a larger scale. They can move by translational movement or rotational settlement or a combination of both. It occurs because of the loss of ability of earth materials to maintain their integrity at a specific gradient and settle or into lesser gradient or position of greater equilibrium. The internal strength of the material is lost and the material settles into a form where the mass is centralized on the downhill side of motion. The material is a cohesively connected unit that settles or moves as a unit. Landslides are usually associated with water because of water increasing the unit weight and decreasing the internal strength of the materials. The chances of a landslide occurring are increased by increases in slope gradient, looseness of materials, unfavorable bedding (out of slope), clay content of the bedrock, underground springs, unfavorable slope orientation with existing fault boundaries, human disturbance of the landslide or its boundaries, increases in groundwater, earthquake forces, increases in water content and disturbance of the lateral confining forces and/ or the portion of a slope

Evaluation: The site is relatively flat, and no risk exists at this time.

Mitigation: No measures are required.

5.3.2. Rock Topple

General Discussion: Rock topple can occur when loose blocks of exposed bedrock are induced to move and travel downslope when set free by earthquake forces, undermining of supporting earth from erosion or animal disturbance. Generally, slopes with a gradient of greater than 3:1 (horizontal to vertical) are more susceptible to rock topple and rolling.

Evaluation: The site is relatively flat, and no risk exists at this time.

Mitigation: No measures are required.



5.3.3. Debris Flow

General Discussion: Debris flows are downslope motions of mixtures of earth materials as a loosely connected unit that flows rather than slides. Debris flows can be dry or wet materials, but are usually associated with water because of water increasing the unit weight and decreasing the internal strength of the materials in question. The chances of a debris flow occurring are increased by increases in slope gradient, presence of loose materials, lack of cementation, increases in groundwater or water content, earthquake forces and disturbance of the lateral forces and/ or the portions of a slope.

Evaluation: The site is relatively flat, and no risk exists at this time.

Mitigation: No measures are required.

5.3.4. Slumps

General Discussion: Slumps are downslope motions of earth materials as a more defined unit that moves in a translational movement or rotational settlement. It occurs because of the loss of ability to maintain integrity within the mass at a specific gradient. The internal strength of the material is lost and the material settles into a form where the mass is centralized on the downhill side of motion. The material is a cohesively connected unit that settles and moves as a mass. Slumps are usually associated with water because of water increasing the unit weight and decreasing the internal strength. The chances of a slump occurring are increased by increases in slope gradient, material looseness, lack of cementation, increases in groundwater or water content, earthquake forces and disturbance of the lateral confining forces and/ or the portions of a slope.

Evaluation: The site is relatively flat, and no risk exists at this time.

Mitigation: No measures are required.

5.3.5. Rippability of Surficial Materials

General Discussion: Rippability is measure of the hardness and difficulty that conventional equipment will encountered during drilling and excavations.

Evaluation: The materials encountered are easy to drill and excavate. Excavations will encounter wet soils and high groundwater.

Mitigation: The contractor may be required to perform dewatering and/or shoring as materials are weak and may require shoring.



5.3.6. Groundwater

General Discussion: Groundwater can impact all phases of site development and require special provisions. Groundwater encountered during site grading or development can result in special subgrade stabilization, dewatering efforts or delays for soil spreading and drying. Concrete placed below water requires special placing techniques and additives.

The affects of water on concrete structures or buildings can result in a wide range of affects including nuisance moisture to water inundation, as well as, adverse affects

Evaluation: Groundwater was encountered at depth between 4 to 6 feet, and maybe encountered at higher elevations, depending on rainfall and adjacent irrigation.

Mitigation: Special mitigation measures may be required for various construction aspects, depending on use and acceptable risk.

5.3.7. Expansive Soils

General Discussion: Expansive soils swell or heave with increases in moisture content and shrink with decreases in moisture content. Montmorillontic clays are most susceptible to expansion. Foundations for structures constructed on expansive soils require special design considerations.

Evaluation: Clays encountered during the subsurface exploration were judged to be low to moderately plastic based on field testing. Similarly the silts were judged to be moderately elastic.

Mitigation: Moderately expansion design values will be used for the foundation and slab design. Other mitigation measures will include thickened slabs, extending slab edges, and additional reinforcement will reduce negative impacts from any expansive soil movement. In addition, the use of capillary break under slabs, will reduce the potential for moisture transport and pumping that leads to moisture infiltration as a result of heat and moisture gradients. It is essential that sand thickness under slabs be used for concrete curing only and be kept at 2 inches or less. The American Concrete Institute has found that greater thicknesses tend to provide conveyance of excessive moisture under the slabs.

5.3.8. Existing Fill

General Discussion: Uncontrolled artificial fills are considered to be unsuitable for support of structures and other improvements. This is typically due to any number of reasons which include but not limited to: high voids which may collapse or consolidate upon loading; high organics which decay leaving additional voids or high moisture soils which compress; inconsistent mixtures of fills which may perform differently, changes in consistency over



short spans which leads to differential settlement; uneven expansion potential which may result in differential movement of foundation elements, lack of proper benching which may lead to fill creep, and numerous other conditions.

Older controlled fills tend to be prone to hydroconsolidation, excessive settlements or creep. This is a result in the change of compaction methods and efforts (i.e. three layer method versus five layer method for maximum density determinations), experience in keyways, subdrains, benching and many other factors. In addition, older fills may tend to lose integrity due to several factors including bioturbation, organic material decay, shrink swell cycles and other mechanisms that adversely affect the fills.

Therefore, the custom and practice in the industry typically dictates that these types of fills not be relied on for structural support of foundations or slabs. Typical mitigations range from total removal to specially designed structural elements or in-situ treatments.

Evaluation: Artificial fill at the site, in the area of the proposed development is roughly 2 feet thick and doesn't pose a risk to the development.

Mitigation: No mitigation measure is required.

5.3.9. Hydroconsolidation

General Discussion: Hydroconsolidation occurs when soil layers collapse (settle) when water is added under loads. Natural deposits susceptible to hydroconsolidation are typically aeolian, alluvial, or colluvial materials with high apparent strength when dry. The dry strength of the materials may be attributed to the clay and silt constituents in the soil and the presence of cementing agents (i.e. salts). Capillary tension may tend to act to bond soil grains. Once these soils are subjected to excessive moisture and foundation loads, the constituency including soluble salts or bonding agents is weakened or dissolved, capillary tensions are reduced and collapse occurs resulting in settlement.

Evaluation: The onsite soils are saturated and testing did not indicate that the materials are prone to hydroconsolidation in the upper materials. Materials at depth are of sufficient density to not be prone to hydroconsolidation.

Mitigation: No mitigation measures are necessary.

5.3.10. Subsidence

General Discussion: Subsidence is the sinking of the ground surface caused by the compression of soil layers. The causes range from groundwater, oil and gas withdrawal, oxidation of organics, or the placement of additional fill over compressible layers.



Evaluation: The regional has experienced periods of subsidence from groundwater withdrawal. Given the type of construction and localized imprint, no conditions were encountered at the site that would be influenced by subsidence.

Mitigation: No mitigation measures are necessary.

5.3.11. Basal Inclination or Varying Thickness of Fill over Natural Slopes

General Discussion: In general two conditions can typically be encountered that involve the inadequate/improper placement of fill over existing slopes

- a). Differential thicknesses of fill below structures can result in unacceptable levels of differential settlement, if the variation in thickness occurs over relatively short distances.
- b). The placement of fill on inclined surfaces and/or without adequate benching or keyways may result in unacceptable levels of movement or settlement related to creep or the development of landsliding or slumping.

Evaluation: The site is level and no risk is present.

Mitigation: No mitigation measures are necessary.

5.3.12. Geotechnical Slope Stability Analysis

General Discussion: Geotechnical slope stability evaluates the factor of safety which is simply defined as the ratio of driving forces of a hypothetical critical failure surface to the available resisting forces (R/D). In general, for static conditions, the custom and practice in the industry generally requires a factor of safety of 1.5 or greater. Under pseudostatic conditions, slopes are required to have a factor of safety of 1.1 or greater. Where the factor of safety under pseudostatic conditions is less, a Newmarks analysis is required to assess whether the predicted permanent displacement can be acceptable. If the criteria for one or both of these analysis is not met, mitigation measures will be required to obtain the necessary factors of safety.

Slope stability analysis utilizes the commercial computer Stedwin for the gross and pseudostatic analysis. Stedwin computes the factor of safety of earth and rock slopes. The program allows the analysis of both simple and complex problems for a variety of slip surface shapes, groundwater and pore-water pressure conditions, soil properties, analysis methods and loading conditions. Using limit equilibrium, the program can model heterogeneous soil types, complex stratigraphic and slip surface geometry, and variable pore-water pressure conditions using a large selection of soil models for determining the factor of safety's for slope analysis as well as determining Newmark analysis displacements.



Information regarding the program and associated theory can be obtained from www.stedwin.com.

Evaluation: The site is relatively level and no slope stability analysis is required.

Mitigation: None required.

5.3.13. Geotechnical Temporary Excavation Analysis

General Discussion: Temporary excavations consist of slopes to be constructed as part of construction or excavations adjacent to existing foundations.

Evaluation: No plans were available at the time of this report, however, areas of the pool is anticipated to be a maximum of 6 feet for the under slab collection facilities for leachate.

Mitigation: The contractor should construct all slopes in accordance with these recommendations, or provide independent shoring plans. Where excavations are made adjacent to foundations, special measures will be required.

