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## Appendices

# INITIAL ENVIRONMENTAL STUDY

ENVIRONMENTAL CHECKLIST FORM AND ENVIRONMENTAL DETERMINATION

This environmental document is an Initial Study. The Initial Study was prepared for the proposed project by the Lead Agency as a means to identify any significant environmental effects and to determine whether an Environmental Impact Report or Negative Declaration should be prepared.

The County of Orange, OC Waste & Recycling (OCWR) department is the Lead Agency for the project and is also the project proponent that will be implementing the project. The contact person for this project is John Arnau, OCWR CEQA Manager, phone: (714) 834-4107, email: john.arnau@ocwr.ocgov.com.

OCWR Project Number: 675

## 1.1 PROJECT TITLE

Bee Canyon Greenery Composting Operation at the Frank R. Bowerman (FRB) Landfill

## 1.2 PURPOSE

OCWR proposes to implement a green waste composting operation at the FRB Landfill called the Bee Canyon Greenery. The Bee Canyon Greenery will receive a maximum of 437 tons per day (TPD) of processed green waste and agricultural material. These green wastes are already being received on a daily basis at the FRB Landfill. The project will allow OCWR to assist Orange County cities and the County unincorporated area in meeting State recycling mandates for the recycling of organic waste materials.

## 1.3 PROJECT LOCATION AND LAND USE DESIGNATIONS

The 725-acre FRB Landfill site is located in unincorporated Orange County north and within the sphere of influence of the City of Irvine (Planning Area 3), and approximately 2.3 miles east of the intersection of Portola Parkway and Bee Canyon Access Road, as shown on **Figure 1**. The street address for the FRB Landfill is 11002 Bee Canyon Access Road, Irvine.

General Plan Land Use Designation: 4LS (Public Facilities; Landfill Site)

Zoning: Exempt

## 1.4 EXISTING CONDITIONS

The FRB Landfill is a Class III landfill that only accepts municipal solid waste for disposal from commercial haulers and vehicles operating under commercial status; no hazardous or liquid waste can be accepted. The landfill is currently authorized to receive a maximum daily tonnage of up to 11,500 TPD with an annual average of 8,500 TPD. The landfill also receives exempt wastes for beneficial reuse at the landfill which currently include processed green material, asphalt and soil. The landfill is currently scheduled to close in approximately 2053.

On-site facilities include an entrance and access road, fee stations, administration building, crew quarters, equipment and maintenance yard, storm water collection system, leachate and groundwater collection systems, sumps and storage tanks, landfill gas renewable energy facility, LFG collection and destruction equipment including a flare station and parking lots.

## 1.5 PROJECT NEED

SB 1383 requires California to divert and recycle at least 50 percent of all organic waste materials currently disposed at solid waste landfills by January 1, 2020 and at least 75 percent by January 1, 2025. In addition, AB 1594 will no longer allow jurisdictions to claim recycling credits for their green waste that is ground and turned into processed green material (PGM) and then brought to a solid waste landfill where it is used for alternative daily cover. Beginning on January 1, 2020, PGM that is used as alternative daily cover at solid waste landfills will be counted as disposal, and will become part of the landfill's daily disposal tonnage.

OCWR currently accepts approximately 2,000 TPD of PGM from almost all of the 34 incorporated cities in Orange County and the County unincorporated area for beneficial reuse at its three active landfills, which are the Olinda Alpha, Frank R. Bowerman (FRB) and Prima Deshecha Landfills. Most of the PGM material comes from residential pick-up. OCWR uses the PGM for alternative daily cover, geosynthetic tarp framing (i.e., weight to hold down the geosynthetic tarps that cover refuse in the evenings) and for erosion control at all three landfills. OCWR currently accepts the PGM at no charge and the jurisdictions receive AB 939 recycling credits for OCWR's beneficial reuse of the PGM at the landfills. Beginning on January 1, 2020, per the requirements of AB 1594, OCWR's use of PGM as alternative daily cover and for geosynthetic tarp framing will be considered disposal.

The implementation of the Bee Canyon Greenery at the FRB Landfill will allow OCWR to compost a maximum of 437 TPD of PGM and processed agricultural material at the FRB Landfill, thereby assisting the state, Orange County cities and the County unincorporated area in meeting SB 1383 and AB 1594 requirements for organic waste recycling.

## 1.6 PROJECT DESCRIPTION

*Open Windrow Composting*

Composting is a natural biological process that biodegrades organic waste and turns it into a valuable organic fertilizer. Composting is carried out under controlled aerobic conditions (i.e., requires oxygen). In this process, various microorganisms, including bacteria and fungi, break down organic material into simpler substances. The effectiveness of the composting process is dependent upon the environmental conditions present within the composting system, which include oxygen, temperature, moisture, material disturbance, organic material and the size and activity of microbial populations.

For the proposed Bee Canyon Greenery, OCWR is proposing to utilize open windrow composting. With open windrow composting, the green waste is placed in long rows called windrows. The windrows are turned (using a compost windrow turner or front-end loader) to

improve porosity and oxygen content, mix in or remove moisture, and redistribute cooler and hotter portions of the pile. Open windrow composting is a commonly used composting operation method. Composting process control parameters include the initial ratios of carbon and nitrogen rich materials, the amount of bulking agent added to assure air porosity, the pile size, moisture content and turning frequency. The temperature of the windrows must be measured and logged constantly to determine the optimum time to turn them for quicker compost production.

For open windrow composting, as temperatures in the compost pile increase, thermophiles (microorganisms that function at temperatures above 105 degrees Fahrenheit) take over. The temperature in the compost pile typically increases rapidly to 122-150 degrees Fahrenheit within 24 – 72 hours of pile formation, which is maintained for several weeks. This is called the active phase of composting. In the active thermophilic phase, temperatures above 131 degrees Fahrenheit are high enough to kill pathogens and weed seeds and to break down phytotoxic compounds (organic compounds toxic to plants). Compost is considered finished when the raw feedstocks are no longer actively decomposing and are biologically and chemically stable. Finished compost is dark brown or black (almost like bagged potting soil), crumbly textured and has a rich earthy smell. Finished compost must meet California Code of Regulations Title 14 requirements for pathogens, metals and physical contamination at the time of land application.

*Demonstration Pilot Composting Operation at the FRB Landfill*

Beginning in March 2018, OCWR implemented demonstration pilot PGM composting operations on existing landfill areas at the Olinda Alpha, FRB and Prima Deshecha Landfills. The purpose of the demonstration pilot composting operations, which are still ongoing, was for OCWR to (1) gain a better understanding of composting design, permitting, engineering and operations; (2) determine the costs associated with composting design, permitting, engineering and operations; (3) by studying and observing on a microscale, determine the potential environmental issues that could occur at a full-scale composting operation; (4) learn how to make high quality finished compost that will meet California Code of Regulations Title 14 requirements and (5) analyze the potential uses for finished compost.

The demonstration pilot composting operation at the FRB Landfill is located on an approximate 1-acre area within the eastern limits of the Phase VI landfill area. This area of the landfill is not currently being used for active landfill disposal. Material feedstocks that have been composted include source separated residential curbside green waste, commercial green waste, processed green waste and wood waste. These materials were already being delivered to the landfill. The demonstration pilot composting operation does not have more than 60 tons (i.e., 92 cubic yards) of material on-site at any one time or process more than 250 tons of material per year. The feedstock is placed on top of a crushed asphalt surface for all weather access and surrounded by an earthen berm to prevent storm water run-on and run-off. Any green waste received that is noticeably contaminated with residual solid waste, or is highly odorous, is diverted and disposed at the active area of the landfill. The demonstration pilot composting operation will continue at FRB as a research project, so that OCWR can continue to learn about composting, until such time as the Bee Canyon Greenery is fully permitted and operational.

*Proposed Project – Bee Canyon Greenery*

Currently, the FRB Landfill accepts approximately 1,056 TPD of PGM for beneficial reuse at the landfill, originating from incorporated cities in Orange County and the County unincorporated area. This material is grinded and screened at existing materials recovery facilities and composting operations, and then loaded into transfer trucks that carry approximately 20-ton payloads for delivery to the FRB Landfill (i.e., approximately 53 two-way truck trips per day). This green waste material, which is currently delivered to the FRB Landfill by Tierra Verde Industries, Republic and CR&R, is predominately from residential sources within Orange County. For the proposed Bee Canyon Greenery, it is proposed that a maximum of 437 TPD of this PGM will be diverted to the Bee Canyon Greenery for composting. Green waste that has not already been processed and brought to the landfill as PGM will not be accepted at the Bee Canyon Greenery. Unprocessed green waste (i.e., non PGM) will be directed to the landfill working face for disposal.

The proposed Bee Canyon Greenery will have the ability to accept any green and agricultural material except food material and vegetative food material that is separated at the point of generation, contains no greater than 1.0 percent of physical contaminants by dry weight, and meets maximum contamination requirements. Green material includes but is not limited to tree and yard trimmings, untreated wood wastes, natural fiber product, wood waste from silviculture and manufacturing, and construction and demolition wood waste. The facility will also have the ability to accept agricultural material that is strictly of plant origin, which result from the production and processing of farm, ranch, agricultural, horticultural, aquacultural, silvicultural, floricultural, vermicultural, or vermicultural products, including orchard and vineyard prunings and crop residues. Arriving materials will already have been pre-processed (chipped and ground and contaminants removed) and will be consolidated at the material receiving area prior to deployment into windrows.

The Bee Canyon Greenery will be developed in two phases on an approximate 30-acre area in the Phase V-D area of the FRB Landfill, as shown on **Figure 2** (Site Layout). Phase 1 will accept up to 210 TPD on a 17-acre area as shown on **Figure 3** (Phase 1 Operations Area). Once the existing Quinn maintenance yard is relocated, the operation will expand westerly from 17-acres to 30-acres, and allow for an increase in daily capacity from 210 TPD to 437 TPD, as the Phase 1 operation becomes the Phase 2 operation. The Phase 2 operation is shown on **Figure 4** (Phase 2 Operations Area). Approximately half of the area is underlain by landfill and the other half is a native area. The entire area is covered by a large soil stockpile. The Phase V-D landfill area is not currently being used for active landfilling. The Bee Canyon Greenery will be located on top of the soil stockpile. A crushed asphalt base will be placed over the entire area that will be used for PGM storage and for composting operations.

The Bee Canyon Greenery will consist of a material recycling area (tipping floor), composting area, curing area, screening area, finished product load out area, storm water pond and parking. The materials receiving, screening and loadout, and parking areas will be relocated to the west during the Phase 2 operation, as shown on **Figure 4**. PGM and processed plant materials will be brought to the Bee Canyon Greenery and placed in a designated unloading area (that can accommodate a storage of approximately 993 cubic yards of PGM and processed agricultural

material). Any contaminated or highly odorous loads will be immediately transported to the active landfill area and disposed. In the event of unusually high quantities of feedstock, the proposed staging area will have adequate area to stockpile the excess materials until they are able to be processed. Incoming pre-processed materials will typically be stockpiled on-site for a period of up to 48 hours. PGM and processed agricultural material will be loaded into a dump truck by a front loader as soon as possible and delivered to the active composting area, where the material will then be placed into new compost piles by a front loader.

The feedstock materials will be formed into elongated piles/open windrows for composting with the addition of moisture as needed by the on-site water truck. Since the Proposed Project includes green waste composting operations, the Proposed Project is subject to the requirements of South Coast AQMD Rule 1133.3, specifically as follows: Under Subparagraph (d)(2)(A), the Lead Agency should cover each active phase compost pile with a six-inch layer of (screened or unscreened) finished compost within 24 hours of initial pile formation and shall not turn the pile for the first seven days. Under Subparagraph (d)(2)(B), the Lead Agency should water each active phase compost pile for the first 15 days after the initial pile formation, within six hours before turning that pile, shall be wet at a depth of at least three inches. In Clause (i) under Subparagraph (d)(2)(B), being wet is determined by a squeeze ball test. Under Subparagraph (d)(2)(B), if the pile needs to be turned within the first seven days for managing temperature or pathogen reduction pursuant to Title 14 Division 7, Chapter 3.1, Section 17868.3 of the California Code of Regulations, the operator does not need to re-apply the finished compost cover and shall apply water for the first fifteen days of the active phase."

During this period, the temperature of each compost pile will be taken every day. Active compost shall be maintained under aerobic conditions at a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or higher for the Process to Further Reduce Pathogens (PFRP) period of 15-days or longer as specified in 14 CCR 17868.3(b)(3) utilizing wheeled loaders or a windrow turner. During the period when the compost is maintained at 55 degrees Celsius (131 degrees Fahrenheit) or higher, there shall be a minimum of five turnings of the windrow. Feedstock materials will remain in stage one – active composting windrows for approximately 12 weeks on average, but may vary depending on ambient temperature, rainfall, feedstock, consistency and other factors. Once the initial composting is completed, the material will be moved into the stage two – curing piles, for approximately 8 weeks. Altogether, the composting process will take approximately 20 weeks, or five months.

During Phase 2 operations, there will be approximately 122 active compost windrow piles (71,460 cubic yards), approximately 69 compost curing piles (40,494 cubic yards) and a screening, storage and loadout area of approximately 16,065 cubic yards. The compost piles are shown on **Figure 3** (Phase 1 Operations Area) and **Figure 4** (Phase 2 Operations Area). The active compost pile dimensions will be no greater than 12 feet in height, 20 feet wide and 100 feet in length.

