

**Document:** Addendum No. 11 to Final EIR 575

**Project Name:** **Addendum No. 11 to Final EIR 575 for the Prima Deshecha General Development Plan (SCH #199041035) – Fee Booth, Scales, and Entranceway Reconstruction and Improvement at the Prima Deshecha Landfill**

**OC Waste & Recycling**

**Log #:** 698

### **Subject and Purpose of Addendum**

The Prima Deshecha Landfill is a Class III municipal solid waste landfill owned by the County of Orange and operated by OC Waste & Recycling (OCWR). The landfill site is located in the City of San Juan Capistrano, City of San Clemente and unincorporated Orange County. The street address for the landfill is 32250 Avenida La Pata, San Juan Capistrano, 92675. On November 6, 2001, the Orange County Board of Supervisors approved Final EIR No. 575 (State Clearinghouse #199041035) for the implementation of the Prima Deshecha General Development Plan.

The project analyzed in Final EIR No. 575 included the following elements:

- Final EIR No. 575 (FEIR 575) analyzed the General Development Plan (GDP) for the Prima Deshecha site which includes a landfill element, circulation element and a recreation element. In order to provide for all three elements, the Prima property is divided into five zones. Zone 1 and Zone 4 are reserved for landfill development, Zone 2 uses are reserved for recreational trails, Zone 3 is reserved for habitat mitigation and Zone 5 is reserved for the La Pata Avenue Gap Closure project. The La Pata Avenue Gap Closure project was completed in 2016.
- For the landfill element of the Prima Deshecha GDP, FEIR 575 analyzed a total design capacity of approximately 53.1 million cubic yards for the Zone 1 landfill development area on 271 acres at a maximum design elevation of 600 feet above mean sea level (AMSL). In addition, for the Zone 4 landfill development area, FEIR 575 analyzed a total design capacity of approximately 118.5 million cubic yards on 409 acres at a maximum design elevation of 1,010 feet AMSL. The Solid Waste Facility Permit for the landfill operation allows for a maximum daily permitted tonnage of 4,000 tons per day.

The purpose of Addendum No. 11 to Final EIR No. 575 is to allow the following and analyze whether further environmental review is necessary for this project revision:

- Traffic congestion has recently been occurring at the entrance to the Prima Deshecha landfill. In calendar year 2019, using automated information taken directly from the landfill scales, the landfill received an average of 1,822 tons of solid waste per day and an average of 417 waste hauling vehicles per day. This is significantly less than the 758 waste hauling vehicles per day that would visit the landfill at 4,000 TPD, as projected and

analyzed in FEIR 575. Nonetheless, while the landfill has not received a greater amount of traffic than was previously analyzed in FEIR 575, congestion and queuing tends to occur particularly during popular dumping times such as at landfill opening or during lunch hours. The orientation of the existing fee booth and access lanes currently creates a pinch point, increasing waiting times and queuing. In addition, the completion of the Avenida La Pata road extension project added a new bridge and off ramp to the Prima Deshecha Landfill which allowed for vehicles to enter the landfill coming from the South, which was not part of the original fee booth design or traffic pattern. Modifications will help alleviate queuing and also improve safety considerations for traffic flow in the area.

Due to the recent traffic congestion experienced at the entrance to the Prima Deshecha landfill, to facilitate improved traffic flow, safety, and management at the site, OCWR will reconstruct new fee booths and improve entranceway access roads to the landfill. The project will include a modification of the internal access road system, with an addition of 4 new inbound lanes and an increase from 1 outbound lane to 2. The new access lanes will be constructed slightly south of the existing access road. Two new fee booths, four covered scales, and staff office building will be constructed. The project will include a total of six scales (two existing and four new) two of which can be used for weigh backs, an employee/contractor bypass lane, and a staff parking lot.

The existing access road and two of the three existing scales and booth will remain in place for potential future use, although the existing booth will be modified to include new safety features. The existing flare station area will be modified and reclaimed water tanks will be relocated to accommodate the new construction. The footprint of the project will take place predominately within previously disturbed areas that are currently utilized for access roads, flare station, the existing fee booths and scales, and landscaping. New landscaping will be added after project completion to replace any removals. Due to slope instability to the north and west, a small section of previously undisturbed area at the south end of the project area will be impacted and existing road grades will be modified to ensure geotechnical integrity of the project and prevent landslides. This area consists predominately of ruderal, non-native vegetation.

Construction will take place over an approximately 12 month period during landfill operational hours (7AM to 5PM) and will include grading, asphalt placement, building construction, and utility relocation. Due to the need for the landfill to remain open, the project will be phased such that there will be no lane or scale closures resulting in interruption to landfill traffic. Existing scales and lanes will remain open until the new lanes and scales are fully constructed, at which time traffic will be diverted to the new lanes while work on the old scales begins. Equipment utilized in construction is anticipated to include a scraper, excavator, and approximately ten 10-yard dump trucks for moving soil on site.

### **Standards for Preparing an Addendum**

California Code of Regulations Title 14 (“CEQA Guidelines”), Section 15164 “Addendum to an EIR or Negative Declaration”, states the following:

- (a) The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.
- (c) An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.
- (d) The decision-making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.
- (e) A brief explanation of the of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency’s required findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.

CEQA Guidelines Section 15162(a) “Subsequent EIRs and Negative Declarations”, states the following:

- (a) When an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
  - (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
  - (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
  - (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

- (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.”

### **Changes to Final EIR No. 575**

Changes to Prima FEIR 575, Section 1.1.3 Project Description (Landfill Plan), page 1-1; and Section 3.6.1 Landfill Plan, page 3-5 are required, as shown in redline/strikeout text below.

#### **1.1.3 Project Description**

##### **Landfill Plan**

The 2001 GDP divides the total 1,530-acre site into five zones for planning purposes. The landfill plan provides for approximately 116.8 million cubic yards (mcy) of remaining refuse capacity (as of January 2021) in two landfill zones on the site. The total site capacity, including an in-place refuse volume of 14.6 mcy in Zone 1 and Waste Management Unit 2 (as of January 2001), is approximately 131.4 mcy. Features accommodated by the GDP for continued development of the landfill include a liner and leachate collection and recovery system (LCRS) in future disposal areas of the landfill zones, continued expansion of the landfill gas control system, modifications to the landfill gas control flare station, ~~and~~ an energy recovery facility (ERF), ~~and fee booth and entrance area reconstruction and modification to better accommodate landfill traffic and alleviate access road queuing.~~ The GDP also identifies locations for detention basins and permanent LCRS facilities.

#### **3.6.1 Landfill Plan**

As previously indicated, the GDP divides the total 1,530-acre site into five zones for planning purposes (refer to Figure 3-3). The landfill plan for Zones 1 and 3 provides for approximately 116.8 million cubic yards (mcy) of remaining refuse capacity (as of January 2001). The total site capacity, including an in-place refuse volume of approximately 14.6 mcy in Zone 1 and WMU2 (as of January 2001), is approximately 131.4 mcy (see Table 3-1). Features accommodated by the GDP for continued development of the landfill include a liner and leachate collection and recovery system (LCRS) in future disposal areas of the landfill zones, relocation of the HHWCC, continued expansion of the landfill gas control system, modifications to the landfill gas control flare station, an energy recovery facility (ERF), ~~and~~ potential acquisition of potable water



(which will be the subject of subsequent environmental analysis), and reconstruction and modification of the fee booth and entrance area to better accommodate landfill traffic and alleviate access road queueing. The GDP also identifies locations for detention basins and permanent LCRS facilities. Recreational uses would ultimately be provided in two of five zones on the site. The GDP also accommodates the extension of Camino de los Mares and La Pata Avenue through the site, consistent with approved alignments shown on the MPAH.