5.3.14. Surficial Stability

General Discussion: The surficial stability of the existing slopes were analyzed using an infinite slope model that assumes a uniform planar slope; uniform soil densities; constant shear strengths; and, uniform seepage parallel to the slope.

Evaluation: No slopes are present on the site.

Mitigation: No measures are required.

5.3.15. Slope Deformation

General Discussion: A cursory evaluation of seismic displacement has been provided to give an order of magnitude estimate to the amount of displacement that could be expected in response to a range of median peak horizontal ground accelerations. Newmark's method treats a landslide or sliding block as a rigid-plastic body, (i.e. the mass does not deform internally), experiences no permanent displacement at accelerations below the critical or yield level, and deforms plastically along a discrete basal shear surface when the critical acceleration is exceeded. Other assumptions in the analysis include:

1. The static and dynamic shearing resistance of the soil is taken to be the same;
2. The effects of dynamic pore pressure are neglected;



3. The critical acceleration is not strain dependent and thus remains constant throughout the analysis;
4. The upslope resistance to sliding is taken to be infinitely large such that displacement is prohibited.

The Newmark's sliding block analysis for estimating seismic displacements requires an initial estimate of the yield acceleration for a selected cross section. The yield acceleration is the horizontal seismic force required to produce a safety factor of 1.0.

Evaluation: No slope are present on the site.

Mitigation: No mitigation measures are required.



6.0. GEOTECHNICAL SUMMARY & CONCLUSIONS

RJR Engineering Group has prepared this geotechnical investigation to identify potentially adverse geotechnical conditions and ascertain the engineering properties of earth materials anticipated to be encountered during construction of the ADF complex. A detailed engineering analysis was performed and provided detailed engineering assessment of potential geotechnical hazards at the site. Where applicable, RJR has provided potential mitigation measures that can be implemented during design.

This report has been prepared as part of the feasibility study approval by the County of Ventura, CUP process, and to provide preliminary geotechnical design parameters for the proposed development.

Based on the studies and analysis performed by RJR the primary geotechnical hazards identified at the site were:

- i. Strong to severe seismic shaking;
- ii. Secondary affects of groundshaking;
- iii. Loose/soft soils prone to settlement or low bearing capacity and high lateral earth pressures; and,
- iv. High groundwater.

In general these hazards present varying degrees of hazard to the site but are readily mitigated by standard construction measures and techniques that are readily employed in the engineering field. The only hazard identified at the site that cannot be mitigated is the threat of tsunamis. The hazard and exposure to the site remains similar to all other sites in the region and the proposed construction will not exacerbate the hazard.

In summary, the proposed development is considered feasible from a geotechnical standpoint within the guidelines stated in this report. The proposed agricultural operations will not mitigate most, if not all of the potential risks, which will be assumed by the owner. This report presents a preliminary screening and explanation of these risks.

If the owners so choose, no conditions were encountered that could not mitigated within the guidelines and specifications of the current codes, guidelines and custom and practice in the industry for geotechnical engineering.

Once preliminary site plans have been developed additional review will be required to address any remaining design issues and mitigation measures. A Building Stage report will be required to ensure the recommendations of this report have been incorporated into the building plans and no additional or revised recommendations are required.



7.0. GEOTECHNICAL RECOMMENDATIONS

The following recommendations, which are presented as guidelines to be used by the project designers, have been prepared assuming RJR Engineering Group will review a complete set of plans prior to construction, and observe all construction activities. When plans have been completed, RJR Engineering Group should review these plans to determine if additional recommendations are necessary for the proposed development.

The following geotechnical recommendations are provided as guidelines and will be adjusted as necessary for the specific site conditions encountered during site construction. Where these recommendations do not specifically address a particular site condition, construction method or materials specification, the Standard Specifications for Public Works Construction Projects (Greenbook), latest edition, should be used. Where there is a conflict between the RJR specifications and the Greenbook, the more restrictive condition should be assumed, unless revised by RJR.

7.1. Earthwork

These specifications present general procedures and requirements for grading and earthwork and anticipated for overall construction of the proposed project. Recommendations contained in this report should be considered a part of the project specifications and supersede any prior recommendations or provisions. Evaluations performed by RJR Engineering Group during the course of grading may result in new recommendations that could supersede these specifications or recommendations of this report.

It shall be the responsibility of the contractor to provide adequate equipment and construction methods to accomplish the work in accordance with the applicable grading codes or agency ordinances, these specifications and the approved grading plans.

If, in the opinion of RJR Engineering Group, unsatisfactory conditions, survey control, inadequate compaction, soil-water content, fill mixture, consistency, adverse weather, or other conditions which may adversely affect the project are resulting in a quality of work less than required in these specifications, RJR Engineering Group will reject the work and recommend that construction be stopped until the conditions are rectified or made appropriate.

7.1.1. Site Preparation

At the present time, no site grading or work is proposed.

Where any grading is performed, some general guidelines have been provided within the following sections.



Areas of the site to be built upon, paved, or excavated should be stripped to remove any surface debris, vegetation and organic topsoil. Soil containing more than 2 percent by weight of organic matter should be considered an organic soil and is not suitable for use in structural fill. For planning purposes, an average stripping depth of 4 inches may be assumed. Strippings should be wasted off-site or used in landscaping, as designated by the project architect. Any shrubs designated for removal should be cut down, and the stumps and roots should be removed.

7.1.2. Grading

The materials arising from the stripping operations and removal areas as well as foundation excavations that are considered suitable for reuse as structural fill should be stockpiled for subsequent use. The suitability of the materials should be determined in the field by the project engineer at the time of excavation. Alternatively, these materials should be suitable for on-site landscaping as necessary.

On-site, any imported soil proposed for use as structural fill should be inorganic, free from deleterious materials, with a Plastic Index less than 20 and should contain no more than 15 percent by weight of rocks larger than 4 inches (largest dimension) and no rocks larger than 6 inches. Soil containing more than 2 percent by weight of organic matter should be considered organic and should not be used as engineered fill. All import should be tested and approved by RJR prior to delivery to the site.

The proposed fill materials should be thoroughly mixed and processed to achieve consistent soil-water content with uniform soil mixture and consistency. The fill materials should be reasonably free of large soil lumps or clods, and free of uneven features that would inhibit compaction efforts. Care should be made to ensure that the soil is not over watered or that too much effort is applied in the compaction effort which could result in subgrade pumping.

The soil surface exposed by stripping and excavation activities should be approved by RJR prior to fill placement. The limits of all bottom excavations shall be precisely surveyed at this time.

7.1.3. Compaction

Structural fill using the on-site soils, or approved import, should be placed in layers, each not exceeding 8 inches loose thickness (before compaction), water conditioned and compacted as specified above. All fill shall be compacted with a sheepsfoot or similar method, as approved by RJR to ensure adequate compaction.

Isolated areas or areas with limited access may be compacted with hand equipment or track-walked. In these areas fills shall be placed in layers not exceeding 4 inches, water conditioned and compacted as specified above. All fill shall be compacted as approved by



RJR. All compaction standards are based on ASTM Test D1557. All materials placed as engineered fill shall be placed at 90 percent relative compaction at about optimum soil-water content, unless otherwise specified as requiring special compaction.

Compaction Standards: All compaction standards are based on ASTM Test D1557.

General Compaction: All materials placed as engineered fill shall be placed at 90 percent relative compaction at 1 to 3 percent over optimum soil-water content, unless otherwise specified as requiring special compaction.

Special Compaction: All engineered fill placed within 10 feet of a slope face or at a depth greater than 20 feet shall be compacted to 93 percent relative compaction to approximately optimum soil-water content. All utility lines and the upper 18 inches of pavements shall be compacted to 95 percent relative compaction to approximately optimum soil-water content.

Compaction tests should be performed every 18 to 24 vertical inches and/or 1,000 cubic yards of fill or as determined necessary by the field engineer to verify adequate compaction and ensure proper soil-water content.

7.1.4. Bottom Excavations Removal Depths and Limits of Grading

Removal of existing fill and unsuitable materials will be made in the area of the proposed improvements during construction. To provide a homogeneous foundation blanket, we recommend:

New Foundations: All new foundations shall consist of over-excavating the existing fill and soil, and placement of a minimum of 3 feet of engineered fill below the bottom of the proposed foundation. Excavations adjacent to the existing foundations will require shoring or slot cutting to ensure proper lateral confining pressure be maintained. Removals shall extend a minimum of 5 feet beyond all new foundations, where possible.

Hardscape: We recommend a minimum of 1.5 feet for all hardscape provided all fill is completely removed in the area. We recommend that over-excavation limits extend a minimum of 1 foot beyond the limits of all hardscape.

Driveway/Access Roads: Any new portions of the access roads will require the removal of unsuitable soils and replaced with engineered fill to soil subgrade in accordance with the compaction requirements of this report. All excavations shall extend 1 foot horizontally beyond the proposed driveway.

All areas of removal shall be mapped by RJR during construction, and illustrated on a map in the Rough Grade report. RJR will conduct a site review with the grading contractor prior to the start of grading to review approximate depths and limits of removal. The limits of the



pool must be precisely known and staked in the field prior to grading.

The bottom excavation(s) shall be accurately surveyed to measure the lateral limits, dimensions and elevation and approved by a representative of RJR.

7.1.5. Temporary Excavations

Temporary excavations will be required for the proposed construction. However, no plan was available so specific recommendations are not provided at this time. The following is general recommendations and more specific recommendations will be provided at a subsequent date.