The Bee Canyon Greenery composting operation may use additives. Additives are materials that are mixed with feedstock or active compost to improve composting conditions or the finished product. Additives in the future may include but are not limited to materials such as diatomaceous earth, grape lees, fertilizers and urea. Additives do not include compost feedstock.

All additives must be approved by the RWQCB and LEA prior to their application. The application for the use of each additive shall include the type of additive, any analyses that are necessary, placement methods, and control of odors, vectors and other nuisances. The Bee Canyon Greenery composting operation may also use amendments. Amendments are 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 may include but are not limited to lime, gypsum, worm castings, oyster shells, soil, rice hulls, cocoa bean hulls, and corn gluten. Amendments do not include septage, biosolids or compost feedstock.

Heavy equipment will include a windrow turner, two front loaders, a mobile screen, a water truck and a dump truck. Scales will also be installed. The Bee Canyon Greenery operation will require three employees to operate all of the heavy equipment described above for building, turning, watering and monitoring the compost piles, and to perform other miscellaneous duties. Five full-time employees will be needed to provide sufficient staffing for days off, vacations, etc. For open-windrow composting, the windrow turner will turn each active compost pile as needed. Composting operations require significant volumes of water to facilitate the composting process, to regulate temperatures and to prevent fires. Water will also be required for dust control. Current reclaimed water usage for the FRB Landfill operation is approximately 60,000 gallons of water per day. For the 437 TPD composting operation, it is estimated that approximately 260,000 gallons of reclaimed water will be needed each day for moistening the compost piles and for dust control. Altogether, the FRB Landfill operation and the Bee Canyon Greenery will use approximately 320,000 gallons of reclaimed water per day. As the windrows are turned, water will be added to maintain optimum moisture content of 45-60% within the piles. The temperature of each compost pile will be taken and recorded each operating day. Bee Canyon Greenery employees will continuously monitor the active compost piles for odor generation, vectors and potential for fire generation.

Finished compost will be stockpiled on-site prior to being loaded out for delivery to end users. The proposed storage location for finished product will contain a series of bunkers for temporary storage. The finished compost will be delivered to end users located within and outside of Orange County. At 437 TPD, and using 20-ton per load end dump trucks, the Bee Canyon Greenery will generate approximately 22 new two-way truck trips per day, with these trucks taking finished compost to end markets.

A load checking program will be implemented for the composting operation. OCWR will implement an odor impact minimization plan for the Bee Canyon Greenery operation. Testing of finished compost (i.e., after the curing process is complete) for pathogens, metals and physical contamination will be performed in accordance with California Code of Regulations Title 14 requirements.

Vector control measures will be actively conducted during operations. The primary anticipated avian nuisance is seagulls. Types of vector nuisance include, but are not limited to: flies, rodents (i.e., mice, rats, squirrels, etc.) and other animals (i.e., coyotes, racoons, opossums, etc.). Fly propagation will be limited by the prompt deployment of feedstock into windrows and the periodic turning of the windrows. Other best management practices (BMPs) to address insect, bird, rodent and other animal vectors will be implemented as-needed. In the event that birds

(primarily seagulls) become a nuisance, non-lethal noise-making devices will be utilized to startle and frighten birds away from the operations area. A qualified falconer may be contracted to use falconry as a means of bird control. In the event that flies, rodents or other animals are found to be a problem, the appropriate control and/or extermination measures would be implemented.

The Bee Canyon Greenery will be designed and operated to meet all Orange County Fire Authority (OCFA) fire flow and fire safety requirements. This will include but not be limited to the spacing between windrows; the number, width and length of fire lanes; the distance of the windrows and material storage areas to flammable vegetation, a water tank, water pumps, water lines and fire hydrants.

At the FRB Landfill, water to landfill operations is supplied by a 10-inch Irvine Ranch Water District reclaimed water line that feeds into a 100,000-gallon reclaimed water tank, located adjacent to the landfill administration building. Reclaimed water is then piped to an existing J-stand, where water trucks fill up. The existing water line will be extended for approximately 3,800 feet, with an elevation difference of approximately 200 vertical feet, until connecting with a series of ten water tanks painted tan in color with a combined capacity of 136,500 gallons of reclaimed water. The size of the tanks will be 14 feet tall and 12 feet wide and will be positioned in two vertical rows of five tanks each (i.e., water tank farm), as shown on the revised **Figure 4**. The water tanks will be connected to two separate water lines, one for operations and one for fire water. The 130,000-gallon water tank farm shall maintain at least 60,000 gallons of water at all times for fire water supply. The fire water line will be a 10-inch line and will be connected to eight fire hydrants, and will be capable of producing 599 gallons per minute (gpm) of flow. The operations water line will be connected to a J-stand that will provide a flow rate of approximately 600 gpm to fill water trucks that will spray the compost to maintain required moisture content. In order to ensure the cumulative 60,000 gallon minimum level in the water tanks to ensure mandatory fire water supply, the operations water line will have an automatic valve that will close when the tanks collectively have 60,000 gallons remaining. For the design of the operations water supply system for the Bee Canyon Greenery, the fill rate for the supply pump is 25 gpm (minimum). The flowrate will replenish the 70,000 gallons of operations water, which is the 130,000 gallons or total tank volume minus the 60,000 gallons of fire water throughout the operating day as the water is used.

All 20-foot wide compost pile areas will be surrounded by 20-foot wide fire access lanes. Perimeter roads will be a minimum width of 20 feet and expand to a minimum width of 40 feet at hydrant locations to accommodate fire response.

Crushed asphalt and crushed concrete material will be placed over the entire landfill area where the composting will occur so that there will be no impacts to the underlying waste prism. The design of the proposed composting operation will account for the underlying refuse and comply with any landfill-related regulations.

Methane generated by the underlying landfill area will not result in surface fires at the composting area through the effective maintenance and monitoring of the landfill gas collection system.

For the Bee Canyon Greenery, the site will be graded such that the center of each compost pile will be located on a high point and the compost deck will be graded at 2 percent toward the access lanes which will be graded at 2 percent to the northeast, as shown on **Figure 5**, conveying flows to an approximate 15.84-acre feet lined composting operation pond, that will be constructed to capture storm water runoff and leachate from the composting operation. The composting operation lined pond dimensions were determined based on National Oceanic and Atmospheric Administration (NOAA) precipitation data based for a 25-year, 24-hour storm event (per Order WQ 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations) and the appropriate tributary boundary of the compost area. In addition, in accordance with standard engineering practices, the pond will be designed to accommodate an additional two feet of freeboard above the water level of the design storm event to accommodate waves and splashing from water flows. OCWR shall fully contain all surface water runoff and leachate resulting from the composting operation. Collected surface water runoff and leachate will be collected on-site from the composting operation lined pond, and reused with the composting operation. Collected surface water runoff and leachate will not be discharged to the landfill storm water drainage system.

For the acceptance of green waste materials, the Bee Canyon Greenery will have the same hours of operation as the FRB Landfill – Monday through Saturday, 7 AM – 5 PM. No incoming green waste materials will be accepted on Sundays and the six major holidays. The Bee Canyon Greenery will be open on Sundays for composting operations only, primarily to monitor the compost piles. The Bee Canyon Greenery will not be open to the public. OCWR shall maintain accurate records of various categories of waste materials processed at the Bee Canyon Greenery, including the residual waste that will be disposed at the FRB Landfill, as required under Title 14 Disposal Reporting System regulations.

## 1.7 ENVIRONMENTAL DETERMINATION AND PROJECT APPROVAL

This Initial Study has been prepared pursuant to Section 15063 of the CEQA Guidelines, as amended. Although this Initial Study was prepared with consultant support, all analyses, conclusions, findings and determinations made herein represent the position of the County of Orange, OC Waste & Recycling, acting as the Lead Agency for CEQA compliance. This project is subject to approval by the Orange County Board of Supervisors. Comments received on the Initial Study will be considered during the County's review of and decision on the project. This Draft Initial Study/Mitigated Negative Declaration will be circulated for a period of 30 days for public review, pursuant to Section 15073 of the State CEQA Guidelines. The Initial Study Mailing List is included as **Appendix A**. The Mitigation Monitoring and Reporting Program (MMRP) for the proposed project is included as **Appendix B**.

**Environmental Determination**

Based on the analysis conducted in this Initial Study, the following has been determined:

**Table 1: Environmental Determination**

| | |
|---|---|
| I find that there is no substantial evidence that the project will have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. | ☐ |
| I find that although the proposed project could have a significant effect on the environment, revisions to the project or proposals have been made by or agreed to by the project proponent, that will avoid the effects or mitigate the effects to where no significant effects on the environmental will occur. A **MITIGATED NEGATIVE DECLARATION** will be prepared. | ☒ |
| I find that the proposed project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** 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. | ☐ |
| I find that the proposed project has previously been analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and County CEQA Guidelines. The proposed project is a component of the whole action analyzed in the previously adopted/certified CEQA document. | ☐ |
| I find that the proposed project has previously been analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and County CEQA Guidelines. Minor additions and/or clarifications are needed to make the previous documentation adequate to cover the project which are documented in this addendum to the earlier CEQA document (CEQA §15164). | ☐ |
| I find that the proposed project has previously been analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and County CEQA Guidelines. However, there is important new information and/or substantial changes have occurred requiring the preparation of an additional CEQA document (ND or EIR) pursuant to CEQA Guidelines Sections 15162 through 15163. | ☐ |

_____ _____

Signature Date

_____

Name

## 1.8 RESPONSIBLE AGENCIES AND PERMITS

OCWR will be required to obtain all necessary permits for the Bee Canyon Greenery. These permits will include, but may not be limited to the following: (1) new Solid Waste Facility Permit for Compostable Materials Handling Facility issued by the California Department of Resources Recycling and Recovery (CalRecycle) and the County of Orange Health Care Agency/Local Enforcement Agency; (2) CalRecycle approval of revision to the County of Orange Non-Disposal Facility Element; (3) Waste Discharge Requirements under the Compost General Order issued by the California Regional Water Quality Control Board, Santa Ana Region; (4) National Pollutant Discharge Elimination System Permit issued by the California Regional Water Quality Control Board, Santa Ana Region; (5) Permit issued by the South Coast Air Quality Management District for the mobile screener, per Rule 301; (6) and a permit issued by the Orange County Fire Authority.

## 1.9 CALIFORNIA NATIVE AMERICAN TRIBAL CONSULTATION

See Section 2.18.

## 2.0 ENVIRONMENTAL EVALUATION

This section of the Initial Study analyzes the potential for significant environmental impacts that may result from the construction and operation of the proposed Bee Canyon Greenery at the FRB Landfill. This document incorporates the Environmental Checklist Form from Appendix G of the Orange County Local CEQA Procedures Manual.

For the evaluation of potential impacts associated with the proposed Bee Canyon Greenery, the questions in the checklist are stated and an answer is provided reflecting the analysis conducted of this impact. To each question, there are four possible responses:

- *No Impact* – The proposed project will not have a measurable impact on the environment.

- *Less Than Significant Impact* – The proposed project will have the potential for impacting the environment but at a level less than the significance criteria used to evaluate the impact.

- *Less Than Significant With Mitigation Incorporated* – The proposed project will have a significant impact unless mitigation measures are implemented to reduce the impact to a less than significant level.

- *Potentially Significant Impact* – The proposed project will have impacts considered significant and either (1) additional analysis is needed to identify specific mitigation measures to reduce this impact to a less than significant level, (2) feasible mitigation measures are not available to reduce this impact to a less than significant level, or (3) the impacts associated with the project are not known at this time and further analysis is needed. In these cases, preparation of an Environmental Impact Report (EIR) is required.

| 2.1 Aesthetics<br><br>*Would the project:* | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | ☐ | ☒ | ☐ | ☐ |
| d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☐ | ☒ |

**2.1 AESTHETICS.** Would the project:

a. Have a substantial adverse effect on a scenic vista?

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

<u>No Impact</u>

The project site is not located within a scenic vista, nor would the project result in any impacts to existing scenic vistas. The project will be located at an existing active solid waste landfill operation. In addition, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway. The project site is not located within or in close proximity to a designated scenic vista or state scenic highway, per the Orange County Scenic Highway Plan. In addition, the project will also occur on an area at the landfill site that has already been disturbed. No impacts will occur.

c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant With Mitigation Incorporated

The Portola Springs residential community is the closest residential community in the City of Irvine, with the closest homes located approximately 3,500 feet from the project site. Viewshed simulations were performed by LSA to determine if the proposed composting operation would be visible to residents in the City of Irvine. After driving around the Portola Springs residential community, LSA picked two viewshed locations that would likely have the best viewing locations of the proposed composting operation. As shown in **Figure 6**, simulations were performed for two representative locations in Portola Springs. **Figure 7** is a simulation taken from a residential area on Falcon Ridge in Portola Springs, approximately 3,500 feet away from the proposed composting operation. **Figure 7** shows that the proposed composting operation would not be visible from this location or from this representative area of Portola Springs. This is because the proposed composting operation would not result in the development of any tall structures or buildings, and the compost piles will only be 12 feet high. **Figure 8** is a simulation taken from the Portola Springs Community Park, located approximately 5,000 feet away from the proposed composting operation. As shown in **Figure 8**, the proposed ten water tanks for the composting operation, that will all be 14 feet tall and 12 feet wide and painted tan in color, would be only partially visible from this park. The water tanks will be positioned in two vertical rows of five tanks each (i.e., water tank farm) as shown on **Figure 4**. OCWR was originally considering one large tank that would have been 18-feet in height, which is no longer being considered. Due to the lowered height, these 14-foot high tanks will be even less visible at the park when compared to the previously considered 18-foot high water tank. OC Waste & Recycling has incorporated a mitigation measure to reduce this potentially significant visual impact to a less than significant level. After the incorporation of this mitigation measure there would be no remaining significant aesthetics/views impacts.