### **Analysis Confirming that an Addendum is the Appropriate CEQA Document for Proposed Project**

Included below is an analysis of why an Addendum is the appropriate CEQA documentation for the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill. The analysis summarizes the conclusions for each environmental topic analyzed in FEIR 575 and whether there would be a change in the significance conclusion for each environmental topic as a result of the project.

#### **Aesthetics**

FEIR 575 found that the implementation of the General Development Plan for the Prima Deshecha Landfill through buildout of the Zone 1 and Zone 4 landfill development areas would result in an unavoidable significant adverse impact to aesthetics/views, even after the incorporation of mitigation measures. This unavoidable significant adverse impact to aesthetics/views from landfill operations is the creation of a large artificial landform adjacent to native hillsides. Landscaping designed to blend the landfill operation in with the native hillsides is ongoing and will continue through the buildout of the landfill. Landscaping had been installed around the existing fee booth and flare station, and upon completion of this reconstruction project, will be redesigned and replaced to be comparable to the previous condition. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill site will not result in any changes to this significance conclusion.

FEIR 575 found that the implementation of the General Development Plan for the Prima Deshecha Landfill through buildout of the Zone 1 and Zone 4 landfill development areas would not result in any significant light and glare impacts after the incorporation of mitigation measures. The reconstructed fee booth and entrance way will not result in any changes to the existing condition for light and glare at the existing fee booth and flare station. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

## Air Quality/Greenhouse Gas Emissions

FEIR 575 found that after the incorporation of mitigation measures, implementation of the General Development Plan for the Prima Deshecha Landfill through buildout of the Zone 1 and Zone 4 landfill development areas, would not result in any significant impacts to air quality. This significance conclusion was changed in Final Supplemental EIR No. 597 (FSEIR 597), which determined that the landfill expansion would result in an unavoidable significant adverse impact to air quality, both for construction and operational emissions, even after the incorporation of mitigation measures, since construction and operation emissions from the landfill operation would exceed the thresholds of significance for daily construction and operational emissions included in the SCAQMD CEQA Air Quality Handbook. FEIR 575 and FSEIR 597 determined that the landfill expansion would result in 24.1 lbs./day of reactive organic gases (ROG), 210.5 lbs./day of carbon monoxide (CO) and 218.6 lbs./day of nitrogen oxides (NO<sub>x</sub>). An analysis of greenhouse gas (GHG) emissions was not required when FEIR 575 was certified in 2001 or when FSEIR 597 was certified in 2007.

The reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill site would result in temporary use of additional construction equipment in the area for the duration of the construction project (approximately 12 months). Equipment utilized in construction is anticipated to include a scraper, excavator, and approximately ten 10-yard dump trucks for moving soil on site. The project will not result in any change to the landfill's permitted daily tonnage capacity; the goal of the reconstruction project is to reduce congestion and queueing at the landfill entrance and will not result in any increase in the number of vehicles visiting the site.

An air quality assessment was completed by LSA Associates, Inc. (LSA) in January 2021 (Appendix A). The assessment determined that construction and operation of the project would not result in the generation of criteria air pollutants that would exceed SCAQMD thresholds of significance or produce significant emissions that would affect nearby sensitive receptors. With implementation of FEIR 575 Mitigation Measures MM 4.9-1 and MM 4.9-8 and FSEIR 597 Mitigation Measures MM 5.4-1 and 5.4-2, the project would also not result in other emissions (such as those leading to odors) affecting a substantial number of people. While a GHG analysis was not required for FEIR 575 or FSEIR 597, the study by LSA concluded that GHG emissions associated with the reconstruction project would not be cumulatively considerable and the project would not conflict with existing regulations adopted to achieve GHG emissions reduction goals and would be consistent with applicable plans and programs designed to reduce GHG emissions. All mitigation measures established under FEIR 575 and FSEIR 597 continue to be implemented at the landfill. As such, there will be no significant air quality impacts resulting from the reconstruction project. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

Regarding odors, FEIR 575 found that after the incorporation of mitigation measures, implementation of the General Development Plan for the Prima Deshecha Landfill through buildout of the Zone 1 and Zone 4 landfill development areas, would not result in any significant impacts to odors. The fee booth and entrance area reconstruction project will not result in any significant odor impacts. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Biological Resources

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Zone 1 and Zone 4 landfill development areas through buildout would result in an unavoidable significant adverse impact to biological resources even after the incorporation of mitigation measures. Most of the reconstruction project will take place on previously impacted areas that have been completely disturbed. Due to slope instability to the north and west, a small section of approximately 0.80 ac in size consisting of previously undisturbed area at the south end of the project area will be impacted to ensure geotechnical integrity of the project and prevent landslides. This area consists predominately of ruderal, non-native vegetation. To comply with fuel modification requirements by OC Fire Authority (OCFA), unauthorized vegetation in designated zones around new structures will be cleared, resulting in approximately 0.22 acres of impacts to coyote brush and mixed scrub vegetation. These areas were surveyed in spring of 2020 by LSA Associates to ensure no additional resources were found or would be disturbed. To mitigate impacts to biological resources, OCWR is a participant in the Southern Sub-Region Habitat Conservation Plan, through which pre-mitigation has been provided for all habitat impacts through the buildout of the landfill. All mitigation measures outlined in EIR 575 continue to be implemented, including that vegetation removal for this project will be conducted outside of the breeding bird season (February 15 – August 31) to the extent feasible, and that if vegetation removal must occur during this timeframe, a preconstruction survey will be conducted by a qualified biologist prior to clearing and grubbing. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Cultural Resources

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Zone 1 and Zone 4 landfill development areas through buildout would not result in any significant impacts to archaeological or paleontological resources after the incorporation of mitigation measures. FEIR 575 found that there would be no impacts to historical resources. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not

result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Geology and Soils

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Zone 1 and Zone 4 landfill development areas through buildout would not result in any significant impacts to geology and soils after the incorporation of mitigation measures. The fee booth and entrance area reconstruction project at the Prima Deshecha Landfill will take place predominately on a previously disturbed area that is already in use for the fee booth and entrance way. A geotechnical study of the project area was conducted in 2019. Due to slope instability to the north and west, the results of this analysis have been incorporated into the design of the reconstruction project to ensure geotechnical integrity and prevent landslides. The design includes impact of a small area of previously undisturbed area at the south end of the project to maintain slope support and stability. Soil on site will be used as borrow for fill at the construction site. All mitigation measures identified in FEIR 575 will be incorporated. Therefore, no additional impacts to geology or soils will occur. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Hazards and Hazardous Materials

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Zone 1 and Zone 4 landfill development areas through buildout, would not result in any significant impacts to hazards and hazardous materials after the incorporation of mitigation measures. The landfill will continue to receive a small volume of household hazardous waste materials with incoming refuse. This is controlled by a hazardous waste load checking program at the landfill and through screening programs at the waste haulers' material recovery facilities that process the solid waste to remove recyclables before delivery of residual waste materials to the landfill. The fee booth and entrance area reconstruction project will not use any hazardous materials or generate any hazardous waste. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Hydrology and Water Quality

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Zone 1 and Zone 4 landfill development areas through buildout would not result in any significant impacts to hydrology and water quality after the incorporation of mitigation

measures. The landfill operation continues to be governed by permits issued by the RWQCB, LEA (with CalRecycle's concurrence), SCAQMD and OCFA. These agencies will continue to enforce the terms and conditions contained within these permits. OCWR and the hired construction contractor for the project will be required to implement Best Management Practices (BMPs) to ensure that pollutants do not enter municipal storm drain systems or impact receiving waters during construction of the project to comply with the Construction General Permit, and post-construction, all activities at the site are covered under the site's Industrial General Permit coverage, for which a sitewide Stormwater Pollution Prevention Plan (SWPPP) has been prepared. As such, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any significant impacts to hydrology and water quality. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Land Use and Planning