Non-Surcharged Excavations: Temporary vertical excavations up to 3 feet in may be made for short construction periods, but may be prone to sloughing or collapses. Excavations in excess of 3 feet shall be trimmed back to a 1-1/2:1, and soils should be considered a Type C soil (based on Cal Osha) for all excavations.

Surcharged Excavations: Any excavations within a 3:1 plane, or a zone of influence of an existing wall, retaining wall, structure or building, shall be considered a surcharged foundation and will require specific recommendations and shoring plans before any excavations occur in the area to prevent undermining or the removal of lateral confining pressure for the element.

Slot Cuts: Excavations in the existing fill may be performed in A-B-C slots. The exact height of the temporary excavation and width of the required slots will be determined once foundation plans have been prepared. For planning purposes we propose the following recommendations. Slot cuts shall be excavated a maximum width of 8 feet with an A-B-C slot configuration with supporting wedge slope angles at 1-1/2:1 gradients.

Additional Requirements: No temporary excavations shall be made or maintained during periods of rain without the approval of the project geotechnical consultant.

It shall be the responsibility of the contractor to provide construction sequencing or shoring plan for any surcharged excavations. As well, it shall be the owner and contractors responsibility to notify the County and the project geotechnical consultant prior to any grading.

7.1.6. Excavation Characteristics of On-Site Materials

Based on the subsurface exploration, we anticipate that wet and soft/loose soils will be encountered in any excavations within 20 feet of the ground surface. Groundwater will be encountered at a depth of 4 to 6 feet, and higher levels may be assumed during and following periods of rain.



7.1.7. Storm Water Management

Materials that underlie the site may be prone to moderate to high erosion. Storm water management practices should be implemented during all phases of construction throughout the year in accordance with County and State CGP requirements, where applicable.

In general, site management practices for all equipment storage, entry areas, re-fueling, as well as, erosion control and prevention should be in accordance with the State of California's Best Management Practices as outlined for SWPPP plans in the CASQA handbook and other industry standards.

Additional recommendations include the following:

- a. No temporary excavations should occur during periods of inclement weather
- b. All stockpiles should be covered and perimeter sandbagged during periods of rain.
- c. All foundation excavations that were approved prior to rain will be voided and will require re-certification by RJR after the rain event(s) and cleared of mud and water.

7.1.8. Material Specifications

On-Site Soils: Based on the subsurface program and testing, all on site soils and existing fills will need to be thoroughly mixed and processed to be used as engineered fill. The need for adding water or drying will depend on when grading occurs.

General Fill Materials: General fill should be trash, and should contain no more 15 percent by weight of rocks larger than 4 inches (largest dimension) and no rocks larger than 6 inches. Soil containing more than 2 percent by weight of organic matter should be considered organic and is not allowed as engineered fill. General fill materials should have an expansion index of less than 50 and a plastic index of less than 30.

In general, the fills under the pavements should have a minimum R-value (exudation and expansion) of 15.

Select Fill: Select fill has not been specifically recommended at this time. Where used, the select materials should possess the following characteristics:

- Expansion Index ≤ 20
- Plasticity Index: ≤ 10
- Friction Angle ≥ 35 degrees
- Gradation:
 - Maximum Size: 1 inches
 - Sand Percentage: 50 – 90 percent



Fines (Passing No. 200): 10 – 30 percent

Aggregate Base: Aggregate base should consist of imported materials conforming to Caltrans Standard Specifications for Class II Aggregate Base, Section 26. The minimum CBR value for aggregate base used in heavy traffic areas shall be 80.

Aggregate Subbase: Aggregate subbase should be Class 1 conforming to Section 25 for “Aggregate Subbase” of the Standard Specifications and Standard Special Provisions. Aggregate subbase should have a sand equivalent of at least 21, an R-value of at least 60 for heavy traffic areas.

Asphalt Concrete: Asphalt concrete should consist of Type B, 19-millimeter, maximum/medium grading conforming to Section 39, “Asphalt Concrete” of Caltrans Standard Specifications.

Portland Cement Concrete Pavement: Portland cement concrete to be used for pavement construction should conform to Caltrans Standard Specifications for “Portland Cement Concrete” per Section 90.

Capillary Break Material: Capillary break should be a free-draining material, such as 3/8" pea gravel or an approved permeable aggregate complying with Caltrans Standard Specifications, Section 68, Class 1, Type A or B.

Drainage Blankets: The drainage blanket should consist of durable gravel, crushed rock and sand or a combination of these materials that meet the following specifications from Caltrans Standard Specifications, Section 19-3.065, except as modified below:

<u>Sieve Size</u>	<u>Percent Passing</u>
2"	100
No. 4:	50 - 75
No. 50	25 - 50
No. 100	0 - 8
No. 200	0 - 2

Retaining Subdrains: All subdrains shall consist of clean, durable, river run subrounded to rounded rock with the following specifications:

<u>Sieve Size</u>	<u>Percent Passing</u>
2"	100
1-1/2"	0 – 100
3/4"	0

All subdrain pipes should consist of a minimum of 4 inch diameter pipes with outlets every 50 feet. Any pipe extending greater than 100 feet should be increased to a 6 inches in diameter with outlets every 100 feet. All pipe outlets on slopes shall be constructed with a “tee” and staked and protected during construction.



7.2. Foundations

7.2.1. General Evaluation of Existing Slab Criteria

Foundation Type: At this time, we understand the existing 60 feet x 80 foot concrete slab will be utilized for the operation. We understand from the client that the slab is approximately 6 to 8 inches in thickness, with 6 to 8 inch thick deepened edges at the perimeter. Concrete testing confirmed that the unconfined compressive strength of the concrete was in excess of 3,500 psi (Appendix E). We understand the existing slab was doweled in to the existing building. Rebar reinforcement and dowels consisted of #5 rebar at 24 inches on center.

Bearing Materials: The slab was placed on compacted soil subgrade was processed by over-excavating the upper 12 inches, and adding 12 inches of Class A base under the slab. The slab is supported on a soft, sandy silt soil, based on the adjacent borings.

Soil Strength Parameters:

Internal Angle of Friction: 29 degrees
 Cohesion: 210 psf
 Total Bulk Weight: 125 pcf

Bearing Capacity Analysis: Any evaluation of the existing slab should utilize the following design parameters presented in Table 7 which assumes groundwater at Elevation +8 (surface):

Table 7: Conventional Foundation Geotechnical Design Parameters

Design Parameters	Design Values
Expansion Index: 51 - 90 (Moderate)	
<u>Conventional Foundations - Continuous¹</u>	
Pre-Saturation Depth	- Inches
Pre-Saturation Soil-Moisture Content (over Opt.)	- percent
Bearing Materials	Native Soil
Allowable Bearing Capacity	800 psf ^{2,3}
Lateral Resistance	200 psf/ft ^{2,3}
Maximum Lateral Resistance	1,600 psf ^{2,3}
Coefficient of Friction	0.25
Minimum Embedment into Foundation Materials	- Inches
Minimum Embedment Below Adjacent Grade	- Inches
Minimum Width	- Inches



Minimum Reinforcement	Rebar
<u>Conventional Foundations - Isolated Footings¹</u>	N/A
Note 1: Bearing portion of footing shall be at least 20' horizontally from adjacent descending slopes greater than 3:1. All foundations shall be at least 5 feet below a 2:1 plane from the toe of locally over-steepened slopes.	
Note 2: May be increased by a factor of 1/3 for short duration loading (i.e. wind, seismic, etc.)	
Note 3: Decrease by 1/3 when combined with friction	

Additional Vertical Loading Recommendations: Bearing values may be increased for additional depth or width in accordance with the CBC, latest edition.

The bearing values presented above are net bearing values and the weight of concrete below grade may be neglected.

Additional Lateral Loading Recommendations: All lateral values assume that level ground extends at least 2.5 times the embedment depth of the foundation element, thereby providing passive resistance between the outside edge of the foundation element and the nearby slope crest.

Ultimate sliding resistance generated through a soil/concrete interface can be computed by multiplying the total dead weight of the structure by an allowable coefficient of friction.

Sliding and passive resistance may be combined without a reduction in values when utilizing a factor of safety of 1.5 and 2.0 respectively. The factor of safety for sliding can be reduced to 1.5, if passive resistance is neglected.

Concrete Considerations: We recommend that all concrete in contact with the soil, shall be Type V cement. A maximum water cement ratio of 0.45 and in accordance with the CBC, latest edition, shall be used for all concrete in contact with on-site soils.

Seismic Designs: The foundations shall be designed in accordance with CBC, latest edition, as specified in Table 5 (above) of this report.

Additional Recommendations: The maximum edge pressure should not exceed the appropriate allowable pressure, for foundations subjected to eccentric loads and/or overturning moments. The resultant of the pressure under a footing should be located within the middle third of the width of the footing.

Where large lateral forces are applied to foundations concurrently with vertical forces, the vertical bearing capacity is reduced. The allowable vertical bearing pressures presented herein are valid where concurrently applied lateral loads that do not exceed 20 percent of the



total applied vertical load. If larger loads are applied, the allowable vertical bearing pressures should be reduced. The geotechnical consultant should be retained to analyze specific loads and provide recommendations.

Foundations may experience an overall loss in bearing capacity or an increased potential to settle where located in close proximity to existing or future utility trenches. Furthermore, stresses imposed by the footings on the utility lines may cause cracking, collapse and/or a loss of serviceability. To minimize this risk, foundations should extend below a 2:1 plane, given the soft soil conditions at the site, projected upward from the closest bottom corner of the trench.