**Mitigation Measure AS-1**

- For the water tanks that will be located on the composting site operations area, OC Waste & Recycling will ensure that the water tanks are either painted tan or a similar color or that when the tanks are ordered they will either be tan or a similar color that will blend in with the adjacent topography to reduce any aesthetics/viewshed impacts to residents using Portola Springs Community Park or to any other residents that are able to see the water tanks. In addition, the tanks will be painted with non-reflective paint.

d. Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

No Impact

The construction and operation of the proposed composting operation will occur during the day only, Monday through Saturday, from 7 AM – 5 PM. No exterior lighting will be utilized. In addition, the project will not create glare that would impact off-site land uses, as the composting operation will not result in the development of any new buildings or structures. The water tanks will be painted with non-reflective paint.

| **2.2 Agriculture and Forestry Resources**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220 (g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51004)(g))? | ☐ | ☐ | ☐ | ☒ |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

**2.2 AGRICULTURE & FORESTRY RESOURCES.** Would the project:

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

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

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

d. Result in the loss of forest land or conversation of forest land to non-forest use?

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

No Impact

The project site is located within an existing landfill operation, and would not affect Farmlands listed as "Prime", "Unique" or of "Statewide Importance" as shown on the State Farmland Mapping and Monitoring Program. The project would not result in any conflicts with Williamson Act contracts nor would the project involve the conversion of farmlands to a non-agricultural use. No impacts to agricultural resources would occur. In addition, the proposed project would not result in any conflicts with forest land, timberland or Timberland Production areas. Also, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. No impacts to forest land would occur.

| **2.3 Air Quality**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? | ☐ | ☐ | ☒ | ☐ |

| | | | | |
|---|---|---|---|---|
| c) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

**2.3 AIR QUALITY.** Would the project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

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

c. Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact

LSA prepared an air quality/health risk impact analysis for the proposed Bee Canyon Greenery Composting Operation. This study is included as **Appendix C**. The study concludes that the proposed project would not conflict with or obstruct the implementation of an applicable air quality plan, nor would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. The proposed composting operation will occur at an existing, active landfill. Trucks that are already bringing green waste material to the landfill will be diverted to the composting operation. At a maximum daily tonnage of 437 TPD, and using 20-ton per load end dump trucks, the Bee Canyon Greenery will generate approximately 22 new two-way truck trips per day, with these trucks taking finished compost to end markets. These 22 new vehicle trips per day would result in an insignificant increase in air emissions when compared to the existing environmental setting of the FRB Landfill operation that generates approximately 655 two-way vehicle trips per day.

In addition, the new heavy equipment associated with the compost operation, which will include a windrow turner, two front loaders, a mobile screen, a water truck and a dump truck associated with the 437 TPD composting operation would result in an insignificant increase in air emissions when compared to the existing environmental setting of all of the heavy construction equipment (i.e., scrapers, compactor bulldozers, water trucks, etc.) and associated emissions associated with the active FRB Landfill that accepts approximately 8,000 tons of solid waste per day and approximately 2,000 tons of exempt wastes (i.e., processed green material, asphalt and soil) per day. The proposed Bee Canyon Greenery composting operation will therefore result in a less than significant impact to air quality.

The proposed Bee Canyon Greenery composting operation will not expose sensitive receptors to substantial pollutant concentrations or result in any human health risks. As stated above, the

proposed composting operation will not result in substantial pollutant concentrations and the closest sensitive receptors are residential areas in Portola Springs that are located approximately 3,500 feet south of the project site.

The project site is located in the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP), which has a 20-year horizon for the Basin. The SCAQMD and SCAG must update the AQMP every three years.

The current regional air quality plan is the Final 2016 AQMP adopted by the SCAQMD on March 10, 2017.[1] The Final 2016 AQMP proposes policies and measures currently contemplated by responsible agencies to achieve federal standards for healthful air quality in the Basin and those portions of the Salton Sea Air Basin that are under SCAQMD jurisdiction. The 2016 AQMP also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2016 AQMP builds upon the approaches taken in the 2012 AQMP for the Basin for the attainment of the federal ozone air quality standard.[2] The Basin is currently a federal and State nonattainment area for particulate matter less than 10 microns in size ($PM_{10}$), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and ozone ($O_3$).

The 2016 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of sulfur oxides (SOx), directly-emitted $PM_{2.5}$, nitrogen oxides (NOx), and volatile organic compounds (VOC). Consistency with the AQMP for the Basin means that a project would be consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. For a project to be consistent with the AQMP, criteria pollutants emitted from the project must not exceed the SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projections. However, a project determined to generate criteria pollutant emissions in excess of SCAQMD thresholds may still be deemed consistent with the AQMP if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant.

Pursuant to the methodology provided in Chapter 12 of the 1993 SCAQMD *CEQA Air Quality Handbook*, consistency for project development proposals with the Basin's 2016 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation; and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented below:

The project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated in response to Checklist Question III(b); therefore, the project would not result in an increase in

[1] *Final 2016 Air Quality Management Plan*. South Coast Air Quality Management District, March 2017.
[2] *Final 2012 Air Quality Management Plan*, South Coast Air Quality Management District, February 2013.

the frequency or severity of any air quality standards violation and would not cause a new air quality standard violation.

The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the proposed project is not defined as significant. The proposed project would divert organic waste from landfills, which would cause a net decrease of VOC emissions and a slight increase of other criteria pollutants. Furthermore, the proposed project would extend the life of existing landfills by diversion, and reduce the need to develop more landfills that may be located further from the source of solid waste generation. Therefore, the proposed project is consistent with SCAQMD AQMP growth assumptions.

The proposed project would not exceed any SCAQMD daily thresholds during construction or operation. In addition, because the proposed project would not cause a significant impact on air quality, and because it is consistent with the AQMP growth assumptions, the proposed project is consistent with the 2016 AQMP. Impacts would be less than significant, and no mitigation is required.

The SCAQMD's *CEQA Air Quality Handbook* establishes suggested significance thresholds based on the volume of pollution emitted. According to the Handbook, any project in the Basin with daily emissions that exceed any of the following thresholds generally are considered as having individually and cumulatively significant air quality impacts:

- 55 pounds per day (lbs/day) of VOC (volatile organic compounds) (75 lbs/day during construction);
- 55 lbs/day of $NO_X$ (oxides of nitrogen) (100 lbs/day during construction);
- 550 lbs/day of CO (carbon monoxide) (550 lbs/day during construction);
- 150 lbs/day of $PM_{10}$ (particulate matter with a diameter of 10 microns or smaller) (150 lbs/day during construction)
- 55 lbs/day of $PM_{2.5}$ (particulate matter with a diameter of 2.5 microns or smaller) (55 lbs/day during construction); and
- 150 lbs/day of SOx (oxides of sulfur) (150 lbs/day during construction).

The following analysis is based on the *Air Quality, Criteria Air Pollutant Health Risk, Greenhouse Gas, and Energy Analysis* prepared for the project (Appendix C).

<u>Construction Emissions</u>

In accordance with the proposed phasing of the project, a project-level analysis of projected construction activities was prepared. Impacts to air quality would occur during project

construction. Major sources of emissions include exhaust emissions from construction vehicles and equipment and fugitive dust generated by construction vehicles and equipment traveling over earthen surfaces, and soil disturbances from grading and filling. Construction activities would cause combustion emissions from utility engines, heavy-duty construction vehicles, haul trucks, and vehicles transporting the construction crew. Fugitive dust emissions are generally associated with land clearing, exposure of soils, and cut and fill operations.

Emissions during construction activities would vary as construction activity levels change. The duration of construction activity and associated construction equipment was estimated by the project applicant and input into California Emissions Estimator Model (CalEEMod) version 2016.3.2. It is expected that construction would take approximately 2 months. Table A identifies the maximum daily emissions associated with construction activities and indicates no criteria pollutant emission thresholds would be exceeded from construction of the proposed project.

**Table A: Short-Term Regional Construction Emissions**

| Year | Total Regional Pollutant Emissions, lbs/day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| 2019 | 6 | 67 | 31 | <1 | 8 | 5 |
| **SCAQMD Thresholds** | **75** | **100** | **550** | **150** | **150** | **55** |
| **Emissions Exceed Threshold?** | **No** | **No** | **No** | **No** | **No** | **No** |

Source: Table J. *Air Quality, Criteria Air Pollutant Health Risk, Greenhouse Gas, and Energy Analysis for the Bee Canyon Greenery Project.* LSA. June 2019. (Appendix C).
Note: These estimates reflect control of fugitive dust required by SCAQMD Rule 403. The values shown are the maximum summer or winter daily emissions results from CalEEMod.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{10}$ = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

The construction calculations prepared for this project assumed that dust control measures (watering a minimum of twice daily) would be employed to reduce emissions of fugitive dust during site grading. Further, all construction would need to comply with SCAQMD Rule 403 regarding the emission of fugitive dust. Table A lists total construction emissions (i.e., fugitive-dust emissions and construction-equipment exhausts) that have incorporated the following Rule 403 measures that would be implemented to significantly reduce $PM_{10}$ emissions from construction. The Rule 403 measures that were incorporated in the CalEEMod analysis are:

- Water active sites at least twice daily (locations where grading is to occur shall be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.

Localized Significance Thresholds (LSTs) are developed based upon the size or total area of the emissions source from the construction equipment activities, the ambient air quality levels in

each source receptor area (SRA) in which the emission source is located, and the distance to the sensitive receptor. LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each SRA. For the proposed project, the appropriate SRA for the LST is SRA 20 (Central Orange County Coastal). The SCAQMD LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to construct new data points within the range of the values given or distances measured in order to determine the thresholds. If receptors are within 25 meters (82 feet) of the site, SCAQMD LST methodology dictates that the threshold for the 25-meter distance should be used.

Localized significance is determined by comparing the on-site-only portion of the construction emissions with emissions thresholds derived by the SCAQMD to ensure pollutant concentrations at nearby sensitive receptors would be below ambient air quality standards established by the SCAQMD. Although the project site is 25 acres, there would not be any large-scale grading or other mass ground-disturbing activities. Based on the CalEEMod methodology and the construction equipment planned, no more than 3 acres[3] would be disturbed on any single day. Thus, the 2-acre and 5-acre LSTs have been interpolated to derive 3-acre thresholds for construction emissions. Furthermore, sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The nearest sensitive receptors are existing single-family residences approximately 3,500 feet from the edge of the project site. There are workers in adjacent light industrial uses who are approximately 3,000 ft from the edge of the project site. Using the LSTs for receptors at the maximum distance of 500 meters (1,640 feet) for $NO_X$, CO, $PM_{10}$, and $PM_{2.5}$ would result in a conservative analysis.

Table B lists the emissions thresholds for SRA 20 that would apply during project construction and indicates that none of the construction emission rates would exceed the LSTs for the existing sensitive receptors both on-site and adjacent to the project site.

**Table B: Construction Localized Impacts Analysis**

| Emissions Sources | NOx (lbs/day) | CO (lbs/day) | $PM_{10}$ (lbs/day) | $PM_{2.5}$ (lbs/day) |
|---|---|---|---|---|
| Maximum On-site Emissions | 67 | 31 | 8 | 5 |
| LST Thresholds | 249 | 8,086 | 152 | 89 |
| **Significant Emissions?** | **No** | **No** | **No** | **No** |

Source: Table K. *Air Quality, Criteria Air Pollutant Health Risk, Greenhouse Gas, and Energy Analysis for the Bee Canyon Greenery Project.* LSA. June 2019. (Appendix C).

Note: Source Receptor Area – Central Orange County Coastal, 3 acres, receptors at 500 meters (1,640 feet).

CO = carbon monoxide
LST = local significance threshold
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$PM_{10}$ = particulate matter less than 10 microns in size
lbs/day = pounds per day

As detailed in Tables A and B, through compliance with SCAQMD Rule 403 for the control of fugitive dust, emissions generated through construction of the proposed project would not exceed

[3] A maximum disturbance of 3 acres would take place during the Fine Grade Pad phase from the use of one excavator, one scraper, and three rubber-tired dozers for 8 hours per day.

SCAQMD thresholds for regional construction emissions or LSTs for the existing sensitive receptors both on-site and adjacent to the project site.

Operational Emissions

Long-term (operational) air pollutant emissions are those associated with stationary sources and mobile sources involving any project-related changes. Under existing conditions, the green waste material is chipped and ground at existing materials recovery facilities, transfer stations, and green waste/wood waste chipping and grinding facilities in Orange County and is then brought to landfills for use as alternative daily cover (ADC) or erosion control, resulting in the disposal of this material. Green waste used as ADC or erosion control would compost and generate the same amount of air pollutants as the composting operation. Frank R. Bowerman Landfill would accept a maximum of 595 tons per day of green waste with the proposed composting facility. Compared to existing conditions, the proposed project would result in no change to the green waste compost emissions and only net increases in off-road and mobile-source emissions because of the operation of composting facility.