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Zone 1 and Zone 4 landfill development areas through buildout would not result in any significant impacts to land use and planning after the incorporation of mitigation measures. The existing land use on the site has been an operating solid waste landfill since 1976. This use will not change in the future. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Noise

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Zone 1 and Zone 4 landfill development areas through buildout will not result in any significant impacts to noise after the incorporation of mitigation measures. A noise assessment was completed by LSA in January 2021 (Appendix B). The assessment concluded that the project would generate both construction noise and vibration levels that are well below the applicable County and City standards, resulting in impacts that are less than significant. While the project may result in a temporary increase in construction equipment working on the area for approximately 12 months, the associated noise and vibration will be less than significant. Furthermore, with the implementation of the mitigation measures established by FEIR 575, noise levels generated during construction would be reduced to the greatest extent feasible. Lastly, the project would not result in a change to the operational noise level of the project site or the ambient noise conditions at the surrounding receptors since the project will not change the daily permitted tonnage, will not generate any new vehicle trips, and landfill operational hours will remain the same (7AM – 5PM, Monday – Saturday). In fact, the project will result in the new fee booths being located approximately 275 ft further away from the nearest receptors and in

less vehicle queuing and idling due to improved traffic flow, and therefore may result in a reduction in long-term noise and vibration levels. All applicable mitigation measures identified in FEIR 575 and FSEIR 597 continue to be implemented. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Public Services

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Prima Deshecha Landfill Zone 1 and Zone 4 landfill development areas through buildout would not result in any significant impacts to public services. The fee booth and entrance area reconstruction project will not result in the increased need for public services such as police, fire or emergency medical services. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### *Recreation*

FEIR 575 found that the implementation of the General Development Plan for the Prima Deshecha Landfill Zone 1 and Zone 4 landfill development areas through capacity and closure would not result in any significant impacts to recreation, since the landfill operation will not result in the development of any new housing that would result in the need for new parks or other recreational facilities. In addition, the continued development and operation of the landfill would not directly or indirectly impact any existing recreational facilities. OCWR currently maintains a multi-use recreational trail on the Prima site that connects the City of San Juan Capistrano trail system to the City of San Clemente trail system. OCWR will continue to maintain this trail on Prima property in the future. The fee booth and entrance area reconstruction project at the Prima Deshecha Landfill will not result in any significant impacts to recreation. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Transportation/Traffic

- ✚ FEIR 575 found that the implementation of the General Development Plan for the Prima Deshecha Landfill Zone 1 and Zone 4 landfill development areas through buildout would not result in any significant impacts to transportation/traffic. The traffic study included in FEIR 575 analyzed a worst-case 4,000 TPD landfill operation. FEIR 575 projected that Prima would begin to receive tonnage that would be very near its 4,000 TPD maximum daily permitted tonnage; however, that scenario has not occurred. In fact, in calendar year 2019, using automated information taken directly from the landfill scales, the landfill received an average of 1,822 tons of solid waste per day and an average of 417 waste



hauling vehicles per day. This is significantly less than the 758 waste hauling vehicles per day that would visit the landfill at 4,000 TPD, as projected and analyzed in FEIR 575. Note that due to the COVID-19 pandemic, traffic data from 2019 is used here. The fee booth and entrance area reconstruction project at the Prima Deshecha Landfill will not result in any changes to the maximum permitted daily tonnage at the landfill and will therefore not result in any changes to the existing traffic conditions at the site. In fact, the project will result in an overall traffic improvement, as it will alleviate congestion at the entrance to the landfill and eliminate queueing on the access road and towards Avenida La Pata. No significant impacts to transportation/traffic from the fee booth and entrance area reconstruction project at Prima are anticipated. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to the significance conclusion for transportation/traffic included in FEIR 575. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Utilities & Service Systems

FEIR 575 and FSEIR 597 found that the implementation of the General Development Plan for the Prima Deshecha Landfill for the Zone 1 and Zone 4 landfill development areas through buildout would not result in any significant impacts to utilities and service systems after the incorporation of mitigation measures. The fee booth and entrance area reconstruction project at Prima will not require any new connection to any utilities beyond what is already existing. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill will not result in any changes to this significance conclusion. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### Cumulative Impacts

Section 15130(a) of the CEQA Guidelines states that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in Section 15065(a)(3). Section 15065(a)(3) defines cumulatively considerable as the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Section 15130(a) further states that where a Lead Agency is examining a project with an incremental effect that is not cumulative considerable, a Lead Agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

Section 15130(a)(3) states that an EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to

alleviate the cumulative impact. The Lead Agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

In compliance with Section 15130(b)(1)(A), the cumulative impacts analysis included in FEIR 575 included a list of past, present and probable future projects that could produce cumulative impacts when combined with the implementation of the General Development Plan for the Prima Deshecha Landfill through buildout of the Zone 1 and Zone 4 landfill development areas. In compliance with Section 15130(b)(2), the projects that were included on the list for cumulative impacts analysis were selected based on their close proximity to the Prima Deshecha Landfill. The cumulative impacts analysis included in FEIR 575 analyzed the potential cumulative impacts for Topography; Geology, Seismicity, Soils and Groundwater; Surface Hydrology; Water Quality; Biological Resources; Cultural Resources; Land Use; Transportation/Circulation; Air Quality; Noise; Aesthetics; Light and Glare; Public Safety and Risk of Upset; Transport of Disease Vectors; Public Services and Public Utilities. The analysis determined that the implementation of the General Development Plan for the Prima Deshecha Landfill through capacity and closure of the Zone 1 and Zone 4 landfill development areas, in combination with related projects, even with the implementation of mitigation measures that would be required for each individual project, would still result in significant cumulative impacts to topography, biological resources, air quality, aesthetics and light and glare.

The fee booth and entrance area reconstruction project at the Prima Deshecha Landfill, does not change the cumulative impacts analyses included in FEIR 575. On the basis of substantial evidence in light of the whole record, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill does not create any new significant cumulative impacts, nor would it result in the substantial worsening of those significant cumulative impacts already analyzed in FEIR 575. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.

### **Basis for Addendum**

***The project will result in the reconstruction of the fee booth and entrance area at the Prima Deshecha landfill site. These changes will not result in any new significant environmental impacts for the Zone 1 and Zone 4 landfill development areas as analyzed in Final EIR No. 575. The project is therefore in compliance with CEQA Guidelines Section 15162 and 15164 and therefore a Subsequent EIR is not required.***

***On the basis of substantial evidence in light of the whole record, and as discussed in the environmental analysis included above, the reconstruction of the fee booth and entrance area at the Prima Deshecha Landfill site will not result in any changes to the significance conclusions contained in Final EIR No. 575 or result in a substantial increase in the severity of the significant environmental impacts previously identified in Final EIR No. 575; therefore, in compliance with Section 15162 and 15164 of the CEQA Guidelines, the preparation of a Subsequent EIR is not required.***



## **Appendix A**

# **AIR QUALITY IMPACT ANALYSIS**

**PRIMA DESHECHA LANDFILL  
FEE BOOTH RECONSTRUCTION PROJECT  
ORANGE COUNTY, CALIFORNIA**



January 2021

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## **AIR QUALITY IMPACT ANALYSIS**

### **PRIMA DESHECHA LANDFILL FEE BOOTH RECONSTRUCTION PROJECT ORANGE COUNTY, CALIFORNIA**

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Project No. OCY1701.25



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**LIST OF ABBREVIATIONS AND ACRONYMS**

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
2020–2045 RTP/SCS	Connect SoCal–The 2020–2045 Regional Transportation Plan/ Sustainable Communities Strategy
AAQS	ambient air quality standards
AB	Assembly Bill
ac	acre/acres
APS	Alternative Planning Strategy
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
°C	degrees Celsius
CAA	(Federal) Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CARB	California Air Resources Board
CARB Handbook	Air Quality and Land Use Handbook
CAT	Climate Action Team
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
$\text{CH}_4$	methane
CO	carbon monoxide

