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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.

FIGURE 1

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) and Phase 2 will accept up to 437 TPD on a 30-acre area as shown on **Figure 4** (Phase 2 Operations Area). Phase 2 will expand westerly of Phase 1, once the existing Quinn maintenance yard is relocated, and will accept up to 437 TPD. 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 1,092 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 72 hours. In the case of unusually high loads, the stockpile period can be extended up to a total of 120 hours, as needed, with the approval of the LEA. 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 by front loaders 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. 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 134 active compost windrow piles (78,638 cubic yards), approximately 76 compost curing piles (44,562 cubic yards) and a screening, storage and loadout area of approximately 17,661 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.

FIGURE 2

FIGURE 3

FIGURE 4

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 with a combined capacity of 130,000 gallons of reclaimed water. The size of the tanks will be 14.5 feet tall and 12 feet wide and will be positioned in two vertical rows of four tanks each (i.e., water tank farm), as shown on **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 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.

FIGURE 5

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.	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
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.	<input type="checkbox"/>
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.	<input type="checkbox"/>
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.	<input type="checkbox"/>
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).	<input type="checkbox"/>

<p>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.</p>	<input type="checkbox"/>
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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) Permits issued by the South Coast Air Quality Management District for mobile heavy equipment; (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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<p>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?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?

No Impact

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 water tank for the composting operation would be partially visible from this park. However, when this simulation was taken, OCWR was considering one 18-foot high tank, which has now been replaced by a series of eight smaller water tanks. The size of the tanks will be 14.5 feet tall and 12 feet wide and will be positioned in two vertical rows of four tanks each (i.e., water tank farm) as shown on **Figure 4**. Due to the lowered height, these 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.

FIGURE 6

FIGURE 7

FIGURE 8

2.2 Agriculture and Forestry Resources

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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.

- 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**.

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

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

<i>Would the project:</i>	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: 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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).¹ 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.² No significant impacts will occur.

iv) Landslides?

Less Than Significant Impact

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?

¹ Final EIR 604 for the RELOOC Strategic Plan – FRB Landfill Implementation, pages 5.2-21 – 5.2-22, August 15, 2006.

² 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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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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.

- 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.

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

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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: (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<p>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:</p> <p>(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?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>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:</p> <p>(iv) Impede or redirect flood flows?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>d) In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.

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 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. 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. 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, wattle-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.

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

Less Than Significant Impact

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.³ 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?

³ Rust Environment & Infrastructure, *Frank R. Bowerman Sanitary Landfill, Preliminary Closure Plan and Preliminary Postclosure Maintenance Plan*, p. 2-6, August 1994.

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 Agency⁴. 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?

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

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

⁴ 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).

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?

No Impact

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

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.

- 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?

No Impact

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

<i>Would the project:</i>	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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a-ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a-iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a-iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a-v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?

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 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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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. 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.

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

No Impact

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?

No Impact

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

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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<p>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.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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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

<i>Would the project:</i>	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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. No impacts will occur.