Based on the trip generation estimates prepared for the project contained in the *Limited Scope Traffic Impact Analysis* (Appendix C), project operations would result in 60 total trips on a peak day compared to existing conditions. All of the trips would be associated with heavy-heavy-duty trucks delivering waste to the project site and transporting finished compost materials off the project site.

The project's composting operation would require using off-road equipment, including a windrow turner, two front-end loaders, and two trucks for placing the unloaded green waste and wood waste into the windrows. Such equipment typically uses fossil-based fuels to operate. Similar to construction activities, the combustion of fossil-based fuels creates air pollutants. Composting facilities are also sources of VOC and ammonia ($NH_3$). Emissions from existing conditions and proposed open windrow composting were calculated based on SCAQMD's *Guidelines for Calculating Emissions from Greenwaste Composting and Co-Composting Operations* (*Air Quality, Criteria Air Pollutant Health Risk, Greenhouse Gas, and Energy Analysis*, Appendix C). $NH_3$ is not a criteria pollutant regulated by SCAQMD, so it is only listed for information purposes. Composting and ADC use of green waste would be expected to have similar emission rates.

The CalEEMod model was used to characterize the operational emissions from off-road equipment and mobile sources with the proposed project. The proposed project would generate the emissions shown in Table C.

**Table C: Opening Year Regional Operational Emissions**

| Source | Pollutant Emissions, lbs/day | | | | | | |
|---|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ | $NH_3$ |
| **Existing Condition** | | | | | | | |
| Green Waste Decomposition | 2,779 | 0 | 0 | 0 | 0 | 0 | 393 |
| **Open Windrow Composting** | | | | | | | |
| Mobile | <1 | 14 | 3 | <1 | 1 | <1 | 0 |
| Off-Road | 3 | 35 | 19 | <1 | 1 | 1 | 0 |
| Composting | 2,779 | 0 | 0 | 0 | 0 | 0 | 393 |
| **Total Project Emissions** | **2,828** | **49** | **21** | **<1** | **2** | **1** | **393** |
| **New Net Emissions** | **4** | **49** | **21** | **<1** | **2** | **1** | **0** |
| **SCAQMD Thresholds** | **55** | **55** | **550** | **150** | **150** | **55** | **-** |
| **Emissions Exceed Threshold?** | **No** | **No** | **No** | **No** | **No** | **No** | **-** |

Source: Table L. *Air Quality, Criteria Air Pollutant Health Risk, Greenhouse Gas, and Energy Analysis for the Bee Canyon Greenery Project.* LSA. June 2019. (Appendix C).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$PM_{10}$ = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

As shown in Table C, the net increases in pollutant emissions of open windrow composting compared to existing conditions would not exceed the established SCAQMD daily emission thresholds for any criteria pollutants. No significant long-term regional air quality impact would occur.

By design, the localized impacts analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in Table D include all on-site project-related stationary sources and 5 percent of the project-related new mobile sources, which is an estimate of the amount of project-related new vehicle traffic that would occur on site. A total of 5 percent is considered conservative because the average round-trip lengths assumed are 15 miles. It is unlikely that the average on-site distance driven would be even 1,000 feet, which is approximately 2 percent of the total miles traveled. Considering the total trip length included in CalEEMod, the 5 percent assumption is conservative. Table D details the calculated emissions for the proposed operational activities compared with the appropriate LSTs.

**Table D: Long-Term Operational Localized Impacts Analysis**

| Emissions Sources | Pollutant Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | NOx | CO | $PM_{10}$ | $PM_{2.5}$ |
| On-Site Emissions | 35 | 19 | 1 | 1 |
| LST Thresholds | 278 | 9,272 | 41 | 25 |
| **Significant Emissions?** | **No** | **No** | **No** | **No** |

Source: Table M. *Air Quality, Criteria Air Pollutant Health Risk, Greenhouse Gas, and Energy Analysis for the Bee Canyon Greenery Project.* LSA. June 2019. (Appendix C).

Note: Source Receptor Area: Central Orange County Coastal, 5 acres, 500-meter distance, on-site traffic 5 percent of total.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
$NO_X$ = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$PM_{10}$ = particulate matter less than 10 microns in size

Table D indicates the project's operational emission rates would not exceed the LSTs for receptors at more than 500 meters (1,640 feet). Therefore, the proposed operational activity would not result in a locally significant air quality impact.

Areas with high vehicle density (e.g., congested intersections and parking garages) have the potential to create high concentrations of CO known as CO "hotspots." A project's localized air quality impact is considered significant if CO emissions create a hotspot where either the California 1-hour standard of 20 ppm or the federal and State 8-hour standard of 9.0 ppm is exceeded. This typically occurs at severely congested intersections (level of service [LOS] E or worse). Ambient CO levels monitored at the Mission Viejo Monitoring Station showed a highest recorded 1-hour concentration of 1.4 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 0.9 ppm (the State standard is 9 ppm) during the past 3 years.[4] The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Based on the project-specific *Limited Scope Traffic Impact Analysis* (Appendix C), the evaluation of the study area intersection and roadway segment LOS with the addition of the proposed project traffic to the existing and short-term interim-year conditions would not create any significant adverse impacts according to the City of Irvine's performance criteria (all project traffic would travel on Irvine roads). Therefore, implementation of the proposed project is not anticipated to create a CO hotspot. Potential impacts from CO emissions are considered less than significant.

The cumulative impacts analysis is based on projections in the regional AQMP. As detailed in response to Checklist Question (a), the proposed project is consistent with the overall growth projections of the General Plan and would not conflict with or obstruct implementation of the regional AQMP.

No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions would contribute to existing cumulatively significant impacts to air quality. The SCAQMD developed the operational thresholds of significance based on the level above which a project's individual emissions would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. Therefore, a project that exceeds the SCAQMD operational thresholds would also have a cumulatively considerable contribution to a significant cumulative impact.

Due to the nonattainment status of the Basin, the primary air pollutants of concern would be NOx and VOCs, which are ozone precursors, and $PM_{10}$ and $PM_{2.5}$. As detailed above, long-term emissions were calculated for NOx, VOC, CO, SOx, $PM_{10}$, and $PM_{2.5}$ expected to be generated through operation of the proposed project. Tables A through D demonstrate that, with compliance with applicable regulatory policy designed to reduce emissions, the proposed project would not exceed any SCAQMD threshold during construction or operation.

Without any exceedance in air quality emissions thresholds, the proposed project would not result in a cumulatively considerable contribution to significant air quality impacts. Long-term cumulative air quality impacts would be less than significant. No mitigation is required.

[4] *Air Quality, Criteria Air Pollutant Health Risk, Greenhouse Gas, and Energy Analysis for the Bee Canyon Greenery Project.* Table C. LSA. June 2019 (Appendix C).

The SCAQMD recommends the evaluation of localized CO, NOx, $PM_{10}$, and $PM_{2.5}$ construction- and operation-related impacts to sensitive receptors[5] in the immediate vicinity of the project site. The project site is developed as a composting facility and is surrounded by residential uses, light industrial uses, and open space. The nearest sensitive receptors are the existing single-family residences approximately 3,500 feet from the edge of the project site. There are workers in adjacent light industrial uses who are approximately 3,000 ft from the edge of the project site. As stated above, using the LSTs for receptors at the maximum distance of 500 meters (1,640 feet) for $NO_X$, CO, $PM_{10}$, and $PM_{2.5}$ would result in a conservative analysis.

Tables B and D identify the on-site construction and operational emissions of CO, NOx, $PM_{10}$, and $PM_{2.5}$, respectively, and demonstrate that all concentrations of pollutants would be below the SCAQMD thresholds of significance for construction and operation of the project. Therefore, both short-term (i.e., construction) and long-term (i.e., operational) LST air quality impacts would be less than significant, and no mitigation is required.

While the environmental analysis above did not conclude that the proposed composting operation will result in a significant environmental impact to this environmental topic, in order to further reduce the project's less than significant impacts, OCWR has added the following Project Design Features and Operational Control Measures (PDF & OCM). All of these Project Design Features and Operational Control Measures are also included in the Mitigation Monitoring and Reporting Program and will also be incorporated into the Report of Composting Site Information (RCSI), to be reviewed and approved by the Orange County Health Care Agency, Environmental Health Division, acting in its capacity as the Orange County Solid Waste Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery (CalRecycle). The RCSI is the key engineering, permitting, construction and operations document that the LEA will rely upon when issuing the Solid Waste Facility Permit for the Bee Canyon Greenery Composting Operation.

**(Air Quality-Dust Control PDF & OCM-1)** Compost windrows will not be turned during high wind episodes exceeding wind speeds of 30 miles per hour in order to manage dust particulates.

**(Air Quality-Dust Control PDF & OCM-2)** The compost operation entryway and often-traveled paths will be overlain with crushed rock or asphalt to prevent tracking of onsite materials and dust off-site.

**(Air Quality-Dust Control PDF & OCM-3)** Unpaved roads shall be watered as necessary to minimize visible dust. Alternatively, roads may be paved.

**(Air Quality-Dust Control PDF & OCM-4)** The composting operation will implement SCAQMD's Rule 403, requiring control of fugitive dust during construction and operations via best-available control measures. These measures include the following:

[5] According to the SCAQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (May 6, 2005), sensitive receptors (individuals) are those segments of a population such as children, athletes, elderly, and sick that are more susceptible to the effects of air pollution than the population at large. Land uses where sensitive receptors are most likely to spend time include schools and schoolyards, parks and playgrounds, day care centers, nursing homes, hospitals, and residential communities (Pp. G-6).

- Apply non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (i.e., previously graded areas inactive for 10 days or more).

- Water active sites at least twice daily (locations where grading is to occur shall be thoroughly watered prior to earthmoving).

- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 ft. (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.

- Pave construction access roads at least 100 feet (30 meters) onto the site from the main road.

- Reduce traffic speeds on all unpaved roads to 15 mph or less.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact

SCS Engineers completed a quantitative odor analysis of a proposed composting operation at the FRB Landfill. The results of the quantitative odor analysis, included in **Appendix D**, show that the proposed project will not result in any significant odor impacts to the closest homes near the project site, which are located in the Portola Springs residential community, approximately 3,500 feet south of the proposed composting operation. This analysis is conservative, as the assumptions that were used in the odor analysis were for a larger composting operation (i.e., 500 tons per day) that would also accept food wastes. The proposed project will only accept up to 437 tons of green waste per day. No food wastes will be accepted. Based on the analysis and conclusions included in the odor analysis, the project composting operation will not result in any significant odor impacts. In addition, OC Waste & Recycling will implement an Odor Impact Minimization Plan to further reduce the potential for odor impacts. The Odor Impact Minimization Plan is included as **Appendix E**.

While the environmental analysis above did not conclude that the proposed composting operation will result in a significant environmental impact to this environmental topic, in order to further reduce the project's less than significant impacts, OCWR has added the following Project Design Features and Operational Control Measures (PDF & OCM). All of these Project Design Features and Operational Control Measures are also included in the Mitigation Monitoring and Reporting Program and will also be incorporated into the Report of Composting Site Information (RCSI), to be reviewed and approved by the Orange County Health Care Agency, Environmental Health Division, acting in its capacity as the Orange County Solid Waste Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery (CalRecycle). The RCSI is the key engineering, permitting, construction and operations document that the LEA will rely upon when issuing the Solid Waste Facility Permit for the Bee Canyon Greenery Composting Operation.

**(Air Quality-Odor Control PDF & OCM-1)** The composting operation will only accept green waste loads for composting that have already been processed off-site (i.e., chip, ground and screened) to remove contamination such as food waste prior to the processed green waste being delivered to the Bee Canyon Greenery. Pre-processing will reduce the potential for highly odorous loads.

**(Air Quality-Odor Control PDF & OCM-2)** Upon acceptance at the composting operation, prior to unloading, any highly odorous loads will be taken to the landfill working face for disposal.

**(Air Quality-Odor Control PDF & OCM-3)** Upon acceptance at the composting operation, if any highly odorous loads are inadvertently unloaded, OCWR will collect the loads and take the material to the landfill working face for disposal.

**(Air Quality-Odor Control PDF & OCM-4)** Green waste will be delivered to the composting operation on an as-needed basis to reduce green waste odors.

**(Air Quality-Odor Control PDF & OCM-5)** OCWR will not select or use any additives or amendments in the composting operation that are either highly odorous by themselves, are highly odorous when added to the compost piles, or are highly odorous over time during the active or curing phases of the composting operation.

**(Air Quality-Odor Control PDF & OCM-6)** OCWR will comply with SCAQMD Rules 1133 and 1133.3 for green waste composting.

**(Air Quality-Odor Control PDF & OCM-7)** Incoming pre-processed materials will be stored on-site no longer than 48 hours. PGM and processed agricultural material will be loaded into a dump truck by a front loader as soon as possible and delivered to the active composting area, where the material will then be placed into new compost piles by a front loader.