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CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
County	County of Orange
cy	cubic yards
DPM	diesel particulate matter
EO	Executive Order
EPA	United States Environmental Protection Agency
°F	degrees Fahrenheit
FEIR	Final Environmental Impact Report
First Update	First Update to the Climate Change Scoping Plan
ft	foot/feet
GCC	global climate change
GDP	General Development Plan
GHG	greenhouse gas
GWP	Global Warming Potential
HFCs	hydrofluorocarbons
HI	Hazard Index
HRA	Health Risk Assessment
IPCC	Intergovernmental Panel on Climate Change
IWMD	Integrated Waste Management Department
LCFS	Low Carbon Fuel Standard
LFG	landfill gas
LST	localized significance threshold
m	meter/meters

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MATES	<i>Multiple Air Toxics Exposure Study in the South Coast Air Basin</i>
MEI	maximally exposed individual
MICR	maximum individual cancer risk
MMT	million metric tons
mph	miles per hour
MPO	Metropolitan Planning Organization
MSW	municipal solid waste
MT	metric ton
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NMOC	nonmethane organic compounds
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
O <sub>3</sub>	ozone
OCWR	Orange County Waste and Recycling
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
Pb	lead
PFCs	perfluorocarbons
PM	particulate matter
PM <sub>2.5</sub>	particulate matter less than 2.5 microns in size
PM <sub>10</sub>	particulate matter less than 10 microns in size
ppmv	parts per million by volume
project	Prima Deshecha Landfill La Pata On/Off-Ramp Construction Project

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RCP	Regional Comprehensive Plan
REL	Reference Exposure Level
ROC	reactive organic compound
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Community Strategy
sf	square feet
SF <sub>6</sub>	sulfur hexafluoride
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
SRA	Source Receptor Area
TAC	toxic air contaminant
UNFCCC	United Nations Framework Convention on Climate Change
VMT	vehicle miles traveled
VOC	volatile organic compound
Working Group	GHG CEQA Significance Threshold Working Group
WRCC	Western Regional Climate Center

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## INTRODUCTION

This air quality and greenhouse gas (GHG) analysis has been prepared to evaluate the potential air quality and climate change impacts and prescribe mitigation measures, as appropriate, for the proposed Prima Deshecha Landfill Fee Booth Reconstruction Project (project) in Orange County, California. This Air Quality Impact Analysis follows the guidelines identified by the South Coast Air Quality Management District (SCAQMD) in its *California Environmental Quality Act (CEQA) Air Quality Handbook* (SCAQMD 1993) and associated updates. This report provides a project-specific air quality and GHG impact analysis by examining the impacts of the proposed uses on adjacent sensitive uses as well as the impacts of the proposed uses on the project site. The proposed project's impacts are also compared to the impacts identified in Final Environmental Impact Report (FEIR) No. 575.

## PROJECT DESCRIPTION

Due to recent traffic congestion experienced at the entrance to the Prima Deshecha Landfill (Landfill), Orange County Waste and Recycling (OCWR) proposes to reconstruct the fee booth and entranceway access roads to the Landfill in order to facilitate improved traffic flow and management at the site. The project location is shown in Figure 1.

The proposed project would include a modification of the internal access road system, with an addition of three new inbound lanes and an increase from one outbound lane to two. The new access lanes would be constructed slightly south of the existing access road. A new fee booth, covered scales, and a staff office building would be constructed. Site improvements would include three inbound scales, one dedicated outbound scale for weigh-backs, a bypass lane, and a staff parking lot. The existing access road and two of the three existing scales would remain in place for potential future use. The existing flare station and reclaimed water tanks would be relocated to accommodate the proposed project. The footprint of the proposed project, including flare relocation, would take place predominately within previously disturbed areas that are currently utilized for access roads, the flare station, the existing fee booths and scale house, and landscaping. The project site plan is shown in Figure 2.

Any existing landscaping removed during project construction, would be replaced. Due to slope instability to the north, a small section of previously undisturbed area at the south end of the project area would be impacted to ensure geotechnical integrity of the proposed project and prevent landslides. This area consists of ruderal, nonnative vegetation.

Construction of the proposed project would begin in June 2021 and would take place over an approximately 6- to 12-month period during operational hours (7:00 a.m. to 5:00 p.m.). Construction would include grading, asphalt placement, building construction, and utility relocation.

The proposed project would require net fill of approximately 78,000 cubic yards (cy) of soil; however, all cut and fill will be provided internally. Filled soil would be borrowed from other areas on site, and any cut would be used on site or placed in an on-site stockpile. No dirt would be trucked on or off site. Equipment utilized during construction is anticipated to include a scraper, an excavator, and approximately ten 10-yard dump trucks for moving soil on site.



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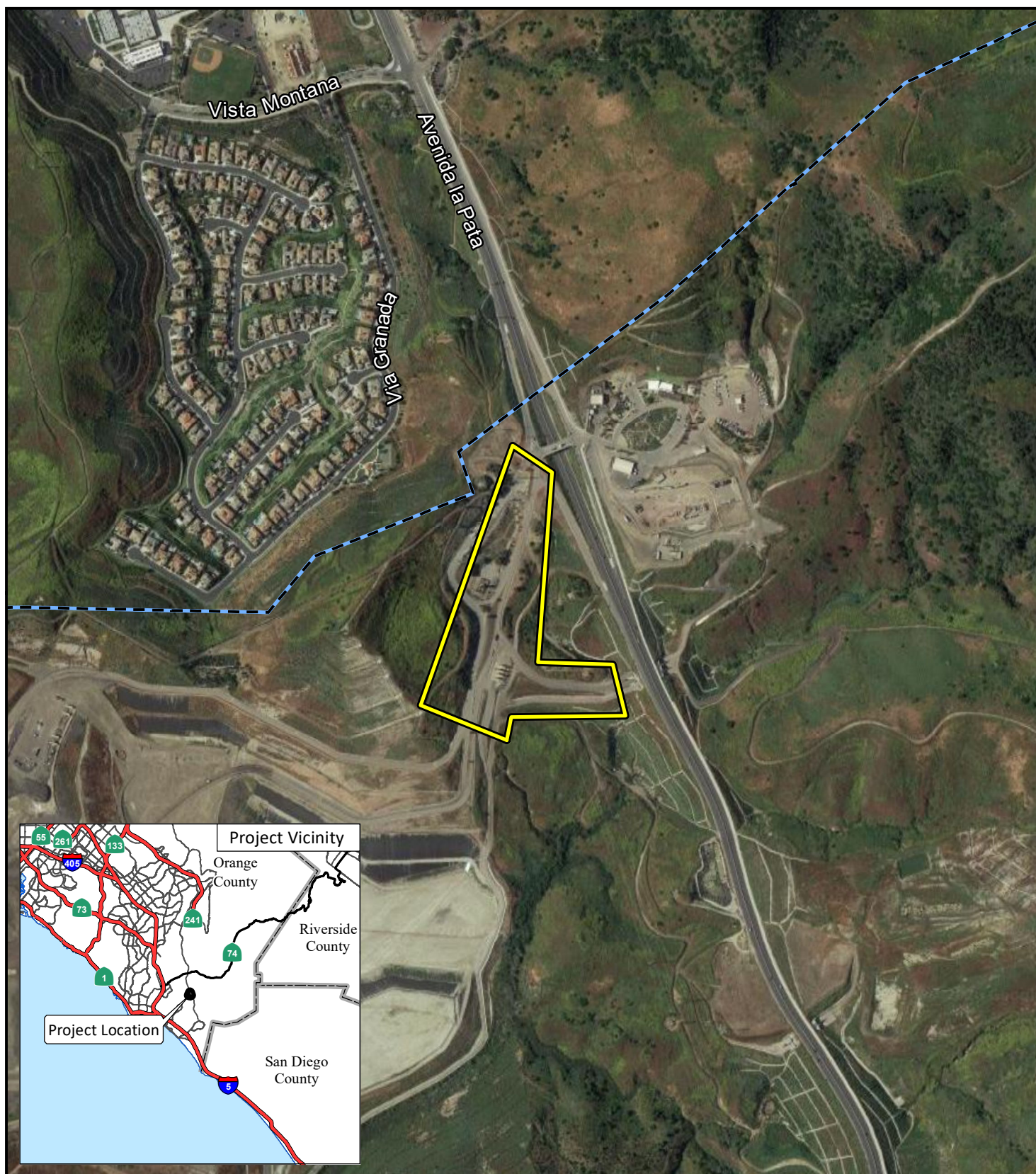