Foundation Settlements under Static Conditions: We expect settlement response to applied foundation loads to be predominately immediate as loads are applied. Total settlements under the applied dead and live loads will vary depending on the bearing value used and the width of the foundation.

For column foundations, the total immediate settlement may be taken as $0.000025qB$ (in inches), where q is the bearing in psf, and B is the width of the foundation in feet.

For wall foundations, the total immediate settlement may be taken as $0.000045qB$ (in inches).

We understand that the proposed equipment and operation will impose loads of 20 kips. Based on the materials encountered in the borings, settlements in excess 1 to 2 inches may be experienced from the proposed loading. Additional review would be required to provide a more detailed assessment.

Differential settlements between foundations should be taken as the greater of either the difference of the total settlement provided herein for each foundation based on the width and bearing, or one-half the total settlement of each foundation, but no less than 1/4-inch. Table 8 provides a general basis for classification of crack magnitude and damage that should be considered.

If non-uniform bearing materials (relative to composition, consistency, moisture and expansion potential) are encountered at final pad grade, additional mitigation measures may be required to reduce the potential for differential settlement.

Table 8: Severity of Cracking Damage (Brown, 1996)

Damage Category	Description of typical damage	Approx. Crack Width	Δ	δ/L
Negligible	Hairline cracks	< 0.1 mm	< 3cm (1.2 in.)	< 1/300



Very Slight	Very slight damage includes fine cracks that can be easily treated during normal decoration, perhaps an isolated slight fracture in building, and cracks in external brickwork visible on close inspection.	1 mm	3-4 mm (1.2-1.5 in.)	1/300 to 1/240
Slight	Slight damage includes cracks that can be easily filled and redecoration would probably be required; several slight fractures may appear showing on the inside of the building; cracks that are visible externally and some repointing may be required; doors and windows may stick.	3 mm	4-5 mm (1.5-2.0 in.)	1/240 to 1/175
Moderate	Moderate damage includes cracks that require some opening up and can be patched by a mason; recurrent cracks that can be masked by suitable linings; repointing of external brickwork and possibly a small amount of brickwork replacement may be required; doors and windows stick; service pipes may fracture; weather tightness is often impaired.	5 to 15 mm or a number of cracks >3mm	5-8 mm (2.0-3.0 in.)	1/175 to 1/120
Severe	Severe damage includes large cracks requiring extensive repair work involving breaking out and replacing sections of walls (especially over doors and windows); distorted windows and door frames; noticeably sloping floors; leaning or bulging walls; some loss of bearing in beams; disrupted service pipes.	15 to 25 mm but also depends on number of cracks	8-13 mm (3.0-5.0 in.)	1/120 to 1/70
Very Severe	Very severe damage often requires a major repair job involving partial or complete rebuilding; beams lose bearing; walls lean and require	Usually >5mm but also depends on number	> 13 cm (>5 in.)	< 170



	shoring; windows are broken with distortion; there is danger of structural instability.	of cracks		
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We understand that since this is an agricultural process and a pilot program, the client understands and accepts that the slab may be subject to excess settlement and cracking.

If excess settlements do occur, the slab could be mud jacked or other remedial repairs could be performed.

7.2.2. Foundation Setback

The subject area is relative level and no setback considerations are required.

7.3. Concrete Slabs-on-Grade

For the purposes of analyzing loading conditions and deflections of the concrete slab loads and matt foundations, a modulus of vertical subgrade reaction (k_v) of 25 tons per cubic foot may be assumed for the existing soil.

7.4. Retaining Walls

7.4.1. Conventional Cantilever Retaining Walls

The following parameters may be used for the preliminary design of concrete or masonry block cantilever retaining walls.

Geotechnical Strength Parameters: The average bulk density of material placed on the backfill side of the wall will be approximately 125 pcf, with a phi angle of 29 degrees and cohesion of 210 psf.

Foundations: Retaining walls shall be founded on conventional foundations where the ground surface is level in front of the wall based on Section 7.2.1.

Active Equivalent Fluid Pressures: The proposed retaining wall may be designed to support an "active" equivalent fluid pressure of 84 pcf that is assumed to act upon a vertical plane extending down from the ground surface to the bottom of the heel of the wall increasing linearly with depth, starting from zero at the ground surface, for undrained conditions. These values are for non-seismic conditions and are based on undrained conditions where the wall will tolerate deflections up to 0.01H to 0.02H (cohesive) to generate "active" pressures. Undrained values have been provided where a suitable subdrain



system cannot be installed or properly outlet.

Restrained/At-Rest Equivalent Fluid Pressures: If wall deflections required to generate active pressure of 109 pcf cannot be tolerated or the retaining wall will be incorporated as part of the proposed structure or connected at the top, the retaining wall pressure should be designed for an "at-rest" equivalent fluid pressure. The loading is assumed to act upon a vertical plane extending down from the ground surface to the bottom of the heel of the wall increasing linearly with depth, starting from zero at the ground surface for undrained conditions.

Surcharge Conditions:

1. **Vehicle:** An increase in the equivalent fluid pressure may be necessary if vehicular traffic or any building structures are to be located adjacent (within a 1:1 plane) to the retaining wall. Construction traffic and compaction equipment should be kept a minimum of 5 feet from the retaining wall unless these surcharges are utilized in the design of the retaining walls.
2. **Adjacent Walls and Foundations:** Vertical surcharges and lateral thrusts from adjacent foundations or retaining walls shall be determined by the project structural engineer and considered where stacked wall conditions (eg garage area) occur.
3. **Compaction Equipment:** Large compaction equipment should be maintained a 1:1 distance from the back of the wall to prevent excess compaction pressures unless accounted for in the retaining wall design in accordance with NavFAC 7.2.

Wall Backfill: All retaining wall backfill may be backfilled with native soils.

Waterproofing: Waterproofing shall be at the structural engineer or designers discretion.

Retaining Wall Subdrains: The collection facilities will be submerged under groundwater at various times and a subdrain will not be effective.

Wall Factors of Safety: We recommend the following factors of safety be considered for use in the retaining wall design.

- F.S. of at least 1.50 - Sliding - Static Loading
- F.S. of at least 1.50 - Overturning - Static Loading
- F.S. of at least 1.25 - Sliding - Pseudo-Static Loading
- F.S. of at least 1.25 - Overturning - Pseudo-Static Loading

Dynamic Earth Pressures: All retaining walls shall be designed with dynamic earthquake loads as required by the CBC, 2010.

For unrestrained walls, the increase in the lateral earth pressure due to the earthquake loading can be estimated using the Mononobo-Okabe theory based on Seed and Whitman (1970).



The theory is based on the assumption that sufficient wall movement occurs during seismic shaking to allow active earth pressure conditions to develop.

For restrained walls, the increase in lateral earth pressure due to earthquake loading can also be estimated using the Mononobo-Okabe theory. Based on Seed and Whitman (1970) and supporting studies by Nadim and Whitman (1992), there is indirect evidence that sufficient wall movements may occur during seismic shaking for such that the loading is accommodated by active earth pressures.

In the Mononobo-Okabe theory, the total dynamic pressure can be divided into static and dynamic components. The estimated dynamic lateral force increase (due to seismic loading) for either unrestrained or restrained walls may be taken as:

$$45 * pga * H^2 \text{ pounds per lineal foot of wall}$$

where pga is the peak ground acceleration used for design and H is the height of the wall above the ground surface. The centroid of the dynamic lateral force should be applied at a distance of $0.6 * H$ above the base of the wall.

To estimate the total dynamic lateral force, the dynamic lateral force increase should be added to the static earth pressure force computed using recommendations for lateral earth pressures presented above.

Lateral earth pressure calculations for the retaining walls are contained in Appendix D.

7.5. Utility Trenches

Trench Excavations: Vertical trench excavations and excavations greater than 3 feet in depth are prone to immediate collapse, and will be required to be trimmed back of shoring. All trenches should be made in accordance with the requirements of the State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" for minimum specifications and guidelines (Section 1541 and 1541.1 including the Appendices) for Type C soils.

Trench excavations, shapes and stockpiles shall be made in accordance with the Standard Specifications for Public Works Specifications and Standard Plans (Green Book).

Sand Bedding: For the purposes of this section of the report, bedding is defined as material placed in a trench up to 1 foot above a utility pipe and backfill is all material placed in the trench above the bedding. Unless concrete bedding is required around utility pipes, free-draining sand should be used as bedding. Sand proposed for use in bedding should be tested in our laboratory to verify its suitability and to measure its compaction characteristics and should have a minimum Sand Equivalent (S.E.) of 20.



Approved, on-site, inorganic soil, or imported materials may be used as utility trench backfill and should have a Sand Equivalent (S.E.) of 20. If imported material is proposed for use as trench backfill, a sample of it should be tested and approved by the project engineer before any is delivered to the site.

All sand bedding shall be in conformance with the Green Book requirements. Sand bedding may be jetted or flooded into place, but will require additional mechanical effort in the haunch areas and pipe zone to a compaction of at least 95 percent.

Trench Backfill: Proper compaction of trench backfill will be necessary under and adjacent to structural fill, building foundations, concrete slabs and vehicle pavements. In these areas, backfill should be conditioned with water to produce a soil-water content of about optimum value and placed in horizontal layers not exceeding 6 inches in thickness (before compaction). Each layer should be compacted to at least 95 percent relative compaction based on ASTM Test D1557. The upper 24 inches of trench backfill under vehicle pavements should be compacted to at least 95 percent relative compaction.

External Pipe Loads: External loading on pipes will include the dead loads from the weight of soil, loading due to construction activities and traffic live loads.