**(Air Quality-Odor Control PDF & OCM-8)** The feedstock materials will be formed into elongated piles/open windrows, with dimensions not exceeding 12 feet in height, 20 feet in length and 100 feet long for composting with the addition of moisture as needed by the on-site water truck. Newly constructed compost windrows will initially be covered with at least 6 inches of finished compost within 24 hours of formation as required by SCAQMD Rule 1133.3. For the first 15 days after initial windrow formation, within six hours before turning, water will be applied as necessary to ensure the pile meets the wetness criteria described in Rule 1133.3. During this period, the temperature of each compost pile will be taken every day.

**(Air Quality-Odor Control PDF & OCM-9)** Active compost shall be maintained under aerobic conditions at a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or higher for the Process to Further Reduce Pathogens (PFRP) period of 15-days or longer as specified in 14 CCR 17868.3(b)(3) utilizing wheeled loaders or a windrow turner. During the period when the compost is maintained at 55 degrees Celsius (131 degrees Fahrenheit) or higher, there shall be a minimum of five turnings of the windrow.

**(Air Quality-Odor Control PDF & OCM-10)** OCWR has prepared an Odor Impact Minimization Plan (OIMP) for the proposed composting operation in compliance with 14 CCR 17863.4. The OIMP is included as Appendix E to the Mitigated Negative Declaration for the composting operation. All odor control measures included in the OIMP are hereby incorporated into this Mitigation Monitoring and Reporting Program. Per the OIMP, each operating day, designated site personnel shall assess and evaluate the perimeter of the composting operation area and landfill boundary for objectionable odors. Best management practices (BMPs) and good housekeeping measures will be implemented to minimize the release of objectionable odors. BMPs include:

- Maintaining adequate heat in the piles through appropriate pile density, limiting turning frequency and/or pile dimensions.
- Provide adequate moisture throughout the active composting process.
- Frequent monitoring of temperature and moisture content assures composting conditions are within acceptable parameters.

Good housekeeping measures that will be implemented include:

- Clearing spilled materials between windrows.
- Eliminating areas with the potential for ponding water.
- Maintaining reasonably sized stockpiles of incoming feedstock by deploying it into windrows within 72 hours.

**(Air Quality-Odor Control PDF & OCM-11)** The OIMP requires that OCWR implement the following steps in the event that objectionable odors are detected at the composting operation site:

- Stop all operations if they are causing off-site odor impacts until the source of the odors is identified, corrected and the odor migration ceases.
- Designated site personnel shall investigate likely source of odors.
- Designated site personnel shall determine wind patterns and direction at the time odor was detected.
- Based on the intensity of odor nuisance, designated site personnel shall determine if odor has travelled off-site by surveying the perimeter of the composting facility and vicinity of potential off-site receptors.
- If the source of odors is found to be the composting operation, determine if on-site management practices (e.g., mixing odiferous materials with sawdust or other bulking agent, turning the windrows less frequently, remove odiferous materials and dispose of

them in the landfill, etc.) could remedy any odor problems and immediately take steps to remedy the situation.

- Determine whether or not the odor has moved off-site and if so, if it significant enough to warrant contacting the adjacent neighbors and/or the LEA.

- If it has been determined that odor has moved off-site, the incident shall be recorded in the compost daily operational logbook which shall include all actions and activities taken to resolve or minimize odor nuisance for future reference and operational considerations.

- Do not start operations again (i.e., accepting additional green waste in temporary storage area, placement and formation of new windrows) until the wind and meteorological conditions are favorable and will not promote off-site odors.

**(Air Quality-Odor Control PDF & OCM-12)** Per the OIMP, the following complaint response protocols will be implemented:

- All odor complaints received from potential receptors and/or regulators shall be recorded in the facility operational logbook and complaint log.

- Designated site personnel shall contact complainant and/or regulator to obtain details of the complaint such as name, time, location and nature or characteristics of odors.
- Designated site personnel shall notify appropriate regulators of the complaint.

- Designated site personnel shall investigate and implement methods in assessing odor impacts.

- Designated site personnel shall immediately implement additional or appropriate measures to minimize odors.

- Once the OIMP measure or measures have been implemented and the odor has been minimized, designated site personnel shall follow up with complainant.

**(Air Quality-Odor Control PDF & OCM-13)** The FRB Landfill maintains an on-site meteorology station that monitors wind direction, wind speed, temperature, and relative humidity. Data from this station will be used to help monitor conditions at the composting operation if an odor issue arises and also prior to an odor issue occurring.

**(Air Quality-Odor Control PDF & OCM-14)** For the composting operation, OCWR will establish contingency plans for operating downtime (e.g., equipment malfunction, power outage).

**(Air Quality-Odor Control PDF & OCM-15)** OCWR shall post telephone numbers at the entrance of the composting facility to allow members of the public to contact the composting facility superintendent to report odor complaints.

**(Air Quality-Odor Control PDF & OCM-16)** Should processed green material arrive at the composting operation with noticeable odors, options for reducing odors would include but are not limited to the following: reject highly odorous loads and landfill the material; eliminate troublesome or contaminated feedstocks; mix materials upon receipt (i.e., to increase material porosity); stockpile bulking agents or high carbon amendments; make smaller piles; blanketing odorous material with a six inch to one-foot layer of bulking agent, high carbon amendments or finished compost.

**(Air Quality-Odor Control PDF & OCM-17)** Should processed green material in the temporary unloading and storage area begin to generate odors, options for reducing odors would include but are not limited to the following: expedite material processing; first in, first out processing; reduce the size of material stockpiles; blanketing odorous material with a six inch to one-foot layer of bulking agent, high carbon amendments or finished compost; reduce the volume of incoming materials; identify alternative facilities for incoming materials.
**(Air Quality-Odor Control PDF & OCM-18)** Should processed green material begin to generate odors during mixing and material handling, options for reducing odors would include but not be limited to the following: create windrow piles that are sufficiently blended; combine materials to achieve a high carbon to nitrogen ratio (greater than 30 to 1); create piles with good porosity; ensure that mixing areas/activities are located as far as possible from sensitive receptors; reduce mixing/materials handling activity during stagnant air conditions; reduce mixing/materials handling activity when wind is in the direction of sensitive receptors; mist water or odor neutralizer at dust generation points.

**(Air Quality-Odor Control PDF & OCM-19)** Should processed green material begin to generate odors during the composting process, options for reducing odors would include but not be limited to the following: turn regularly to re-invigorate the composting process; maintain sufficient moisture in windrows; avoid over-watering windrows; make smaller windrows to increase passive aeration; increase porosity and bulk density; consider blanketing odorous materials with a six-inch to one-foot layer of bulking agent; make piles on a one-foot bed of overs to increase airflow; reduce turning/material handling activities when winds are blowing in the direction of nearby receptors; diligently manage and monitor the composting process.

**(Air Quality-Odor Control PDF & OCM-20)** Should processed green material begin to generate odors during screening, options for reducing odors would include but not be limited to the following: reduce screening activities during stagnant air conditions; reduce screening activities when wind is in the direction of nearby receptors; use mist water or neutralizer at dust generation points.

**(Air Quality-Odor Control PDF & OCM-21)** Should processed green material begin to generate odors from water ponding after a rain event, options for reducing odors would include but not be limited to the following: inspect piles after major rain events; grade the site to eliminate puddles, depressions and wheel ruts where water collects; absorb ponded water with wood chips/other absorbent, fill potholes with soil/pad material.

**(Air Quality-Odor Control PDF & OCM-22)** Should processed green material begin to generate odors after as a result of uncomposted material in aisles between the windrows, options

for reducing odors would include but not be limited to the following: clean aisles of spilled material (particularly at the end of each day; mechanically sweep paved areas at the end of each shift; apply water and/or neutralizer to reduce dust during dry conditions.

**(Air Quality-Odor Control PDF & OCM-23)** Should processed green material begin to generate odors during curing, options for reducing odors would include but not be limited to the following: increase processing time prior to moving to curing; decrease curing pile size; review moisture content of in-process compost; aerate curing piles; screen after curing to maintain porosity.

**(Air Quality-Odor Control PDF & OCM-24)** Should collected leachate and storm water in the lined pond begin to generate odors, options for reducing odors would include but not be limited to the following: review NPDES procedures to minimize storm water contact with organic materials; remove particles from water draining into the lined pond; filter stormwater through a filter berm or sock; clean out lined pond during the dry season; reapply collected leachate and storm water to active compost piles; install aeration system.

The proposed composting operation will be on top of a soil stockpile. A significant portion of the soil stockpile is underlain by landfilled refuse. The existing landfill gas collection system serves every part of the landfill. The gas collection system underneath the composting operations area will continue to be maintained and monitored as required. In addition, landfill gas monitoring will occur at the composting operations area. The frequency of the landfill gas monitoring at the composting operations area will be in compliance with SCAQMD Section 1150.1 requirements. Green waste and compost material will be temporarily moved during landfill gas monitoring at the compost operations area. No significant landfill gas migration or odor impacts will occur. No impacts to the landfill gas collection system will occur as a result of the proposed composting operation.

| **2.4 Biological Resources**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |

| | | | | |
|---|---|---|---|---|
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | ☒ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | ☐ | ☒ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☐ | ☒ |
| f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |

**2.4 BIOLOGICAL RESOURCES.** Would the project:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Services?

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c. Have a substantial effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

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

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

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

No Impact

The proposed Bee Canyon Greenery will be located entirely on Phase V-D that is underlain completely by a soil stockpile. A large portion of the site is also underlain by refuse underneath the soil stockpile. There will be no disturbance to biological resources. Therefore, there will be no impacts to any sensitive plant or animal species. The project will also not result in any impacts to riparian habitat or wetlands. The project will not interfere in any way with the movement of any migratory species or impede the use of native wildlife nursery sites. In addition, the proposed project will not result in the removal of any trees, so there will be no conflicts with the County's tree protection ordinance. While the project is located in the Natural Community Conservation Plan/Habitat Conservation Plan for the Central and Coastal Subregions of Orange County, the project is located on the FRB Landfill site, which is an existing permitted use in the NCCP. The project will not result in the removal of any coastal sage scrub or any other native habitat. The project is consistent with NCCP policies and therefore no impacts will occur.

| **2.5 Cultural Resources**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? | ☐ | ☐ | ☐ | ☒ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ☐ | ☐ | ☒ |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries? | ☐ | ☐ | ☐ | ☒ |

**2.5 CULTURAL RESOURCES.** Would the project:

a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact

The proposed project would not result in any disturbance to historical resources, as defined in Section 15064.5 of the CEQA Guidelines, as there are no historical structures located on the proposed project site. The Bee Canyon Greenery site is located entirely on a soil stockpile that is primarily underlain by refuse. No impacts to historical resources will occur.

b. Cause a substantial change in the significance of an archaeological resource pursuant to Section 15064.5?

c. Disturb any human remains, including those interred outside of formal cemeteries.

No Impact

The proposed project will not result in the disturbance to any archaeological resources, nor will the project result in the disturbance to any human remains. The Bee Canyon Greenery site is located entirely on a soil stockpile that is primarily underlain by refuse. No impacts will occur.

| **2.6 Energy**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | ☐ | ☐ | ☐ | ☒ |

**2.6 ENERGY.** Would the project:

a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact

The proposed project will not result in the wasteful, inefficient or unnecessary consumption of energy resources during project construction or operation. The Bee Canyon Greenery will be constructed and operated on the FRB Landfill which is an existing landfill operation. Green waste that will be composted is already being brought to the landfill, thereby resulting in a minimal increase in energy consumption. No impacts will occur. In addition, the project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

| **2.7 Geology and Soils**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:<br>i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☒ | ☐ |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:<br>ii) Strong seismic ground shaking? | ☐ | ☐ | ☒ | ☐ |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:<br>iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☒ | ☐ |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:<br>iv) Landslides? | ☐ | ☐ | ☒ | ☐ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |

| | | | | |
|---|---|---|---|---|
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | ☐ | ☐ | ☒ | ☐ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal system where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☐ | ☒ |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☐ | ☒ |

**2.7 GEOLOGY AND SOILS.** Would the project:

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

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact

No known active faults cross or trend toward the FRB Landfill site. However, earthquakes originating on many of the larger regional faults, including the San Andreas Fault, San Jacinto Fault, Whittier-Elsinore Fault, and the Newport-Inglewood Fault, have the ability to generate large magnitude, long-duration, and potentially damaging ground motions at the site. The closest documented active fault to the site is the Elsinore-Glen Ivy Fault/Chino-Central Avenue strand, located approximately 10 miles (16 km) east of the landfill.

To determine the design acceleration for the FRB Landfill site, a search of historic earthquake epicenters within a 100 km radius of the site was performed using the software program EQSEARCH (Blake, 2000). Based on the available historic data, the FRB Landfill site has experienced a maximum acceleration of approximately 0.15g during a Magnitude 7.0 earthquake, which occurred on December 16, 1858 at a distance of approximately 23 miles (37 km).

Deterministic seismic risk assessments for the FRB Landfill site were performed using the program EQFAULT. The deterministic seismic risk assessment evaluates the peak horizontal ground accelerations for specific faults within the search radius, based on the Maximum Credible Earthquake (MCE) assigned to each fault and a user-specified earthquake attenuation formula. The result from the deterministic analysis indicates that the peak horizontal bedrock acceleration expected at the landfill site is approximately 0.27g and would result from a 6.7 Magnitude event on the Elsinore-Glen Ivy Fault. The maximum permanent displacement was calculated to be negligible since the yield acceleration was greater than the MCE Maximum Horizontal Earthquake Acceleration (MHEA).[6] No significant impacts will occur. The proposed Bee Canyon Greenery does not involve the development of any buildings or other occupied structures.