FIGURE 1

LSA

LEGEND

- Project Location
- Prima Deshecha Landfill Boundary



0 375 750  
FEET

SOURCE: Google (2019)

I:\OCY1701.25\GIS\MXD\ProjectLocation.mxd (1/25/2021)

*Fee Booth Reconstruction Project*  
Project Location



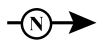


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FIGURE 2

LSA



0 60 120  
FEET

SOURCE: Tetra Tech BAS

I:\OCY1701.25\G\Site\_Plan.ai (12/22/2020)

*Fee Booth Reconstruction Project*  
Site Plan

Due to the need for the landfill to remain open, the proposed project would be phased such that there would be no lane or scale closures resulting in interruption to landfill traffic. Existing scales and lanes would remain open until the new lanes and scales are fully constructed, at which time traffic would be diverted to the new lanes while work on the old scales begins. Once operational, the proposed project is not expected to generate new vehicle or truck trips.

### Existing Sensitive Land Uses in the Project Area

The project site is surrounded primarily by the existing landfill, vacant land, and residential uses. The areas adjacent to the project site within 0.5 mile or 2,640 feet (ft) include the following uses:

- **North and East:** Prima Deshecha Landfill operations facilities and Avenida La Pata
- **South:** Prima Deshecha Landfill Zone 1
- **West:** Single-family homes within the Rancho San Juan Community (formerly Whispering Hills) approximately 700 ft away
- **Northwest:** Existing San Juan Hills High School and Church of Jesus Christ of Latter Day Saints approximately 2,400 ft away

For the purposes of this analysis, sensitive receptors are areas of population that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, day-care centers, hospitals, parks, and similar uses that are sensitive to air quality. Impacts on sensitive receptors are of particular concern because they are the population most vulnerable to the effects of air pollution. The closest sensitive receptor locations to the project site include the single-family residences within the Rancho San Juan Community, located approximately 700 ft northwest of the project site along Via Granada.

### Final Environmental Impact Report No. 575

On November 6, 2001, the Orange County (County) Board of Supervisors approved FEIR No. 575 (State Clearinghouse #199041035) for the implementation of the Prima Deshecha General Development Plan (GDP) and development of Zones 1 and 4 of the landfill.

### Air Quality Impacts

The project analyzed in FEIR No. 575 included the following air quality elements:

- **Air Quality Standard Violation.** Construction emissions were not quantified in FEIR No. 575, but a qualitative discussion was provided. FEIR No. 575 determined that project-related operational activities would result in a significant impact because the operational mobile-source emissions would exceed the SCAQMD's significance threshold for nitrogen oxides (NO<sub>x</sub>). Localized operational emissions were determined to be within SCAQMD thresholds for carbon monoxide (CO), particulate matter 10 microns or less in size (PM<sub>10</sub>), and particulate matter 2.5 microns or less in size (PM<sub>2.5</sub>). The quantitative assessment of CO hot spots determined that CO concentrations would be well below the State and federal standards. Therefore, impacts related to localized operational emissions and CO hot spots would have been less than significant.



FEIR No. 575 analyzed long-term air quality impacts from landfill gas (LFG) emissions generated from the decomposition of landfilled waste material buried at the project site. FEIR No. 575 concluded that the LFG production/disposal emissions are potentially significant but can be mitigated to less than significant by an LFG combustion system design that must meet SCAQMD standards of not allowing ambient pollution concentrations to exceed specific thresholds.

FEIR No. 575 concluded that air emissions generated by the landfill component of the 2001 GDP exceeded SCAQMD thresholds of significance, and included several mitigation measures to reduce potential air quality impacts. All mitigation measures from FEIR No. 575 remain as project commitments that apply to the proposed project.

FEIR No. 575 concluded that after incorporation of mitigation measures, air quality impacts would be less than significant. The air quality impact conclusion of “less than significant” in FEIR No. 575 was based upon the provisions contained within Section 15064(h) of the *State CEQA Guidelines*, which provided that an environmental impact is not significant if it complies with a standard adopted by a public agency for the purpose of environmental protection. The “standard” cited in FEIR No. 575 to support the conclusion of a less than significant impact is conformity with landfill-specific SCAQMD air quality standards, which the landfill must meet through permit acquisition in order to continue operation. On October 28, 2002 (after certification of Final EIR No. 575), the California Court of Appeal invalidated this provision in Section 15064(h) in its decision in the case of *Citizens for a Better Environment et al. vs. the California Resources Agency*; accordingly, although the Second Amendment to the 2001 GDP emissions were not different/greater than those generated by the 2001 GDP, Final SEIR No. 597 updated the impact conclusion for air quality effects associated with the original 2001 Prima Deshecha Landfill GDP to reflect a conclusion of “significant after mitigation” based upon this change to the *State CEQA Guidelines*. Final SEIR 597 concluded that air quality impacts would be significant and unavoidable reflecting that both the worst-case daily construction and operational emissions from a 4,000 tpd landfill would exceed both the daily construction and operational emissions thresholds of significance included in the SCAQMD CEQA Air Quality Handbook (1993). Additional mitigation measures under SCAQMD Rule 403 were included in Final Supplemental EIR No. 597 and are included below.

- **Cumulatively Considerable Net Increase in Criterial Pollutants.** FEIR No. 575 determined that project-related operational activities, in combination with those from other projects in the area, would not substantially deteriorate local air quality with the implementation of Mitigation Measures 4.9.1 through 4.9.13 and adherence to applicable SCAQMD rules and regulations. Therefore, cumulative operational impacts associated with the 2001 GDP were determined to be less than significant, and no mitigation was required.
- **Exposure of Sensitive Receptors.** FEIR No. 575 identified locations of sensitive receptors in the vicinity of the landfill and determined that localized operational emissions would not exceed the California Ambient Air Quality Standards (CAAQS) at the sensitive receptor locations. The implementation of Mitigation Measures 4.9.1 through 4.9.13 would further reduce project-related emission impacts. As previously mentioned above, the air quality impacts associated with implementation of the 2001 GDP were determined to be less than significant with mitigation.

- **Objectionable Odors.** Potential objectionable odors generated during operational activities were determined to be less than significant given the project size. FEIR No. 575 did not include any land uses identified by the SCAQMD as being associated with odors. However, potential airborne odors could result from fresh waste refuse. These odors would be confined to the immediate vicinity of the landfill working face and minimized by daily cover of buried fresh waste in compliance with the SCAQMD regulations. Therefore, impacts related to long-term operation odors were determined to be less than significant, and no mitigation was required.