Loads on pipe due to the overlying soil will be dependent upon the depth of placement, the type of bedding, the type and method of backfill, the type of pipe and the configuration of the trench, and the additional loading from the increased thickness of fill materials. Pipes will be subjected to "trench conditions" and "embankment conditions". For all calculations and assessments the unit weight of the backfill materials may be assumed to be 125 pcf.

All pipes and improvements should be designed for buoyant forces.

Trench conditions are defined as those in which the pipe is installed in a relatively narrow trench (within 2 to 3 diameters of the pipe), and backfilled with bedding and trench backfill. Embankment conditions are defined as those in which the pipe is covered with fill above the ground surface or when the trench is so wide that trench wall side friction does not affect the load on the pipe.

For the proposed construction, pvc pipe should be suitable for trench and embankment conditions so long as the pipes are constructed with sand pipe bedding and properly backfilled with engineered fill.

Pipe Deflections: Flexible and semi-rigid pipes are typically designed to withstand a certain amount of deflection from the applied earth loads. To estimate deflection, a modulus of soil reaction of 500 pounds per square inch may be assumed for the backfill soil types and recommended bedding.



RJR recommends that flexible or semi-flexible pipes are only used in keyway and retaining wall subdrains. All drainage pipes shall use rigid pipes. If the contractor selects the use of a flexible or semi-flexible pipe, calculations should be provided to RJR with the appropriate specifications to demonstrate suitability.

7.6. Surface Drainage

Pad areas of the site should be finish graded to direct drainage away from all buildings and foundations. Drainage should not be allowed to pond anywhere on or adjacent to foundations or pavements and should be directed towards suitable collection and discharge facilities.



8.0. ADDITIONAL SERVICES AND FIELD OBSERVATIONS

Plan Check Review: Given the complex nature of the seismic and geologic regime in Southern California and the uncertainties associated with the subsurface conditions, geologic and geotechnical reports are prepared based on limited data which may represent all or a part of the actual site conditions. Localized conditions can and do vary across the site. Therefore most government and public agencies review the reports and provide comments and review. These reviews provide a second party review to the findings, conclusions and recommendations provided in this report. In some cases this information may be subject to modification and change. Therefore, it may be necessary for RJR to coordinate with the various agencies and provide addendum reports as additional work to our original scope.

This report has been prepared for the purposes of feasibility and additional work and review will be necessary for the Grading and Building Stage phase of the project. It shall be the Owner/Client sole responsibility to ensure that the other consultants, designers and contractors are provided copies of the original reports and any addendums and letters. A list of these reports and letters should be listed on the project plans for reference.

Plan Review: Because of uncertainty regarding subsurface conditions and materials properties, this report has been prepared. RJR should be provided the opportunity to review the proposed Site Plans, Foundation Plans and Grading Plans and construction drawings, and to comment on the geotechnical aspects of the project plans and specifications before they are finalized. The purpose of the review will be to ensure that the modeling and assumptions are valid, and evaluate if the recommendations in this report have been properly implemented in the design and specifications.

Geotechnical Site Control: If RJR is not retained to perform field geotechnical observations, testing and approvals the recommendations and findings presented herein are voided. It is essential to understand that the findings and conditions of the site are based on limited data which as to be verified during construction. Therefore, the interpretations, findings, conclusions and recommendations may change as more information is obtained.

RJR does not provide surveying for the project during construction. It shall be the responsibility of the client, his agents, successors in interest or contractor to ensure that adequate line and grade, as well as, elevation control is provided for use during site testing and observations.

RJR is not responsible for the performance of work by third parties on the project, including but not limited to the architect, civil engineer, structural engineer, surveyor and contractors. RJR's observation of work and plans performed by others does not relieve said parties of their responsibility to perform their tasks in accordance with the plans, specifications, safety requirements and standard of care as it pertains to their respective field. RJR will provide observations, testing and advice as it pertains to the field services expressly contracted under the terms of RJR's Standard Agreement.



RJR's approvals of the geotechnical conditions are valid for that specific tie and condition. This approval may become invalidated with any and all changes to the field condition, subsequent changes of elevations, grades, changes in design or construction, alterations of drainage, as well as the passage of time, acts of god or other unforeseen conditions or variations of the assumed models, unless expressly approved by RJR.

RJR will not be responsible for the acts, errors or omissions of the contractors or other parties associated with the project or project site.

Any changes to site improvements including but not limited to: grades, elevations, drainage, slopes, foundations, subdrains, proposed improvements and structures' location or design without the express written consent of RJR invalidates any previous approval, express or implied by this report or subsequent reports.

Construction Monitoring: Geologic and geotechnical assessments are necessary during construction to verify and observe the subsurface conditions. The construction process is an integral design component with respect to the geotechnical aspects of the project. It is important to understand that geology and geotechnical engineering is an inexact science, and is subjective in nature due to a myriad of variations and combination of conditions that may occur at and adjacent to a site. Acceptable conditions at one site may lead to catastrophic failure at another, and it is important to understand the interrelationships of the various natural and man-made processes that occur and may influence a site. As a result it may not be possible to anticipate and characterize the surface and subsurface conditions at a site, and fully understand the potential site impacts based on the available data. Therefore the interpretations are based on the best available data at the time. Proper geotechnical observations and testing during construction is imperative in allowing the geotechnical engineer the opportunity to verify the assumptions made during the design process.

RJR should be retained during site development to observe compliance with the design concepts and geotechnical recommendations. It is essential that the owner and contractor understand and arrange the contracts accordingly, that change may and do occur do to foreseeable and unforeseen conditions do to the complex interactions of processes and relationships, as well as, changes in construction methods and phasing.



9.0. LIMITATIONS AND CONDITIONS

Report Use: The recommendations contained in this report are based on the proposed site improvements as supplied by the Client. Any change in the plans, information and data will render our recommendations invalid unless we are commissioned to review the change and to make any necessary modifications and/or additions to our recommendations. Our recommendations have been made in accordance with the principles and practices generally employed by the geotechnical engineering profession. This is in lieu of all other warranties, expressed or implied. This report is presented for the exclusive use of the Client and is not transferable or applicable to other sites. This report and its contents are copyrighted and shall not be copied, reproduced or used in any manner without the express written permission of RJR Engineering Group.

Plan Review: Geotechnical review of the future grading and foundations should be performed when the site plans become available. Modifications to the plan or this report may arise from our review. Therefore, we should review the project plans for feasibility as soon as possible to ensure that the recommendations contained in this report are applicable to the proposed improvements. Failure to provide RJR the opportunity to review the plans will invalidate any and all findings of this report.

Agency Review: The findings, conclusions and recommendations in this report are preliminary in nature until the review and approval by the Agency. Therefore, RJR recommends that the use of this information not be relied upon until such time as the necessary reviews and approvals have occurred.

Accuracy of the Topographic Map and Site Plans: The geotechnical analysis of a particular site and subsequent conclusions and recommendations with respect to a proposed project are highly dependent on certain factors which include but are not limited to the topographic conditions of the site, adjacent slopes and grades, and/or the location of the property lines. It should be understood that it is RJR's assumption that the provided topographic map accurately depict the locations of the existing structure, ground surface, site improvements, proposed structures, easements, proposed grades and other relevant features.

RJR has used this topographic map and associated site plan as the basis for this study, and any changes may alter or change the results of the analysis and report. It should be understood that RJR's use of the topographic survey, grading plan, and/or site plans does not imply or verify the accuracy, completeness, quality or correctness of the respective plan. If at a time subsequent to the completion of this report a revision is made to the site topographic map or site plans, the findings, conclusions and recommendations of this report may be partially or wholly invalidated or revised. These revisions could result in additional exploration, testing, analysis and recommendations.

Locations of Subsurface Exploration: The location and elevation were used using a tape and bruton pocket transit, and interpolation between contours, reference to existing features illustrated on the topography map. The location and elevation of the exploratory excavations



are only as accurate as these methods allow and based on our best efforts to properly locate the borings. The locations are approximate and may be subject to variations depending on the method used, and should be considered accurate only to the degree implied by the method used, unless otherwise indicated.

Changes in Conditions: Subsurface exploration of any site is necessarily confined to selected locations. Conditions may, and often do, vary between and around such locations, especially in slope failures. The results of the subsurface conditions presented in this report are valid at the time and location of the observation, under the given site, weather, and the experience of the professional at the time of the exploration. Extrapolation of these conditions and modeling to any other location of the site, is based judgment and may and will vary from the actual conditions. In summary, if observation or exploration was performed at a certain location, it may not be indicative of the portions of the site not explored or observed. If the client or contractor requires site or location specific data, then additional testing should be performed.

Should conditions differ from those encountered in our explorations, during the project development, additional exploration, testing and analyses may be necessary, as well as, changes in project design and construction. The client has the responsibility to ensure that RJR is provided all design plans, calculations and specifications for the site.

In addition, it is essential for all parties to recognize and understand that the geotechnical field is a science prone to a wide variety of differing opinions. As such, the data presented in this report may be scrutinized and evaluated by another professional or professional in a different manner. This may lead to varying or completely different opinions and interpretations. In addition, the understanding or acquisition of additional data may partially or wholly render different findings, conclusions and recommendations than those originally presented.

The client is responsible to see that all parties to the project, including the designer, contractor, subcontractors, etc. are made aware of this report in its entirety. It shall be the Clients and their Contractors responsibility to ensure that RJR is properly and timely notified of any constructions and possible changes in conditions. Site conditions due change with the passage of time, therefore, the conclusions and recommendations should not be relied upon if the site is subjected to a major earthquake, severe storms or other phenomenon without further review by RJR.