Problems pertaining to liquefaction, lateral spreading and subsidence are not anticipated at the FRB Landfill site due to the geologic conditions at the site. These phenomena are typically observed in areas with deep, soft soils and a high groundwater table, which is not the case for the site.[7] No significant impacts will occur.

iv) Landslides?

<u>Less Than Significant Impact</u>

The FRB Landfill North End Landslide Emergency Remediation Project, located at the northern boundary of the site, was initiated in 2002 in response to major movement in a previously stable landslide complex that caused the area to fracture, buckle and slide. In order to stall the landslide, the initial emergency action plan called for the removal of approximately 800,000 cubic yards of soil from the top of the slide area and the drilling of approximately 12,000 feet of horizontal drains to lower groundwater levels at the bottom of the slide. Since that time, additional surficial sliding has occurred on-site to the north, which required the removal of an additional 300,000 cubic yards of soil for a projected total of approximately 1.1 million cubic yards of soil removed. Also, an east flank of the North End Landslide has been identified and will also be remediated.

The proposed Bee Canyon Greenery will not be located near the known North End or East Flank landslides at the FRB Landfill, nor would the project site be affected in any way by these landslides. The project site would be located completely on a compacted soil stockpile, that is primarily underlain by refuse. No significant impacts from landslides would occur.

b. Result in substantial soil erosion or the loss of topsoil?

[6] *Final EIR 604 for the RELOOC Strategic Plan – FRB Landfill Implementation*, pages 5.2-21 – 5.2-22, August 15, 2006.

[7] *Final EIR 604 for the RELOOC Strategic Plan – FRB Landfill Implementation*, page 5.2-22, August 15, 2006.

Less Than Significant Impact

For a discussion of the potential for soil erosion or the loss of topsoil, see 2.9 c., below.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact

See 6a – i-iii, above.

d. Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact

The FRB Landfill site is underlain by rocks in the Santiago Formation consisting of sandstone, siltstone, silty sandstone, and minor beds of sandy claystone. The site is also underlain by the Sespe Vaqueros Formation comprised of sandstone, sandy siltstone, and minor beds of sandy claystone. This mixture of clay and sand in the rock mass is considered to have low expansive potential. No significant impacts will occur.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of waste water?

No Impact

The project will not result in the development or use of any septic or wastewater treatment systems. No impacts will occur.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact

The proposed Bee Canyon Greenery composting operation will occur entirely on a previously disturbed soil stockpile. No impacts to paleontological resources will occur.

| 2.8 Greenhouse Gas Emissions<br><br>*Would the project:* | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☒ | ☐ |

**2.8 GREENHOUSE GAS EMISSIONS.** Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact

LSA prepared a greenhouse gas emissions impact analysis for the proposed Bee Canyon Greenery Composting Operation. This study is included as **Appendix C**. The study concludes that the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, nor would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Pursuant to AB 32 and other laws and regulations mentioned in the greenhouse gas emissions impact analysis, composting is viewed as a very positive step for reducing greenhouse gas emissions in California by removing some of the organic waste materials from landfills that would otherwise be generating methane.

The proposed composting operation will occur at an existing, active landfill. Trucks that are already bringing green waste material to the landfill will be diverted to the composting operation. At a maximum daily tonnage of 437 TPD, and using 20-ton per load end dump trucks, the Bee Canyon Greenery will generate approximately 22 new two-way truck trips per day, with these trucks taking finished compost to end markets. These 22 new vehicle trips per day would result in an insignificant increase in greenhouse gas emissions when compared to the existing environmental setting of the FRB Landfill operation that generates approximately 655 two-way vehicle trips per day. In addition, the new heavy equipment associated with the compost operation, which will include a windrow turner, two front loaders, a mobile screen, a water truck and a dump truck associated with the 437 TPD composting operation would result in an insignificant increase in greenhouse gas emissions when compared to the existing environmental

setting of all of the heavy construction equipment (i.e., scrapers, compactor bulldozers, water trucks, etc.) and associated greenhouse gas emissions associated with the active FRB Landfill that accepts approximately 8,000 tons of solid waste per day and approximately 2,000 tons of exempt wastes (i.e., processed green material, asphalt and soil) per day. The proposed Bee Canyon Greenery composting operation will therefore result in a less than significant impact from greenhouse gas emissions.

| **2.9 Hazards and Hazardous Materials**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |

| | | | | |
|---|---|---|---|---|
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | ☐ | ☐ | ☒ | ☐ |

**2.9 HAZARDS & HAZARDOUS MATERIALS.** Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Less Than Significant Impact

The proposed Bee Canyon Greenery will not result in the use or transport of hazardous materials. The proposed project will result in a green waste composting operation. The proposed composting operation will generate leachate from the composting process which will be collected and reused in the composting operation. Heavy construction equipment used in the composting operation will be properly maintained so that there are no major spills or leaks of diesel fuel, oil or other fluids used in the standard operation of the heavy construction equipment that will be used at the composting operation. A spill response plan will be implemented in compliance with NPDES requirements.

While the environmental analysis above did not conclude that the proposed composting operation will result in a significant environmental impact to this environmental topic, in order to further reduce the project's less than significant impacts, OCWR has added the following Project Design Features and Operational Control Measures (PDF & OCM). All of these Project Design Features and Operational Control Measures are also included in the Mitigation Monitoring and Reporting Program and will also be incorporated into the Report of Composting Site Information (RCSI), to be reviewed and approved by the Orange County Health Care Agency, Environmental Health Division, acting in its capacity as the Orange County Solid Waste Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery (CalRecycle). The RCSI is the key engineering, permitting, construction and operations document that the LEA will rely upon when issuing the Solid Waste Facility Permit for the Bee Canyon Greenery Composting Operation.

**(Hazards and Hazardous Materials – Hazardous Waste Exclusion and Control PDF & OCM-1)** The existing hazardous waste exclusion and load-checking program for the FRB Landfill will also be used for the proposed composting operation. Loads are inspected both at the fee booth and during unloading. If any hazardous materials are discovered in loads at the fee booth, the hauler will be turned away from the landfill and provided with information regarding acceptable hazardous waste disposal facilities. Any hazardous wastes that are discovered after unloading, if safe to handle, will be stored at the temporary hazardous waste storage area at the

landfill, before being transported off-site by a certified hazardous waste hauler for proper disposal.

**(Hazards and Hazardous Materials – Exclusion of Unacceptable Solid Wastes PDF & OCM-1)** For the composting operation, all green waste materials received will be processed, ground and screened prior to delivery to the composting operation. This will eliminate most non-green waste solid waste materials prior to delivery to the composting operation. However, if contaminated loads are received at the composting operation that contain food wastes or other unacceptable solid wastes, these loads will be immediately collected and transported to the landfill working face for disposal.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact

The proposed Bee Canyon Greenery composting operation will be located within the FRB Landfill site boundary. The FRB Landfill is located within a relatively remote location. The proposed project will not be located within one-quarter mile of an existing or proposed school. No impacts will occur.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact

The proposed project be located within the FRB Landfill site boundary. The FRB Landfill is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impacts will occur.

e. For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact

The FRB Landfill site is not located within an airport land use plan area or within two miles of an airport. No impacts will occur.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact

The proposed project will not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed Bee Canyon Greenery composting operation will be located at the FRB Landfill which is in a relatively remote location. Access to and from the FRB Landfill is via Bee Canyon Access Road, Portola Parkway and Sand Canyon Avenue. During an emergency, such as a regional fire, vehicles exiting the landfill will not interfere or impede nearby resident vehicles that may be attempting to leave the area.

g. Expose people or structures, either directly or indirectly, to a significant risk or loss, injury or death involving wildland fires?

Less Than Significant Impact

The FRB Landfill site is located within a high fire hazard area, as designated by the *County of Orange General Plan*. However, the Bee Canyon Greenery composting operation will be located on the active FRB Landfill that is completely disturbed. There will be no native vegetation located in close proximity to the unloaded green waste, the windrows, curing piles or finished compost storage areas. The potential for the compost piles to generate fires will be minimized by the implementation of proper compost operation practices such as maintaining the proper moisture content in the compost piles, turning the compost piles at the correct frequency, monitoring the temperature inside the compost piles, ensuring that the compost piles do not exceed the required height, width and length dimensions, maintaining proper spacing between the compost piles and ensuring proper access for fire fighting equipment. In the event that a compost pile does catch on fire, the fire will be immediately put out (i.e., smothered) by the loaders at the composting operation. The water truck can also be used if needed.

The proposed project will therefore not expose people or structures, either directly or indirectly, to a significant risk or loss, injury or death involving wildland fires. No significant impacts will occur.

The Bee Canyon Greenery will be designed and operated to meet all Orange County Fire Authority (OCFA) requirements, which are discussed in the project description section of this Initial Study. OC Waste & Recycling and its consultants have worked closely with OCFA staff to ensure that the proposed Bee Canyon Greenery composting operation will be designed to meet all OCFA requirements.

While the environmental analysis above did not conclude that the proposed composting operation will result in a significant environmental impact to this environmental topic, in order to further reduce the project's less than significant impacts, OCWR has added the following Project Design Features and Operational Control Measures (PDF & OCM). All of these Project Design Features and Operational Control Measures are also included in the Mitigation Monitoring and Reporting Program and will also be incorporated into the Report of Composting Site Information (RCSI), to be reviewed and approved by the Orange County Health Care Agency, Environmental Health Division, acting in its capacity as the Orange County Solid Waste Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery

(CalRecycle). The RCSI is the key engineering, permitting, construction and operations document that the LEA will rely upon when issuing the Solid Waste Facility Permit for the Bee Canyon Greenery Composting Operation.

**(Hazards and Hazardous Materials-Fire Prevention and Protection PDF & OCM-1)** OCWR shall provide fire prevention, protection and control measures, including, but not limited to, temperature monitoring of windrows and piles, adequate water supply for fire suppression, and the isolation of potential ignition sources from combustible materials. A strip of sufficient width of cleared land must be maintained along the perimeter of site operations to act as a fire barrier or break. OCWR will consult with OCFA to determine the size of the fire break.

**(Hazards and Hazardous Materials-Fire Prevention and Protection PDF & OCM-2)** The composting operation will be designed and operated to meet all Orange County Fire Authority (OCFA) fire flow and fire safety requirements. This will include but not be limited to the spacing between windrows; the number, width and length of fire lanes; the distance of the windrows and material storage areas to flammable vegetation, a water tank, water pumps, water lines and fire hydrants.

**(Hazards and Hazardous Materials-Fire Prevention and Protection PDF & OCM-3)** All 20-foot wide compost pile areas will be surrounded by 20-foot wide fire access lanes. Perimeter roads will be a minimum width of 20 feet and expand to a minimum width of 40 feet at hydrant locations to accommodate fire response.

Methane generated by the underlying landfill area will not result in surface fires at the composting area through the effective maintenance and monitoring of the landfill gas collection system.

| **2.10 Hydrology and Water Quality**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | ☐ | ☐ | ☒ | ☐ |

| | | | | |
|---|---|---|---|---|
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner, which would:<br>(i) result in substantial erosion or siltation on- or off-site? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner, which would:<br>(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner, which would:<br>(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner, which would:<br>(iv) Impede or redirect flood flows? | ☐ | ☐ | ☒ | ☐ |
| d) In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation? | ☐ | ☐ | ☐ | ☒ |

| | | | | |
|---|---|---|---|---|
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | ☐ | ☐ | ☐ | ☒ |

**2.10 HYDROLOGY & WATER QUALITY.** Would the project:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less Than Significant Impact

The proposed Bee Canyon Greenery composting operation will routinely generate leachate that must be captured. In addition, during storm events, leachate and runoff that has come into contact with green waste and compost must be properly conveyed and captured.

Appropriate asphalt material will be placed over the entire landfill area where the composting will occur so that there will be no impacts to the underlying waste prism. The design of the proposed composting operation shall account for the underlying refuse and comply with any landfill-related regulations.

OCWR shall fully contain all surface water runoff and leachate resulting from the composting operation. Collected surface water runoff and leachate will be collected on-site from the composting operation lined pond, and reused with the composting operation. Collected surface water runoff and leachate will not be discharged to the landfill storm water drainage system. With the incorporation of these design features (i.e. lined pond and berms), the proposed composting operation will not generate polluted runoff to off-site storm water drainage systems, nor will the composting operation degrade ground or surface water quality.

The proposed project will not result in the violation of any water quality standards or waste discharge requirements. For the Bee Canyon Greenery composting operation, OCWR will be applying for coverage under Order WQ 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations. In addition, OCWR will obtain a Notice of Intent (NOI) for Construction Activities and an NOI for Industrial Activities under the National Pollutant Discharge Elimination Systems Permit (NPDES), issued by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). In addition, to ensure that the proposed composting operation will not substantially degrade water quality or provide substantial additional sources of polluted runoff to existing drainage, OCWR will be required to implement a project specific Storm Water Pollution Prevention Plan (SWPPP) consisting of several Best Management Practices (BMPs). BMPs are used to control surface water runoff, erosion and siltation at the project site during the construction of the proposed facility.