FEIR No. 575 concluded that air emissions generated by the landfill component of the 2001 GDP exceeded SCAQMD thresholds of significance, and included the following several mitigation measures to reduce potential air quality impacts:

- MM 4.9-1** Landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill.
- MM 4.9-2** The active face of the landfill shall be covered daily. If the active face is in close proximity and upwind of on-site recreation uses, masking or neutralization agents may be added to exposed refuse to reduce the odor nuisance effects on the adjacent recreation uses.
- MM 4.9-3** The Integrated Waste Management District shall design, construct and operate new landfill areas in Zones 1 and 4 with landfill gas (LFG) systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas.
- MM 4.9-4** During landfill operations, the Integrated Waste Management Department (IWMD) shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover, which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system and/or installation of new LFG control facilities.
- MM 4.9-5** During landfill operations, the IWMD shall conduct periodic odor surveys on the landfill site and at various points in the area surrounding the site. The IWMD shall conduct odor surveys if any odors from the landfill are detected off site and reported by nearby residents. When the source of these odors is identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, use of masking or neutralizing agents, adjustment of the existing LFG control system and/or installation of new LFG control facilities.
- MM 4.9-6** During landfill operations, the IWMD shall ensure that landfill operations areas that are to be left exposed temporarily, including top deck and excavation slopes, are sprayed periodically with water, as needed.

- MM 4.9-7** On landfilled areas that are no longer in use, the IWMD will, as appropriate, incorporate dust control systems or vegetative covers, consistent with the Final Closure Plans and with the IWMD's approved Rule 403 Compliance Plan for landfilling Zones 1 and 4.
- MM 4.9-8** During landfill operations, the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal in either landfilling Zone 1 or 4. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal, if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill.
- MM 4.9-9a** During landfill operations, the IWMD shall maintain water trucks on site to spray water on on-site unpaved roads as needed to minimize the generation of dust as vehicles travel on these roads, as per the IWMD's approved Rule 403 Compliance Plan.
- MM 4.9-9b** During landfill operations, the IWMD shall, to the extent feasible while still maintaining appropriate landfill operations, restrict vehicular travel on unpaved roads on the site. In the event that unpaved roads must be used, the IWMD shall spray water on these roads as needed.
- MM 4.9-9c** As unpaved on-site roads are removed from active service, the IWMD will spray these areas with a hydromulch solution or synthetic binder.
- MM 4.9-10** During landfill operations, the IWMD will use the on-site water trucks to spray water on graded areas or areas where the vegetation has been removed or severely disturbed as a result of landfilling activities, as per the IWMD's approved Rule 403 Compliance Plan.

Final Supplemental EIR (FSEIR) No. 597 concluded that air emissions generated by the landfill component of the 2001 GDP exceeded SCAQMD thresholds of significance, and included the following several mitigation measures to reduce potential air quality impacts:

- MM 5.4-1** IWMD and its contractors shall be required to comply with regional rules to reduce air pollutant emissions. SCAQMD Rule 401 sets limits on the opacity of visible plumes of dust resulting from activities at the Landfill. SCAQMD Rule 402 requires that air pollutant emissions generated at the Landfill not be a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: monitoring of particulate concentrations, or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented on a daily basis.

SCAQMD Rule 403 requires that “best available control measures” be utilized whenever a dust-generating activity occurs in the Basin. These measures are listed in Table 1 of Rule 403 and called out in Table 5.4-6 below. It is important to note that all applicable measures from Table 5.4-6 should be implemented to achieve the required PM<sub>10</sub> emissions reductions.

Rule 403 requires that “Large Projects” implement additional measures. A Large Project is defined as any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic meters (5,000 cy) or more than three times during the most recent 365-day period. The Prima Deshecha Landfill would be considered a Large Project under Rule 403. Therefore, the Landfill is required to implement the applicable actions specified in Table 2 of the Rule. Table 2 from Rule 403 is presented below as Table 5.4-7.

As a Large Operation, the Landfill will also be required to:

- Submit a fully executed Large Operation Notification (SCAQMD Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a Large Operation;
- Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;
- Maintain daily records to document the specific dust-control actions taken, maintain such records for a period of not less than 3 years, and make such records available to the Executive Officer upon request;
- Install and maintain project signage with project contact signage that meets the minimum standards of the *Rule 403 Implementation Handbook*, prior to initiating any earthmoving activities; and
- Identify a dust control supervisor that is employed by or contracted with the property owner or developer, is on the site or available on-site within 30 minutes during working hours, has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements, and has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
- Notify the SCAQMD Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.

#### MM 5.4-2

To reduce equipment emissions, the following measures shall be implemented when feasible:

- Use low emission mobile construction equipment. "CARB Certified" heavy construction equipment conforms to the latest off-road CARB emission standards and is the lowest polluting equipment available. The use of this equipment would reduce heavy equipment NO<sub>x</sub> emissions by approximately 30 percent and heavy equipment PM<sub>10</sub> emissions by approximately 50 percent from the emissions levels shown in Tables 5.4-3 through 5.4-5. This is a substantial reduction but will not reduce emissions to less than the significance thresholds.
- Maintain construction equipment engines by keeping them tuned.
- Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators.
- Use aqueous diesel fuel where feasible and reasonably commercially available.
- Use cooled exhaust gas recirculation (EGR) where feasible and reasonably commercially available.

Several of the mitigation measures listed above are advanced emission control technologies that are currently not commercially available. For example, aqueous diesel fuel reduces NO<sub>x</sub> formation by reducing combustion temperatures, resulting in lower NO<sub>x</sub> emissions. According to SCAQMD, the current availability of this fuel technology is limited, and it may not be available for use at the Landfill. In addition, with EGR diesel engines, a small amount of hot exhaust gas is routed through a cooler and is mixed with fresh air entering the engine. The exhaust gas helps reduce the temperature during combustion, which lowers the formation of thermal NO<sub>x</sub>. EGR technology is in the development phase and has not been fully commercialized. To the extent that the advanced emissions-control technologies become reasonably commercially available, or are required by the CARB from grading contractors, then such advanced emissions-control technologies will be used.

Furthermore, a requirement to install diesel particulate filters on construction equipment used at the Landfill was considered to further reduce emissions. However, the availability of construction equipment retrofitted with diesel particulate filters is limited. This is a result of operational problems in diesel engines equipped with these filters. Therefore, this potential mitigation measure for construction is considered infeasible.

The proposed project would include a modification of the internal access road system, a new fee booth, covered scales, a staff office building, and a staff parking lot. The proposed project would not increase landfill operations; therefore, Mitigation Measures MM 4.9-2, MM 4.9-3, MM 4.9-4, MM 4.9-5, MM 4.9-6, MM 4.9-7, MM 4.9-9a, MM 4.9-9b, MM 4.9-9c, and MM 4.9-10 would not





apply. Mitigation Measures MM 4.9-1, MM 4.9-8, MM 5.4-1, and MM 5.4-2 would be applicable and remain as project commitments that apply to the proposed project.

#### *Greenhouse Gas Emissions Impacts*

When FEIR No. 575 was certified in November 2001, CEQA did not require an analysis of GHG emissions. However, Addendum No. 4 to FEIR No. 575 found that GHG emissions associated with increasing the volume of imported waste at the landfill would not result in new significant environmental impacts related to GHG emissions. In addition, Addendum No. 7 to FEIR No. 575 found that there would be no new impacts, as waste-hauling fleets are now equipped with engines that produce less emissions when compared to emissions from waste-hauling vehicles using the landfill when FEIR No. 575 was certified in November 2001. In addition, Addendum No. 7 to FEIR No. 575 found that landfill operations continue to be governed by permits issued by the SCAQMD.

## BACKGROUND

This section provides background information on air pollutants and their health effects. It also provides brief information from the California Air Resources Board (CARB) Air Quality and Land Use Handbook (CARB Handbook) (CARB 2005) and the supplement, *Strategies to Reduce Air Pollution Exposure near High-Volume Roadways: Technical Advisory* (CARB 2017a); a brief description of the general health risks of toxics; and the CEQA significance criteria for project evaluation.