Land use, site conditions (both on- and off-site) or other factors may change over time, and additional work may be required with the passage of time. The findings, conclusions and warranties provided in this report may and will change with time with respect to engineered fill, fill slopes, slope stability, expansive soils, drainage and other aspects of the site. Many factors discussed in this report and not included within the scope of this report may alter or negate the findings of this report with the passage of time. The results of any compaction or density results may and will change with the passage of time and may vary depending on the method used by the researcher.



Geotechnical Construction Verification: Users of this report should recognize that the construction process is an integral design component with respect to the geotechnical aspects of the project. Because geotechnical engineering is an inexact science due to the variability of the natural processes, construction methods and phasing, unanticipated or changed conditions can occur with time. The findings, testing, conclusions and recommendations contained in this report are based on relatively limited testing and sampling of the materials encountered at the site. Therefore, proper geotechnical observations and testing during construction is imperative to allow the geotechnical engineer the opportunity to verify the assumptions made during the design process. This will enable us to compare the generalized site conditions assumed in this report with those found at the site at the time of construction, and to verify that construction complies with the intent of our recommendations. If conditions or features of the site or surrounding area are observed to be different than described herein, this office should be notified immediately for our evaluation.

Changes in the design and recommendations should be anticipated during construction which may affect the grading, foundations and other aspects of the design and the owner and contractor should anticipate these changes in their agreements. Failure to provide RJR the opportunity to perform construction observations and testing will invalidate any and all findings of this report.

Hazardous Materials: The scope of our geotechnical services did not include any environmental assessment for the presence or absence of hazardous/toxic materials in the soils, surface water, subsurface waters or atmosphere. Any statement or absence of statements in this report or data presented herein regarding odors, unusual or suspicious items, or conditions observed are strictly for descriptive purposes.

Custom and Practice in the Industry: In performing our professional services, RJR has generally accepted geologic and geotechnical engineering principles and applied the degree of care and skill ordinarily exercised by civil engineers and geologist in the geotechnical field, under similar circumstances by reputable professional in this areas and similar localities. The conclusions and recommendations have been made based on the limited scope of work and studies and are based on the best available data available to RJR at the time of this report. Further, it should be understood that RJR has made certain assumptions as to the construction and development which includes the type of work and phasing. Additional information and plans may modify these findings and conclusions. No other warranties, express or implied, is made as to the professional advice and work performed for this report.



10.0. REFERENCES

- Andrus, R.D. & Stokoe, K.H., II. 2000. Liquefaction resistance of soils from shear-wave velocity. *Journal of Geotechnical and Geoenvironmental Engineering* 126(11):1015-1025.
- ASCE (undate). *Technical Engineering and Design Guides as Adapted from the U.S. Army Corps of Engineers*, No 9, pp. 46-52.
- Bartlett, S.F. and Youd, T.L., 1995, "Empirical Prediction of Liquefaction-Induced Lateral Spread"; *Journal of Geotechnical Engineering*, Vol. 121, April, 1995.
- Baxter, C.D. et al. 2008. Correlation between cyclic resistance and shear-wave velocity for Providence silts. *Journal of Geotechnical and Geoenvironmental Engineering* 134(1):37-46.
- Been, K. & Jefferies, M.G. 1985. A state parameter for sands. *Geotechnique* 35(2):99-112.
- Been, K., Crooks, J.F.A., & Jefferies, M.G. 1986. The cone penetration test in sands: part I, state parameter interpretation. *Geotechnique* 36(2):239-249.
- Been, K., Jefferies, M.G., Crooks, J.F.A., & Rothenberg, L. 1987. The cone penetration test in sands: part II, general inference of state. *Geotechnique* 37(3):285-299.
- Blake, T.F. (1997). Formula (4), Summary Report of Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils. Youd, T.L., and Idriss, I.M., eds., Technical Report NCEER 97-0022.
- Boore, D.M., Joyner, W.B., and Fumal, T.E., 1993, "Estimations of Response and Peak Accelerations from Western North American Earthquakes"; An Interim Report, U.S.G.S. Open-File Report, 93-509.
- Bouckovalas, G.D., Andrianopoulos, K.I., and Papadimitriou, A.G. 2003. A critical state interpretation for the cyclic liquefaction resistance of silty sands. *Soil Dynamics and Earthquake Engineering* 23:115-125.
- Boulanger, R.W. 2003. High overburden stress effects in liquefaction analyses. *Journal of Geotechnical and Geoenvironmental Engineering* 129(12):1071-1082.
- Boulanger, R.W. & Idriss, I.M. 2006. Liquefaction susceptibility criteria for silts and clays. *Journal of Geotechnical and Geoenvironmental Engineering* 132(11):1413-1426.
- Bozorgni, Y., Niazi, M., and Campell, K.W., 1995, "Characterics of Free-Field Vertical Ground Motion During the Northridge Earthquake", *Earthquake Spectra*, Vol. 11, No. 4, pp 515-525.
- Bozorgni, Y., Niazi, M., and Campell, K.W., 1999, "Vertical Ground Motion: Characterics, Relationships with Horizontal Component, and Building- Code Implications", in *Proceeding of the SMIP99 Seminar on Utilization of Strong Motion Data*, September 15, 1999, Oakland, California, California Strong Motion Instrumentation Program, Sacramento, California, pp. 23-49.
- Bray, J.D. & Sancio, R.B. 2006. Assessment of the liquefaction susceptibility of fine-grained soils. *Journal of Geotechnical and Geoenvironmental Engineering* 132(9):1165-1177.
- Campanella, R.G., Robertson, P.K. & Gillespie, D. 1981, In-situ testing in saturated silt (drained or undrained?)", 34th Canadian Geotechnical Conference, Fredericton, New Brunswick.
- Campbell, K.W., 1993, "Empirical Prediction of Near Source Ground Motion from Large Earthquakes"; *Proceedings, International Workshop on Earthquake Hazard and Large Dams in the Himalaya*, sponsored by the Indian National Trust for Art and Cultural Heritage (INTACH), New Delhi, India.
- Carter, J.P. Booker, J.R. & Yeung, S.K. 1986. Cavity expansion in cohesive frictional soils. *Geotechnique* 36(3):349-358.
- Cetin, K.O., Seed, R.B., Kjureghian, A.D., Tokimatsu, K., Harder, L.F., Kayen, R.E., & Moss, R.E.S. 2004. Standard Penetration test-based probabilistic and deterministic assessment of seismic soil liquefaction potential. *Journal of Geotechnical and Geoenvironmental Engineering* 130(12):1314-1340.
- Chu et al. 2004. Documentation of soil conditions at liquefaction and non-liquefaction sites from 1999



- Chi-Chi (Taiwan) earthquake. *Soil Dynamics and Earthquake Engineering* 24:647-657.
- Dharma, D., & Sanin, M.V. 2006. New sample holder for the preparation of undisturbed fine-grained soil specimens for laboratory element testing. *Geotechnical Testing Journal*, ASTM 29(3): 1-8.
- Davis, T.L., and Namson, J.S., 1994, "A balanced cross-section of the 1994 Northridge earthquake, southern California"; *Nature*, v. 372, p. 167-169.
- "Evaluation and Mitigation of Seismic Hazards"; Department of Conservation Division of Mines and Geology, January 22-24, 1998;
- Gregory, G.H., 2003, "GSTABL7 with STEDwin, Slope Stability Analysis System", version 2.004.
- Guo, T. & Prakash, S. 1999. Liquefaction of silts and silt-clay mixtures. *Journal of Geotechnical and Geoenvironmental Engineering* 125(8):706-710.
- Harder, L.F., Jr. (1997). "Application of the Becker Penetration Test for evaluating the liquefaction potential of gravelly soils," *Proc. NCEER Workshop on Evaluation of Liquefaction Resistance of Soils*, Youd, T.L., and Idriss, I.M., eds., Technical Report NCEER 97-0022, pp. 129-148.
- Harder, L.F., Jr., and Seed, H.B. (1986). Determination of Penetration Resistance for Coarse-Grained Soils Using the Becker Hammer Drill, *Earthquake Engineering Research Center, Report No. UCB/EERC-86/06*, University of California, Berkeley.
- Hauksson, E., Jones, L.M., Hutton, K., 1995, "The 1994 Northridge earthquake sequence in California"; Seismological and tectonic aspects: *Journal of Geophysical Research*, v. 100, no. B7, p. 12,335-12,355.
- Høeg, K., Dyvik, R. & Sandbækken, G. 2000. Strength of undisturbed versus reconstituted silt and silty sand specimens. *Journal of Geotechnical and Geoenvironmental Engineering* 126(7):606-617.
- Hofmann, B.A. 1997. In situ ground freezing to obtain undisturbed samples of loose sand for liquefaction assessment. Ph.D. thesis, Department of Civil and Environmental Engineering, University of Alberta, Edmonton, Alberta, Canada.
- Hofmann, B.A., Segoo, D.C., & Robertson, P.K. 2000. In situ ground freezing to obtain undisturbed samples of loose sand. *Canadian Geotechnical Journal* 126(11):979-989.
- Huang, A.B., Hsu, H.H., & Chang, J.W. 1999. The behavior of a compressible silty fine sand. *Canadian Geotechnical Journal* 36(1): 88-101.
- Huang, A.B., & Hsu, H.H. 2004. Advanced calibration chambers for cone penetration testing in cohesionless soils. *ISC-2 on Geotechnical and Geophysical Site Characterization*, Porto, Portugal, 1:147-167.
- Huang, Y.T, Huang, A.B., Kuo, Y.C., & Tsai, M.D. 2004. A laboratory study on the undrained strength of a silty sand from Central Western Taiwan. *Soil Dynamics and Earthquake Engineering* 24(9-10):733-743.
- Huang, A.B., Huang, Y.T. & Ho, F.J. 2005. Assessment of liquefaction potential for a silty sand in Central Western Taiwan. *Proc. XVI ICSMGE Osaka*: 2653-2657.
- Huang, A.B., & Huang, Y.T. 2007. Undisturbed sampling and laboratory shearing tests on a sand with various fines contents," *Soils and Foundations* 47(4):771-781.
- Huang, A.B., Tai, Y.Y., Lee, W.F., and Ishihara, K. 2008. Sampling and field characterization of the silty sand in Central and Southern Taiwan. *The 3rd International Conference on Site Characterization*, Taipei, Taylor & Francis:1457-1463.
- Huang, A.B. 2009. Lessons learned from sampling and CPT in silt/sand soils. *International Conference on Performance-Based Design in Earthquake Geotechnical Engineering – from case history to practice*, Tokyo.
- Idriss, I.M., 1993, "Procedures for Selecting Earthquake Ground Motions at Rock Sites"; National Institute of Standards and Technology, NIST GCR 93-625.
- Ishihara, K. (1993). "Liquefaction and flow failures during earthquakes," *Geotechnique*, Vol. 43, No. 3, pp. 351-415.
- Ishihara, K. 1996. Soil behavior in earthquake geotechnics. Clarendon Press, Oxford, UK, 350p.