While the environmental analysis above did not conclude that the proposed composting operation will result in a significant environmental impact to this environmental topic, in order to further reduce the project's less than significant impacts, OCWR has added the following Project Design Features and Operational Control Measures (PDF & OCM). All of these Project Design

Features and Operational Control Measures are also included in the Mitigation Monitoring and Reporting Program and will also be incorporated into the Report of Composting Site Information (RCSI), to be reviewed and approved by the Orange County Health Care Agency, Environmental Health Division, acting in its capacity as the Orange County Solid Waste Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery (CalRecycle). The RCSI is the key engineering, permitting, construction and operations document that the LEA will rely upon when issuing the Solid Waste Facility Permit for the Bee Canyon Greenery Composting Operation.

**(Hydrology and Water Quality PDF & OCM-1)** Prior to construction of storm water containment and treatment facilities and prior to grading of the composting operation project site, OCWR shall prepare a Storm Water Pollution Prevention Plan ("SWPPP) to obtain coverage under the State-wide general construction storm water pollution National Pollutant Discharge Elimination System ("NPDES") permit. The BMPs outlined in the SWPPP shall be implemented in project construction and operations.

BMPs are used to control surface water runoff, erosion and siltation at the project site during the construction of the proposed facility. Typical BMPs are listed below:

- Fuel delivery or dispensing will be observed by facility personnel. Fuel delivery or dispensing that is not observed by facility personnel is prohibited.

- Vehicles and equipment will be kept in good working order. Equipment and vehicles with leaks are to be repaired promptly by trained mechanics.

- Equipment and parts with a potential to impact storm water are to be placed under tarps as needed during storm events.

- Spills will be reported and proper spill response procedures will be promptly implemented. Should such a situation occur, soils affected by spills and leaks from landfill equipment will be removed. Proper clean-up procedures will first involve removal of the impacted soil layer. The soil will then be placed in 55-gallon drums for off-site treatment and disposal.

- Berms, silt fences, sandbags, hay bales, wittle-wattles, geo-logs and straw mats will be installed during construction to reduce erosion.

- BMPs include both non-structural and structural controls. Non-structural controls will include BMPs such as preventative maintenance, proper materials handling, spill prevention and control and litter control. Structural controls would include BMPs such as overhead coverage, secondary containment, roof gutters, paved surfaces designed to maintain positive drainage and curbs.

**(Hydrology and Water Quality PDF & OCM-2)** Prior to operation of the composting operation, OCWR shall apply for coverage under the State-wide general storm water NPDES permit for industrial facilities or apply for an individual facility storm water NPDES permit.

**(Hydrology and Water Quality PDF & OCM-3)** OCWR shall conduct quarterly sampling and testing of windrow leachate and runoff for the presence of any hazardous substances at concentrations above those effluent standards set forth in the project's NPDES permit.

**(Hydrology and Water Quality PDF & OCM-4)** OCWR shall fully contain all surface water runoff and leachate resulting from the composting operation. Collected surface water runoff and leachate will be collected on-site from the composting operation lined pond, and reused with the composting operation.

**(Hydrology and Water Quality PDF & OCM-5)** Testing of finished compost (i.e., after the curing process is complete) for pathogens, metals and physical contamination will be performed in accordance with California Code of Regulations Title 14 requirements.

**(Hydrology and Water Quality PDF & OCM-6)** Although OCWR has no plans to use additives or amendments as part of the composting operation at this time, should this change in the future, any additives or amendments that will be used shall be non-toxic and subject to the approval of the RWQCB and the LEA prior to their use.

**(Hydrology and Water Quality PDF & OCM-7)** For the Bee Canyon Greenery, the site will be graded such that the center of each compost pile will be located on a high point and the compost deck will be graded at 2 percent toward the access lanes which will be graded at 2 percent to the northeast, as shown on **Figure 5**, conveying flows to an approximate 15.84-acre feet lined composting operation pond, that will be constructed to capture storm water runoff and leachate from the composting operation. The composting operation lined pond dimensions were determined based on National Oceanic and Atmospheric Administration (NOAA) precipitation data based for a 25-year, 24-hour storm event (per Order WQ 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations) and the appropriate tributary boundary of the compost area. In addition, in accordance with standard engineering practices, the pond will be designed to accommodate an additional two feet of freeboard above the water level of the design storm event to accommodate waves and splashing from water flows.

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

<u>Less Than Significant Impact</u>

At the FRB Landfill site, surface water drainage in Bee Canyon provides for groundwater recharge along the hillsides and canyon bottoms. Because of its location, the proposed project has no effect on hillsides or canyon bottoms. Most of the groundwater at the FRB Landfill site occurs within the alluvial deposits in the canyon bottoms and generally flows on top of the less permeable bedrock at the base of the alluvium. Bee Canyon and similar canyons within the Santa Ana Mountains are generally considered "non-water" bearing because the thickness of the alluvial deposits is too thin (less than 50 feet), and the permeabilities of the bedrock formations are too low to yield adequate water supplies. The groundwater is under unconfined conditions within the alluvial deposits, and interpreted to be under semi-confined to confined conditions within the

bedrock formations. Groundwater movement within the bedrock is controlled by the degree of weathering of the mineral components of the bedrock units, infilling of fractures, structure, and interfingering of more permeable zones.[8] The proposed project involves no drilling or deep grading and would not result in the depletion of groundwater supplies and would not interfere with groundwater recharge. No significant impacts will occur.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:

(i) Result in substantial erosion or siltation on- or off-site?

(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

(iv) Impede or redirect flood flows?

While the proposed Bee Canyon Greenery composting operation will result in changing the existing drainage pattern on the top deck of a 30-acre portion of the Phase V-D area of the FRB Landfill only, this will not result in a substantial alteration of the existing drainage pattern of the site or area. At the proposed Bee Canyon Greenery composting operation site, the project will redirect storm flows that are currently being directed to the landfill surface water collection system to a lined pond that is described above. The project would not result in a substantial increase in the rate or amount of surface water runoff. All surface water flows at the Bee Canyon Greenery composting operation will be conveyed by berms to the lined pond, collected, and then reused at the composting operation. The project would not result in substantial erosion or siltation on- or off-site. In addition, the project will not result in the alteration of the course of a stream or river.

The proposed project does not include the development of any new housing. In addition, the proposed project site is not located within a 100- or 500-year flood zone (Zone X) as designated by the Federal Emergency Management Agency[9]. The proposed project will not expose people or structures to flooding risks. In addition, the FRB Landfill site is not located within a dam inundation area.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

[8] Rust Environment & Infrastructure, *Frank R. Bowerman Sanitary Landfill, Preliminary Closure Plan and Preliminary Postclosure Maintenance Plan*, p. 2-6, August 1994.

[9] U.S. Federal Emergency Management Agency, *Federal Emergency Management Agency National Flood Insurance Program Map Nos. 06059C0075F (November 3, 1993) and 066059C0076E (September 15, 1989)*, (Washington, D.C.: U.S. Federal Emergency Management Agency).

No Impact

The FRB Landfill site is not located in close proximity to the Pacific Ocean or any large inland water bodies. The proposed project would not result in any impacts associated with seiche, tsunami or mudflow.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact

The proposed Bee Canyon Greenery composting operation will not result in the obstruction of any water quality control plan or sustainable groundwater management plan.

| **2.11 Land Use and Planning**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |

**2.11 LAND USE & PLANNING.** Would the project:

a. Physically divide an established community?

b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact

The project site is located within the FRB Landfill site. The FRB Landfill site is located on unincorporated County property to the north of the City of Irvine (within the City's Sphere of Influence) in an area known as Bee Canyon. The Orange County General Plan designation for the FRB Landfill site is 4LS (Public Facilities; Landfill Site). Because the property is owned by the County of Orange, the project is exempt from the provisions of the Orange County Zoning Code, pursuant to Orange County Codified Ordinance, Ordinance No. 99-02, Section 2, Section 7-9-20(i). The proposed project will not physically divide an established community, nor will the

proposed project conflict with any land use plans, policies or ordinances adopted for the purpose of avoiding or mitigating an environmental effect. No impacts will occur.

| **2.12 Mineral Resources**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ☐ | ☐ | ☐ | ☒ |

**2.12 MINERAL RESOURCES.** Would the project:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state?

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

<u>No Impact</u>

The proposed project would not result in any impacts to mineral resources. The FRB Landfill site does not contain mineral resources that are either designated as important to the State of California or are considered to be of local importance. In addition, the landfill site is not designated as a mineral resource recovery facility.

| 2.13 Noise<br><br>*Would the project result in:* | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☐ | ☒ | ☐ |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

**2.13 NOISE.** Would the project result in:

a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact

LSA prepared a noise and vibration impact analysis for the proposed Bee Canyon Greenery Composting Operation. This study is included as **Appendix F**. The study concludes that the proposed project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance. The proposed Bee Canyon Greenery composting operation will operate during the daytime only and will not exceed the maximum noise ordinance levels specified by the County of Orange or the City of Irvine. In addition, the noise and vibration study shows that the proposed project will not result in the generation of excessive ground borne vibration or ground borne noise levels.

The proposed composting operation will occur at an existing, active landfill. Trucks that are already bringing green waste material to the landfill will be diverted to the composting operation. At a maximum daily tonnage of 437 TPD, and using 20-ton per load end dump trucks, the Bee Canyon Greenery will generate approximately 22 new two-way truck trips per day, with these trucks taking finished compost to end markets. Access to and from the FRB Landfill is via I-405, I-5, Sand Canyon Avenue, Portola Parkway and Bee Canyon Access Road. These 22 new vehicle trips per day would result in an insignificant increase in noise and vibration impacts when compared to the existing environmental setting of the FRB Landfill operation that generates approximately 655 two-way vehicle trips per day. In addition, the new heavy equipment associated with the compost operation, which will include a windrow turner, two front loaders, a mobile screen, a water truck and a dump truck associated with the 437 TPD composting operation would result in an insignificant increase in noise and vibration impacts when compared to the existing environmental setting of all of the heavy construction equipment (i.e., scrapers, compactor bulldozers, water trucks, etc.) associated with the active FRB Landfill that accepts approximately 8,000 tons of solid waste per day and approximately 2,000 tons of exempt wastes (i.e., processed green material, asphalt and soil) per day.

While the environmental analysis above did not conclude that the proposed composting operation will result in a significant environmental impact to this environmental topic, in order to further reduce the project's less than significant impacts, OCWR has added the following Project Design Features and Operational Control Measures (PDF & OCM). All of these Project Design Features and Operational Control Measures are also included in the Mitigation Monitoring and Reporting Program and will also be incorporated into the Report of Composting Site Information (RCSI), to be reviewed and approved by the Orange County Health Care Agency, Environmental Health Division, acting in its capacity as the Orange County Solid Waste Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery (CalRecycle). The RCSI is the key engineering, permitting, construction and operations document that the LEA will rely upon when issuing the Solid Waste Facility Permit for the Bee Canyon Greenery Composting Operation.

**(Noise Control PDF & OCM-1)** Construction activities will be limited to between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. The County of Orange shall have the discretion to permit construction activities to occur outside of the allowable hours if compelling circumstances warrant such an exception (e.g., weather conditions to pour concrete).

**(Noise Control PDF & OCM-2)** Construction contractors shall limit haul truck deliveries to the same hours specified for construction equipment (between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays (except in the case of urgent necessity)). The contractor shall prepare a haul route exhibit for review and approval by OCWR prior to commencement of construction activities. The haul route exhibit shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise. Per the County's Cooperative Agreement with the City of Irvine, the designated access roads to the FRB Landfill are I-405, I-5, Sand Canyon Avenue, Portola Parkway and Bee Canyon Access Road. These same roadways will be used by vehicles going to and from the composting operation during both the construction and operational phases of the project.

**(Noise Control PDF & OCM-3)** All construction equipment shall use noise-reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

**(Noise Control PDF & OCM-4)** Trucks hauling building materials to construction sites can be sources of noise and vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. During both the construction and operational phases of the project, OCWR shall be responsible for repairing the bumps and potholes on Bee Canyon Access Road in order to prevent this additional source of construction and operational noise in residential areas. Bumps and potholes on Portola Parkway and Sand Canyon Avenue are repaired during routine maintenance performed by the City of Irvine.

**(Noise Control PDF & OCM-5)** All trucks, windrow turners, loaders and any other heavy equipment used during both the construction and operational phases of the project shall be operated with properly operating and well-maintained mufflers.

**(Noise Control PDF & OCM-6)** Truck drivers shall turn off engines when not in use; diesel trucks servicing the project shall not idle for more than five (5) minutes.

**(Noise Control PDF & OCM-7)** OCWR shall post telephone numbers at the entrance of the composting facility to allow members of the public to contact the composting facility superintendent to report noise complaints.

**(Noise Control PDF & OCM-8)** The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and most noise-sensitive receptors nearest the project site during all project construction.