### AIR POLLUTANTS AND HEALTH EFFECTS

Both State and federal governments have established health-based ambient air quality standards (AAQS) for six criteria air pollutants: CO, ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), lead (Pb), and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Long-term exposure to elevated levels of criteria pollutants may result in adverse health effects. However, emission thresholds established by an air quality district are used to manage total regional emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual projects that would contribute to regional emissions and pollutant concentrations and could adversely affect or delay the projected attainment target year for certain criteria pollutants.

Because of the conservative nature of the thresholds and the basin-wide context of individual project emissions, there is no known direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as O<sub>3</sub> precursors like NO<sub>x</sub> and volatile organic compounds (VOCs).

Occupants of facilities such as schools, day-care centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

### Ozone

Rather than being directly emitted, O<sub>3</sub> (smog) is formed by photochemical reactions between NO<sub>x</sub> and VOCs. O<sub>3</sub> is a pungent, colorless gas. Elevated O<sub>3</sub> concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O<sub>3</sub> levels peak during the summer and early fall months.

### Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the bloodstream, where it interferes with the transfer of oxygen to body tissues.

### Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are 10 microns or less in diameter, or PM<sub>10</sub>. Fine, suspended PM with an aerodynamic diameter of 2.5 microns or less, or PM<sub>2.5</sub>, is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM<sub>10</sub> and PM<sub>2.5</sub>. These small particles can be directly emitted into the atmosphere as byproducts of fuel combustion; through abrasion, such as tire or brake lining wear; or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

### Nitrogen Dioxide

NO<sub>2</sub> is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO<sub>2</sub>. Aside from its contribution to O<sub>3</sub> formation, NO<sub>2</sub> also contributes to other pollution problems, including a high concentration of PM<sub>2.5</sub>, poor visibility, and acid deposition. NO<sub>2</sub> may be visible as a coloring component on high pollution days, especially in conjunction with high O<sub>3</sub> levels. NO<sub>2</sub> decreases lung function and may reduce resistance to infection.

### Sulfur Dioxide

SO<sub>2</sub> is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO<sub>2</sub> levels in the region. SO<sub>2</sub> irritates the respiratory tract, can injure lung tissue when combined with PM<sub>2.5</sub>, and reduces visibility and the level of sunlight.

### Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses and cars), smelters (metal refineries), and the manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has multiple adverse neurotoxic health effects, and children are at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California. On October 15, 2008, the United States Environmental Protection Agency (EPA) strengthened the National Ambient Air Quality Standards (NAAQS) for lead by lowering it from 1.5 to 0.15 micrograms per cubic meter (µg/m<sup>3</sup>). The EPA revised the monitoring requirements for lead in December 2010. These requirements focus on airports and large urban areas, resulting in an increase in 76 monitors nationally.

## Volatile Organic Compounds

VOCs (also known as reactive organic gases [ROGs] and reactive organic compounds [ROCs]) are formed from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants. However, because VOCs accumulate in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower, they are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.

## Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and CARB. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

TACs do not have ambient air quality standards but are regulated by the EPA, CARB, and the SCAQMD. In 1998, CARB identified PM from diesel-fueled engines as a TAC. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines (CARB 2000). High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter (DPM) is emitted from mobile sources—primarily “off-road” sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as “on-road” sources such as trucks and buses traveling on freeways and local roadways.

Although not specifically monitored, recent studies indicate that exposure to DPM may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in one million) that is greater than all other measured TACs combined (CARB 2000). The technology for reducing DPM emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. CARB anticipates that by 2020, average statewide DPM concentrations will decrease by 85 percent from levels in 2000 with full implementation of CARB’s Diesel Risk Reduction Plan, meaning that the statewide health risk from DPM is expected to decrease from 540 cancer cases in one million to 21.5 cancer cases in one million.

Table A summarizes the sources and health effects of air pollutants discussed in this section. Table B presents a summary of State and federal ambient AAQS.

**Table A: Sources and Health Effects of Air Pollutants**

<b>Pollutants</b>	<b>Sources</b>	<b>Primary Effects</b>
Carbon Monoxide (CO)	<ul style="list-style-type: none"> <li>• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust</li> <li>• Natural events, such as decomposition of organic matter</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced tolerance for exercise</li> <li>• Impairment of mental function</li> <li>• Impairment of fetal development</li> <li>• Death at high levels of exposure</li> <li>• Aggravation of some heart diseases (angina)</li> </ul>
Nitrogen Dioxide (NO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Motor vehicle exhaust</li> <li>• High temperature stationary combustion</li> <li>• Atmospheric reactions</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory illness</li> <li>• Reduced visibility</li> <li>• Reduced plant growth</li> <li>• Formation of acid rain</li> </ul>
Ozone (O <sub>3</sub> )	<ul style="list-style-type: none"> <li>• Atmospheric reaction of organic gases with nitrogen oxides in sunlight</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory and cardiovascular diseases</li> <li>• Irritation of eyes</li> <li>• Impairment of cardiopulmonary function</li> <li>• Plant leaf injury</li> </ul>
Lead (Pb)	<ul style="list-style-type: none"> <li>• Contaminated soil</li> </ul>	<ul style="list-style-type: none"> <li>• Impairment of blood functions and nerve conduction</li> <li>• Behavioral and hearing problems in children</li> </ul>
Suspended Particulate Matter (PM <sub>2.5</sub> and PM <sub>10</sub> )	<ul style="list-style-type: none"> <li>• Stationary combustion of solid fuels</li> <li>• Construction activities</li> <li>• Industrial processes</li> <li>• Atmospheric chemical reactions</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced lung function</li> <li>• Aggravation of the effects of gaseous pollutants</li> <li>• Aggravation of respiratory and cardiorespiratory diseases</li> <li>• Increased cough and chest discomfort</li> <li>• Soiling</li> <li>• Reduced visibility</li> </ul>
Sulfur Dioxide (SO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Combustion of sulfur-containing fossil fuels</li> <li>• Smelting of sulfur-bearing metal ores</li> <li>• Industrial processes</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory diseases (asthma, emphysema)</li> <li>• Reduced lung function</li> <li>• Irritation of eyes</li> <li>• Reduced visibility</li> <li>• Plant injury</li> <li>• Deterioration of metals, textiles, leather, finishes, coatings, etc.</li> </ul>

Source: California Air Resources Board (CARB). Common Air Pollutants. Copyright 2021. Website: <https://ww2.arb.ca.gov/resources/common-air-pollutants> (accessed September 2020).

Table B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	1-Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>9</sup>	24-Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		–		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>9</sup>	24-Hour	–		35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m <sup>3</sup> )	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m <sup>3</sup> )		35 ppm (40 mg/m <sup>3</sup> )		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		–	–	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	Annual Arithmetic Mean	0.03 ppm (57 µg/m <sup>3</sup> )	Gas Phase Chemi-luminescence	53 ppb (100 µg/m <sup>3</sup> )	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m <sup>3</sup> )		100 ppb (188 µg/m <sup>3</sup> )	–	
Lead (Pb) <sup>12,13</sup>	30-Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average <sup>i</sup>	–		0.15 µg/m <sup>3</sup>		
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	24-Hour	0.04 ppm (105 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m <sup>3</sup> )	
	1-Hour	0.25 ppm (655 µg/m <sup>3</sup> )		75 ppb (196 µg/m <sup>3</sup> ) <sup>11</sup>	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) <sup>11</sup>	–	
Visibility-Reducing Particles <sup>12</sup>	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24-Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>10</sup>	24-Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

Table notes are provided on the following page.