Ishihara, K., & Harada, K. 2008. Effects of lateral stress on relations between penetration resistances and cyclic strength to liquefaction. The 3rd International Conference on Site Characterization, Taipei:1043-1050.

Idriss, I.M. & Bulanger, R.W. 2006. Semi-empirical procedures for evaluating liquefaction potential during earthquakes. *Soil Dynamics and Earthquake Engineering* 26:115-130.

Jefferies, M.G. & Been, K. 2006. *Soil liquefaction – A critical state approach*. Taylor & Francis, 479p.

Juang, C.H., Jiang, T. & Andrus, R.D. 2002. Assessing probability-based methods for liquefaction potential evaluation. *Journal of Geotechnical and Geoenvironmental Engineering* 128(7):580-589.

Juang, C.H., Fang, S.Y. & Khor, E.H. 2006. First-order reliability method for probabilistic liquefaction triggering analysis using CPT. *Journal of Geotechnical and Geoenvironmental Engineering* 132(3):337-350.

Konrad, J.M. 1988. Interpretation of flat plate dilatometer tests in sand in terms of state parameter. *Geotechnique* 38 (2):263-278.

Konrad, J. M., St-Laurent, S. Gilbert, F., & Leroueil, S. 1995. Sand sampling below the water table using the 200 mm diameter Laval sampler. *Canadian Geotechnical Journal* 32:1079-1086.

Korgen, B.J., 1995, "Seiches", *American Scientist*, vol. 83, No. 4, July-August, pp. 330-341.

Kramer, S.L. (1996). *Geotechnical Earthquake Engineering*, Prentice-Hall Civil Engineering and Engineering Mechanics series, 653 pages.

Liao, S.S.C., and Whitman, R.V. (1986). "Overburden correction factors for SPT in sand," *Journal of Geotechnical Engineering*, ASCE, Vol 112, No. 3, pp.373 - 377.

Mageau, David and Stauffer, Shaun, 1998, "Lateral Spread Earth Pressures on Drilled Shafts"; *Geotechnical Earthquake Engineering and Soil Dynamics III*, ASCE; August, 1998.

Martin, G.R. and Lew, M., eds., 1999, "Recommended Procedures for Implementation of

DMG Special Publication 117, *Guidelines for Analyzing and Mitigating Liquefaction Hazards in California*"; Southern California Earthquake Center, University of Southern California, March, 1999.

McNeilan, T.W., & Bugno, 1984. W.T. Cone penetration test results in offshore California silts. *Symposium on Strength Testing of Marine Sediments. Laboratory and In-Situ Measurements*, San Diego, ASTM STP 883:55-71

Mesri, G., and Shahien, M., 2003, "Residual Shear Strength Mobilized in First-Time Slope Failures"; *Journal of Geotechnical and Geoenvironmental Engineering*; Vol. 129, No. 1.

Mitchell, J.K., and Brandon, T.L. (1998). "Analysis and use of CPT in earthquake and environmental engineering," *Proc. Insitu 1998, Atlanta*, pp. 69-97.

Monaco, P., Marchetti, S., Totani, G. & Calabrese, M. 2005. Sand liquefiability assessment by Flat Dilatometer Test (DMT). *Proc. XVI ICSMGE, Osaka*, 4: 2693-2697.

Moss, R.E.S. 2003. CPT-based probabilistic assessment of seismic soil liquefaction initiation. Ph.D. dissertation, University of California, Berkeley, CA.

Moss, R.E.S., Seed, R.B. & Olen, R.S. 2006. Normalizing the CPT for overburden stress. *Journal of Geotechnical and Geoenvironmental Engineering* 132(3):378-387.

National Center for Earthquake Engineering Research (NCEER). 1997. *Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils*, T.L. Youd & I.M. Idriss, Editors, Technical Report NCEER-97-022.

Papadimitriou et al. (2001), A.G., Bouckovalas, G.D., & Dafalias, Y.F. 2001. Plasticity model for sand under small and large cyclic strains, *Journal of Geotechnical and Geoenvironmental Engineering* 127(11):973-983.

Polito, C.P. & Martin II, J.R. 2001. Effects of nonplastic fines on the liquefaction resistance of sands. *Journal of Geotechnical and Geoenvironmental Engineering* 127(5):408-415.

Pradel, D., 1998, "Procedures to Evaluate Earthquake-Induced Settlements in Dry Sandy Soils";



Journal of Geotechnical and Geoenvironmental Engineering, Vol. 124, No. 4, April, pp. 364-368.

"Probabilistic Seismic Hazard Assessment for the State of California"; 1996, Department of Conservation, Division of Mines and Geology Open File Report 96-08.

Robertson, P.K. & Campanella, R.G. 1986 Estimating liquefaction potential of sands using the flat plate dilatometer. *Geotechnical Testing Journal* 9(1): 38-40.

Robertson, P.K., Sully, J.O., Woeller, D.J., Lunne, T., Powell, J.J.M., & Gillespie. 1992. Estimating coefficient of consolidation from piezocone tests. *Canadian Geotechnical Journal* 29:539-550.

Robertson, P.K., and Wride, C.E. (1997). "Cyclic liquefaction and its evaluation based on the SPT and CPT," Proc. NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Youd, T.L., and Idriss, I.M., eds., Technical Report NCEER 97-0022, pp. 41-88.

Robertson, P.K., et al., (1995). "Liquefaction of Sands and Its Evaluation," Special Keynote and Themes Lectures, Preprint Volume, 1st Intl. Conf. on Geotechnical Earthquake Engineering, pp. 91-128.

Robertson, P.K. & Wride, C.E. 1998. Evaluating cyclic liquefaction potential using the cone penetration test. *Canadian Geotechnical Journal* 35:442-459.

Roy, D. 2008. Coupled use of cone tip resistance and small strain shear modulus to assess liquefaction potential. *Journal of Geotechnical and Geoenvironmental Engineering* 134(4):519-530.

Sadigh, K., C.Y. Chang, N.A. Abrahamson, S.J. Chiou and M.S. Power, 1993, "Specifications of Long Period Ground Motions, Updated Attenuation Relationships for Rock Conditions and Adjustment Factors for Near-Fault Effects"; Proceedings of Seminar on Seismic Isolation, Passive Energy, Dissipation, and Active Control, Vol. 1, Applied Technology Council ATC-M-1.

Schnaid, F. 2006. Geo-characterization and properties of natural soils by in situ tests. XVI International Conference on Soil Mechanics and Geotechnical Engineering, Osaka, Japan, Vol.1:3-45.

Seed, H.B. & Idriss, I.M. 1971. Simplified procedure for evaluating soil liquefaction potential. *Journal of Soil Mechanics Division, ASCE* 97(SM9): 1249-1273.

Seed, H.B., and Idriss, I.M. (1971). "Simplified procedure for evaluating soil liquefaction potential," *Journal of the Soil Mechanics and Foundations Division, ASCE*, Vol. 107, No. SM9, pp. 1249-1274.

Seed, H.B. 1979. Soil liquefaction and cyclic mobility evaluation for level ground during earthquakes. *Journal of the Geotechnical Engineering Division, ASCE* 105(GT2): 201-255.

Seed, H.B. & Idriss, I.M. 1982. Ground motions and soil liquefaction during earthquakes, *Earthquake Engineering Research Institute Monograph No.5*, Berkeley, CA.

Seed, H.B., and Idriss, I.M., 1983, "Ground Motion and Soil Liquefaction during Earthquakes"; *Earthquake Engineering Res. Inst. Monograph*, Earthquake Engineering Research Institute, El Cerrito, California.

Seed, H.B., Tokimatsu, K., Harder, Jr. L.F. & Chung, R. 1984. The influence of SPT procedures on soil liquefaction resistance evaluations, Report No. UCB/EERC-84/15, University of California, Berkeley.