**(Noise Control PDF & OCM-9)** The construction contractor shall place all stationary construction equipment so that the emitted noise is directed away from the sensitive receptors nearest the project site.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

<u>No Impact</u>

The proposed project would not expose people residing or working in the project area to excessive noise levels from aircraft. The nearest airport is John Wayne Airport, located approximately 9 miles west of the project site. Due to this distance, most aircraft are flying at relatively high altitudes over the project site and create only minimal noise impacts. Furthermore, the proposed project would not introduce any new noise sensitive receptors to the study area. No impacts will occur.

| 2.14 Population and Housing<br><br>*Would the project:* | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☐ | ☒ |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

**2.14 POPULATION AND HOUSING.** Would the project:

a. Induce substantial unplanned population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact

The proposed project would not induce substantial unplanned population growth, either directly or indirectly. The proposed project would not result in the development of any new homes or businesses, nor would the project result in the expansion of any major utilities or public facilities that would serve future population or employment growth. No impacts will occur.

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact

The proposed Bee Canyon Greenery Composting Operation will be developed at an existing landfill site. The proposed project will not result in the displacement of existing people, housing or businesses as a result of the project. No impacts will occur.

| 2.15 Public Services<br><br>*Would the project:* | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| a-i) Fire protection? | ☐ | ☐ | ☐ | ☒ |
| a-ii) Police protection? | ☐ | ☐ | ☐ | ☒ |
| a-iii) Schools? | ☐ | ☐ | ☐ | ☒ |
| a-iv) Parks? | ☐ | ☐ | ☐ | ☒ |
| a-v) Other public facilities? | ☐ | ☐ | ☐ | ☒ |

**2.15 PUBLIC SERVICES.** Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?

ii) Police protection?

iii) Schools?

iv) Parks?

v) Other public facilities?

<u>No Impact</u>

The proposed Bee Canyon Greenery composting operation will be located at the existing FRB Landfill site. The proposed project would not result in new residential, commercial or industrial developments that would increase the need for fire protection and police protection services, the building of new schools or parks or the need for either expanded or enhanced public facilities and services. No impacts will occur.

| 2.16 Recreation<br><br>*Would the project:* | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |

**2.16 RECREATION.** Would the project:

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

b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?

No Impact

The proposed Bee Canyon Greenery composting operation will be located at the existing FRB Landfill site. The proposed project would not result in new residential, commercial or industrial developments that would increase the need for new recreational facilities or increase the use of existing recreational facilities. No impacts will occur.

| 2.17 Transportation<br><br>*Would the project:* | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | ☐ | ☐ | ☒ | ☐ |

| | | | | |
|---|---|---|---|---|
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064, subdivision (b)? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☒ |
| d) Result in inadequate emergency access? | ☐ | ☐ | ☐ | ☒ |

**2.17 TRANSPORTATION/TRAFFIC.** Would the project:

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

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064, subdivision (b)?

Less than Significant Impact

The proposed Bee Canyon Greenery Composting Operation will not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle or pedestrian facilities, nor would the project conflict with or be inconsistent with CEQA Guidelines section 15064, subdivision (b). The proposed project will occur at an existing solid waste landfill operation and will not interfere or impact any future plans for the use of railway or busing by residents nor will the project result in a significant impact to greenhouse gas emissions or climate change.

LSA prepared a traffic impact analysis for the proposed Bee Canyon Greenery Composting Operation. This study is included as **Appendix G**. The study concludes that the proposed project would not result in any significant traffic impacts, associated with a maximum daily tonnage 595 TPD composting operation. After the traffic study was prepared, OC Waste & Recycling reduced the size of the proposed composting operation to a maximum daily tonnage of 437 TPD. The traffic study is still technically accurate since it analyzed the traffic impacts associated with a larger-scale composting operation and therefore analyzed the worst-case potential traffic impacts. The proposed composting operation will occur at an existing, active landfill. Trucks that are already bringing green waste material to the landfill will be diverted to the composting operation. At a maximum daily tonnage of 437 TPD, and using 20-ton per load end dump trucks, the Bee Canyon Greenery will generate approximately 22 new two-way truck trips per day, with these trucks taking finished compost to end markets. Access to and from the FRB Landfill is via I-405, I-5, Sand Canyon Avenue, Portola Parkway and Bee Canyon Access Road. Vehicles using the composting operation will use these same roadways. These 22 new vehicle trips per day would result in an insignificant increase in traffic, when compared to the existing environmental setting of the FRB Landfill operation that generates approximately 655

two-way vehicle trips per day. In addition, these 22 new vehicle trips per day would be dispersed over the 7 AM – 5 PM operating day, so only a small portion of these new trips would occur during the AM or PM peak period.

In addition, the project would not result in increased vehicle trips or traffic congestion that would be beyond adopted policies and/or forecasts. Also, the project would not exceed the level of service (LOS) standards established by the Orange County Congestion Management Plan for designated roads or highways (i.e., I-5 and I-405 Freeways, Sand Canyon Avenue, Portola Parkway and Bee Canyon Access Road). Accordingly, the project will not result in a change in LOS at any signalized or unsignalized intersection in the vicinity of the project site. No significant traffic impacts will occur.

While the environmental analysis above did not conclude that the proposed composting operation will result in a significant environmental impact to this environmental topic, in order to further reduce the project's less than significant impacts, OCWR has added the following Project Design Feature and Operational Control Measure (PDF & OCM). This Project Design Feature and Operational Control Measure is also included in the Mitigation Monitoring and Reporting Program and will also be incorporated into the Report of Composting Site Information (RCSI), to be reviewed and approved by the Orange County Health Care Agency, Environmental Health Division, acting in its capacity as the Orange County Solid Waste Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery (CalRecycle). The RCSI is the key engineering, permitting, construction and operations document that the LEA will rely upon when issuing the Solid Waste Facility Permit for the Bee Canyon Greenery Composting Operation.

**(Transportation PDF & OCM-1)** Trucks going to and coming from the composting operation will be required to use the same roadways that waste hauling vehicles use for accessing the landfill operation. These authorized roadways include I-405, I-5, Sand Canyon Avenue, Portola Parkway and Bee Canyon Access Road.

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

<u>No Impact</u>

The project does not involve the design or redesign of surface transportation facilities. The project, therefore, will have no impact on traffic safety.

d. Result in inadequate emergency access?

<u>No Impact</u>

This project does not affect or change conditions related to emergency access to the landfill site or nearby uses. Therefore, no impacts to emergency access will occur.

| **2.18 Tribal Cultural Resources**<br><br>*Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? | ☐ | ☐ | ☐ | ☒ |
| a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ☐ | ☐ | ☒ |

**2.18 TRIBAL CULTURAL RESOURCES.** Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a-i). Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

a-ii). A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact

The proposed Bee Canyon Greenery composting operation will be located on Phase V-D of the FRB Landfill. The area is completely underlain by a soil stockpile and is entirely disturbed. Therefore, there is no possibility that tribal cultural resources will be present or will be disturbed during the construction phase of the project. In compliance with AB 52, OC Waste & Recycling sent letters to four Native American tribes whose historic ranges included the area where the proposed project is located, in order to determine if any of these Native American tribes would request that they provide consultation on the potential for impacts to Native American tribal resources for the proposed project. These letters are included as **Appendix H**. OC Waste & Recycling did not receive any comments or a request for consultation from any of the four Native American tribes. As such, no impacts to tribal resources will occur.

| **2.19 Utilities and Service Systems**<br><br>*Would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | ☐ | ☐ | ☒ | ☐ |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | ☐ | ☐ | ☐ | ☒ |

| | | | | |
|---|---|---|---|---|
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | ☐ | ☐ | ☐ | ☒ |

**2.19. UTILITIES & SERVICE SYSTEMS.** Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact

The proposed project will not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. No impacts will occur.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact

Composting operations require significant volumes of water to facilitate the composting process, to regulate temperatures and to prevent fires. Water will also be required for dust control. Current reclaimed water usage for the FRB Landfill operation is approximately 60,000 gallons of water per day. For the 437 TPD composting operation, it is estimated that approximately 260,000 gallons of reclaimed water will be needed each day for moistening the compost piles and for dust control. Altogether, the FRB Landfill operation and the Bee Canyon Greenery will use approximately 320,000 gallons of reclaimed water per day. Stantec prepared a water infrastructure and availability study, which is included as **Appendix I**, to determine if the water purveyor, which is the Irvine Ranch Water District, has the existing infrastructure and supply to serve the project site. The water infrastructure and availability study concludes that existing Irvine Ranch Water District infrastructure and supply can accommodate the proposed project's projected daily water demand. As such, no significant impacts are anticipated.

c. Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact

The proposed Bee Canyon Greenery composting operation will not result in the construction of any new sewers nor will the project generate sewerage wastewater. Therefore, no impacts will occur.

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e. Comply with federal, state and local management and reduction statutes and regulations related to solid waste?

No Impact

The project will not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. The project will help Orange County cities achieve their State-mandated solid waste reduction goals by diverting organic solid waste from landfill disposal, via composting. The FRB Landfill operates in compliance with federal, state, regional and local governmental statutes and regulations. No impacts will occur.

| **2.20 Wildfire**<br>*If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:* | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | ☐ | ☐ | ☐ | ☒ |
| c) Require the installation or maintenance of associated infrastructure (such as road, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | ☐ | ☐ | ☒ | ☐ |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability or drainage changes? | ☐ | ☐ | ☐ | ☒ |

**2.20. Wildfire.** Would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact

The proposed project will not substantially impair an adopted emergency response plan or emergency evacuation plan. The proposed Bee Canyon Greenery composting operation will be located at the FRB Landfill which is in a relatively remote location. Access to and from the FRB Landfill is via Bee Canyon Access Road, Portola Parkway and Sand Canyon Avenue. During an emergency, such as a regional fire, vehicles exiting the landfill will not interfere or impede nearby resident vehicles that may be attempting to leave the area.

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?

No Impact

The proposed Bee Canyon Greenery Composting Operation will not result in the development of new housing or other occupied structures. Therefore, no impacts will occur.

c. Require the installation or maintenance of associated infrastructure (such as road, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment?

Less Than Significant Impact

The FRB Landfill site is located within a high fire hazard area, as designated by the *County of Orange General Plan*. However, the Bee Canyon Greenery composting operation will be located on the active FRB Landfill that is completely disturbed. There will be no native vegetation located in close proximity to the unloaded green waste, the windrows, curing piles or finished compost storage areas. The potential for the compost piles to generate fires will be minimized by the implementation of proper compost operation practices such as maintaining the proper moisture content in the compost piles, turning the compost piles at the correct frequency, monitoring the temperature inside the compost piles, ensuring that the compost piles do not exceed the required height, width and length dimensions, maintaining proper spacing between the compost piles and ensuring proper access for fire fighting equipment. In the event that a compost pile does catch on fire, the fire will be immediately put out (i.e., smothered) by the loaders at the composting operation. The water truck can also be used if needed.

The proposed project will therefore not expose people or structures, either directly or indirectly, to a significant risk or loss, injury or death involving wildland fires. No significant impacts will occur.

The Bee Canyon Greenery will be designed and operated to meet all Orange County Fire Authority (OCFA) requirements, which are discussed in the project description section of this Initial Study. OC Waste & Recycling and its consultants have worked closely with OCFA staff to ensure that the proposed Bee Canyon Greenery composting operation will be designed to meet all OCFA requirements.

Methane generated by the underlying landfill area will not result in surface fires at the composting area through the effective maintenance and monitoring of the landfill gas collection system.

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability or drainage changes?

No Impact

The proposed Bee Canyon Greenery Composting Operation will not result in the development of new housing or other occupied structures. In addition, the proposed composting operation is not located in close proximity to any downslope or downstream housing or structures. Therefore, the proposed project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability or drainage changes.

| **2.21 Mandatory Findings of Significance**<br><br>*Would the project:* | | **Potentially Significant Impact** | **Less than Significant With Mitigation Incorporated** | **Less than Significant Impact** | **No Impact** |
|---|---|---|---|---|---|
| a) Does the project have the potential to substantially 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, substantially 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? | | ☐ | ☐ | ☐ | ☒ |

| | | | | | |
|---|---|---|---|---|---|
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | | ☐ | ☐ | ☐ | ☒ |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | | ☐ | ☐ | ☐ | ☒ |

## 2.21 MANDATORY FINDINGS OF SIGNIFICANCE

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially 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?

No Impact

The proposed project would not substantially reduce the habitat of a fish or wildlife population, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. In addition, the proposed project would not eliminate important examples of the major periods of California history or prehistory. The proposed Bee Canyon Greenery composting operation will be developed at the FRB Landfill site on an area that has been completely disturbed.

b. Does the project have possible environmental effects, which are individually limited but cumulatively considerable? ("cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No Impact

The proposed Bee Canyon Greenery composting operation will not result in any environmental impacts that would be cumulatively considerable. The proposed project will be located on the existing FRB Landfill operation and the project would generate a very limited number of new vehicle trips, as discussed and analyzed in Section 2.17 Transportation above, when compared to existing vehicle trips associated with the landfill operation. As a result, impacts to transportation/traffic, air quality/greenhouse gas emissions and noise would be less than significant

and would not result in cumulative considerable significant impacts. All other environmental topics analyzed in Sections 2.1- 2.20 above, would result in impacts that are either negligible or would have effects that would only occur within the FRB Landfill property boundary. The project will not result in any cumulatively considerable environmental impacts.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

No Impact

The analysis included in Sections 2.1 – 2.20 above shows that the proposed Bee Canyon Greenery composting operation would not result in any substantial adverse effects on human beings, either directly or indirectly. With the implementation of Mitigation Measure AS-1, no significant impacts will occur.