Seed, H.B., Tokimatsu, K., Harder, L.F., & Chung, R.M. 1985. Influence of SPT procedures in soil liquefaction resistance evaluation. *Journal of Geotechnical Engineering* 111(2):1425-1445.

Seed, H.B., and De Alba, P. (1986). "Use of SPT and CPT test for evaluating the liquefaction resistance of soils," Proc. Insitu 1986, ASCE.

Seed, R.B. (1996). "Recent advances in evaluation and mitigation of liquefaction hazards," *Ground Stabilization and Seismic Mitigation, Theory and Practice*, Portland, Oregon, Nov. 6 and 7, 1996.

Seed, R.B., Cetin, K.O., Moss, R.E.S., Kammerer, A., Wu, J., Pestana, J. et al. 2001. Recent advances in soil liquefaction engineering and seismic site response evaluation. Proc. 4th International Conference and Symposium on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, University of Missouri, Rolla, Paper SPL-2.



- Shuttle, D.A. & Jefferies, M.G. 1998. Dimensionless and unbiased CPT interpretation in sand. *International Journal of Numerical and Analytical Methods in Geomechanics* 22:351-391.
- Singh, S., Seed, H.B., & Chan, C.K. 1982. Undisturbed sampling of saturated sands by freezing. *Journal of the Geotechnical Engineering Division, ASCE* 108(2):247-264.
- Sladen, J.A. 1989. Problems with interpretation of sand state from cone penetration test. *Geotechnique* 39(2): 323-332.
- SP117. Southern California Earthquake Center. Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California. University of Southern California. March 1999.
- Stark, T.D., & Olson, S.M. 1995. Liquefaction resistance using CPT and field case histories. *Journal of Geotechnical Engineering Division* 121(12):856-869.
- Stark, Timothy, 2003, "Analysis of Landslides: Shear Strengths, Testing, and Stability Methods"; Short Course, March 2003, Los Angeles, California.
- Stark, Timothy, Eid, Hisham T., 1997, "Slope Stability Analysis in Stiff Fissured Clays"; *Journal of Geotechnical and Geoenvironmental Engineering*; Vol. 123, No. 4, April 1997.
- Stark, Timothy, Eid, Hisham T., 1994, "Drained Residual Strength of Cohesive Soils"; *Journal of Geotechnical and Geoenvironmental Engineering*; Vol. 120, No. 5.
- Suzuki, Y., Tokimatsu, K., Koyamada, K., Taya, Y. & Kubota, Y. 1995. Field correlation of soil liquefaction based on CPT data. *International Symposium on Cone Penetration Testing, CPT'95*, Vol.2:583-588.
- Suzuki, Y., Koyamada, K., and Tokimatsu, K. (1997). "Prediction of liquefaction resistance based on CPT tip resistance and sleeve friction," *Proc. XIV Intl. Conf. on Soil Mech. and Foundation Engrg.*, Hamburg, Germany, pp. 603-606.
- Tani, K., & Kaneko, S., 2006. Method of recovering undisturbed samples using water-soluble thick polymer. (in Japanese) *Tsuchi-to-Kiso, Journal of Japanese Geotechnical Society* 54(4):145-148.
- Tokimatsu, K, Suzuki, Y, Taya, Y. & Kubota, Y. 1995. Correlation between liquefaction resistance of in-situ frozen samples and CPT resistance. *Proc. 10th Asian Regional Conference on Soil Mechanics & Foundation Engineering*, Beijing: 493-496.
- Thevanayagam, S. 1998. Effects of fines and confining stress on undrained shear strength of silty sands. *Journal of Geotechnical and Geoenvironmental Engineering* 124 (6):479-491.
- Thevanayagam, S. & Martin, G.R. 2002. Liquefaction in silty soils – screening and remediation issues. *Soil Dynamics and Earthquake Engineering* 22: 1035-1042.
- Thevanayagam, S., Shenthian, T., Mohan, S. & Liang, J. 2002. Undrained fragility of clean sands, silty sands, and sandy silts. *Journal of Geotechnical and Geoenvironmental Engineering* 128 (10):849-859.
- Wang, W. 1970. Some findings in soil liquefaction. *Water Conservancy and Hydroelectric Power Scientific Research Institute*, Beijing, China.
- Working Group on California Earthquake Probabilities, 1988, "Probabilities of Large Earthquakes Occurring in California on the San Andreas Fault System": U.S. Geological Survey Open-File Report 88-398, 62 p.
- Working Group on California Earthquake Probabilities, 1990, "Probabilities of Large Earthquakes in the San Francisco Bay Region, California"; U.S. Geological Survey Circular, 1053, 51 p.
- Working Group on California Earthquake Probabilities, 1995, "Seismic Hazards in Southern California: Probable Earthquakes, 1994 to 2024"; *Bull. Seismol. Soc. Amer.*, 85, 379-439.
- WGCEP- Working Group on Northern California Earthquake Potential, 1996, "Database of Potential Sources for Earthquakes Larger than Magnitude 6 in Northern California"; U.S. Geological Survey Open-File Report.
- Yamamuro, J.A. & Covert, K.M. 2001. Monotonic and cyclic liquefaction of very loose sands with high



silt content. *Journal of Geotechnical and Geoenvironmental Engineering* 127(4): 314-324.

Yoshimi, Y., Hatanaka, M., & Oh-Oka, H. 1977. A simple method for undisturbed sand sampling by freezing. *Proc. 9th International Conference on Soil Mechanics and Foundation Engineering, Special Session 2, Tokyo, Japan*:23-28.

Youd, T.L. and Idriss, I.M., eds., 1997, "NCEER workshop on evaluation of liquefaction resistance of soils", *Tech. Rep. NCEER-97-0022, National Center for Earthquake Engineering Research, Buffalo.*

Youd, T.L., Hansen, C.M., and Barlett, S.F., 1998, "Revised MLR Equations for Predicting Lateral Displacement"; *Proc. Of the 7th U.S.-Japan Workshop on Earthquake Resistant Design of Lifeline Facilities and Countermeasures Against Soil Liquefaction, August 15-17, 1998, Seattle, Washington, Multidisciplinary Center for Earthquake Engineering Research Technical Report.*

Youd, T.L. et al. 2001. Liquefaction resistance of soils: summary report from the 1996 NCEER and 1998 NCEER/NSF workshops on evaluation of

liquefaction resistance of soils. *Journal of Geotechnical and Geoenvironmental Engineering* 127 (10):817-833.

Yu, H.S. 1996. Interpretation of pressuremeter unloading tests in sand. *Geotechnique* 46 (1):17-32.

Yu, H.S., Schnaid, F. & Collins, I.F. 1996. Analysis of cone pressuremeter tests in sands. *Journal of Geotechnical and Geoenvironmental Engineering* 122 (8):623-632.

Ziony, J.I. and L.M. Jones, 1989, "Map showing late Quaternary faults and 1978-84 Seismicity of the Los Angeles Region, California"; *U.S. Geological Survey Miscellaneous Field Studies Map MF-1964, scale 1:250,000.*

Ziony, J.I. and R.F. Yerkes, 1985, "Evaluating earthquake and surface-faulting potential"; in Ziony, J.I., editor, *Evaluating Earthquake Hazards in the Los Angeles region - An Earth-Science Perspective: U.S. Geological Survey Professional Paper 1360, p. 43-91.*



11.0. DISTRIBUTION

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ATTACHMENT 16 - WORKS CITED

- Alquist-Priolo Earthquake Fault Zoning Act. California Code of Regulations Figure 2.2.3b
- California Invasive Plant Council. 2017. "The California Invasive Plant Inventory Database"
- California Regional Water Quality Control Board, Los Angeles Region. Water Quality Control Plan Los Angeles Region - Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. June 13, 1994.
- California, State of. 2014b. § 65996
- California, State of. 2023a. "California Environmental Quality Act (CEQA)." California Public Resources code, Division 13, §§ 21000 et seq.
- California, State of. 2023b. "Government Code."
- California, State of. 2023c. "Public Resources Code."
- California, State of. 2023d. "Geological Survey as part of California Seismic Hazards Mapping Act, 1991, Public Resources Code Sections 2690-2699.6."
- California, State of. 2023e. "Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines)." Title 14, California Code of Regulations, Chapter 3, § 15000 et seq.
- County of Ventura Public Works Agency. 2013b. "Road Standards."
- County of Ventura. 1994. Traffic Impact Mitigation Fee (TIMF) Ordinance No. 4246, Traffic Generation Factor Table.
- County of Ventura. 2001. "Ventura Countywide Siting Element."
- County of Ventura. 2010. "Construction Noise Threshold Criteria and Control Plan."
- County of Ventura. 2011. "Ventura County Initial Study Assessment Guidelines."
- County of Ventura. 2023. "Ventura County 2022 Building Code."
- County of Ventura. 2020. "Ventura County 2040 General Plan."
- County of Ventura. 2023a. "Resource Management Agency (RMA) Geographic Information System (GIS) Aerial Imagery and Maps."

County of Ventura. 2023b. "Ventura County Coastal Zoning Ordinance."

Federal Emergency Management Agency (FEMA). 2021. "Digital Flood Insurance Rate Map # 06111C0919F and 06111C0918F." <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd> Map Not Printed. (Accessed April 2023)

Ventura County Air Pollution Control District. 2003. "Ventura County Air Quality Assessment Guidelines."

Ventura County Air Pollution Control District. 2008. "Ventura County 2007 Air Quality Management Plan."

Ventura County Fire Protection District. 2022. "501 – Fire Apparatus Access Standard."

Ventura County Fire Protection District. 2022. "Ventura County Fire Code."