- <sup>1</sup> California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- <sup>2</sup> National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than 1. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.
- <sup>3</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- <sup>4</sup> Any equivalent measurement method that can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.
- <sup>5</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- <sup>6</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- <sup>7</sup> Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- <sup>8</sup> On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- <sup>9</sup> On December 14, 2012, the national annual PM<sub>2.5</sub> primary standard was lowered from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- <sup>10</sup> To attain the 1-hour national standard, the 3-year average of the annual 98<sup>th</sup> percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- <sup>11</sup> On June 2, 2010, a new 1-hour SO<sub>2</sub> standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99<sup>th</sup> percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO<sub>2</sub> national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated as nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.  
  
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- <sup>12</sup> CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- <sup>13</sup> The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated as nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- <sup>14</sup> In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: Ambient Air Quality Standards (CARB 2016).

µg/m<sup>3</sup> = micrograms per cubic meter

°C = degrees Celsius

CARB = California Air Resources Board

EPA = United States Environmental Protection Agency

mg/m<sup>3</sup> = milligrams per cubic meter

ppb = parts per billion

ppm = parts per million

## GREENHOUSE GASES AND GLOBAL CLIMATE CHANGE

Global climate change (GCC) is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose  $0.6 \pm 0.2^\circ$  Celsius ( $^\circ\text{C}$ ) or  $1.1 \pm 0.4^\circ$  Fahrenheit ( $^\circ\text{F}$ ) in the 20<sup>th</sup> century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide ( $\text{CO}_2$ ) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.<sup>1</sup>

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The following gases are widely seen as the principal contributors to human-induced GCC:

- $\text{CO}_2$
- Methane ( $\text{CH}_4$ )
- Nitrous oxide ( $\text{N}_2\text{O}$ )
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride ( $\text{SF}_6$ )

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While man-made GHGs include naturally occurring GHGs such as  $\text{CO}_2$ ,  $\text{CH}_4$ , and  $\text{N}_2\text{O}$ , some gases, like HFCs, PFCs, and  $\text{SF}_6$ , are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this GHG emissions analysis, the term "GHGs" will refer collectively to the six gases listed above only.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to  $\text{CO}_2$ , the most abundant GHG. The definition

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<sup>1</sup> The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases (GHGs) like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of GHG results in global warming, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.



of GWP for a particular GHG is the ratio of heat trapped by 1 unit mass of the GHG to the ratio of heat trapped by 1 unit mass of CO<sub>2</sub> over a specified time period. GHG emissions are typically measured in terms of pounds or tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>e). Table C shows the GWP for each type of GHG. For example, SF<sub>6</sub> is 22,800 times more potent at contributing to global warming than CO<sub>2</sub>.

**Table C: Global Warming Potential of Greenhouse Gases**

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide (CO <sub>2</sub> )	50–200	1
Methane (CH <sub>4</sub> )	12	25
Nitrous Oxide (N <sub>2</sub> O)	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF <sub>4</sub> )	50,000	7,390
PFC: Hexafluoromethane (C <sub>2</sub> F <sub>6</sub> )	10,000	12,200
Sulfur Hexafluoride (SF <sub>6</sub> )	3,200	22,800

Source: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC* (IPCC 2007a).

HFC = hydrofluorocarbon

IPCC = Intergovernmental Panel on Climate Change

PFC = perfluorocarbon

The following discussion summarizes the characteristics of the six GHGs and black carbon. Black carbon also contributes to climate change and is therefore discussed below.

### Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form as CO<sub>2</sub>. Natural sources of CO<sub>2</sub> include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO<sub>2</sub> include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO<sub>2</sub> each year, far outweighing the 7 billion tons of man-made emissions of CO<sub>2</sub> each year. Nevertheless, natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of man-made CO<sub>2</sub>; consequently, the gas is building up in the atmosphere.

In 2018, total annual CO<sub>2</sub> emissions in California were approximately 351.9 million tons, accounting for approximately 83 percent of California's overall GHG emissions.<sup>1</sup> Transportation is the single largest source of CO<sub>2</sub> in California, approximately 47 percent, which is primarily comprised of on-road travel. Electricity production, industrial and residential sources also make important contributions to CO<sub>2</sub> emissions in California.

<sup>1</sup> California Air Resources Board (CARB). GHGs Descriptions & Sources in California. Copyright 2021. Website: [ww2.arb.ca.gov/ghg-descriptions-sources](http://ww2.arb.ca.gov/ghg-descriptions-sources) (accessed October 2020).

## Methane

CH<sub>4</sub> is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH<sub>4</sub> emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH<sub>4</sub> in California. Total annual emissions of CH<sub>4</sub> in California are approximately 39.8 million tons, accounting for approximately 9 percent of GHG emissions in California in 2018.

## Nitrous Oxide

N<sub>2</sub>O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N<sub>2</sub>O is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N<sub>2</sub>O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N<sub>2</sub>O emissions in California. N<sub>2</sub>O emissions accounted for approximately 3 percent of GHG emissions in California in 2018.

## Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for O<sub>3</sub>-depleting substances regulated under the Montreal Protocol.<sup>1</sup> PFCs and SF<sub>6</sub> are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry has resulted in greater use of PFCs. HFCs, PFCs, and SF<sub>6</sub> accounted for about 5 percent of GHG emissions in California in 2017.<sup>2</sup>

## Black Carbon

Black carbon is the most strongly light-absorbing component of PM formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of particulate matter less than 2.5 microns in size (PM<sub>2.5</sub>) and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb 1 million times more energy than CO<sub>2</sub>.<sup>3</sup> Black carbon contributes to climate change both directly (e.g., absorbing sunlight) and indirectly (e.g., affecting cloud formation). However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global warming.

<sup>1</sup> The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone (O<sub>3</sub>) layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for O<sub>3</sub> depletion.

<sup>2</sup> California Air Resources Board (CARB). GHGs Descriptions & Sources in California. Copyright 2021. Website: [ww2.arb.ca.gov/ghg-descriptions-sources](http://ww2.arb.ca.gov/ghg-descriptions-sources) (accessed October 2020).

<sup>3</sup> United States Environmental Protection Agency (EPA). Basic Information: What Is Black Carbon? Last updated February 14, 2017. Website: [19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html](http://19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html) (accessed October 2020).

Most United States emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. Black carbon emissions in the United States are projected to decline substantially by 2030, largely due to controls on new mobile diesel emissions.

### Effects of Global Climate Change

Effects from GCC may arise from temperature increases, climate-sensitive diseases, extreme weather events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. GCC may also contribute to air quality problems from increased frequency of smog and particulate air pollution.<sup>1</sup>

Additionally, according to the 2006 California Climate Action Team (CAT) Report (CalEPA 2006), the following applicable climate change effects, which are based on trends established by the United Nations Intergovernmental Panel on Climate Change (IPCC), can be expected in California over the course of the next century:

- The loss of sea ice and mountain snow pack, resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures (CalEPA 2006).
- A rise in global average sea level, primarily due to thermal expansion and melting of glaciers and ice caps in the Greenland and Antarctic ice sheets (CalEPA 2006).
- Changes in weather that include widespread changes in precipitation, ocean salinity, wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (IPCC 2007b).
- Decline of the Sierra snowpack, which accounts for approximately one-half of the surface water storage in California by 70 percent to as much as 90 percent over the next 100 years (CalEPA 2006).
- An increase in the number of days conducive to O<sub>3</sub> formation by 25 to 85 percent (depending on the future temperature scenario) in high-O<sub>3</sub> areas of Los Angeles by the end of the 21st century (CalEPA 2006).

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<sup>1</sup> United States Environmental Protection Agency (EPA). Climate Impacts on Human Health. April. Website: [https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health\\_.html](https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html) (accessed October 2020).

- High potential for erosion of California's coastlines and seawater intrusion into the Delta and levee systems due to the rise in sea level (CalEPA 2006).

These potential effects are summarized in Table D.

**Table D: Potential Impacts of Global Warming and Expected Consequences for California**

Potential Water Resource Impacts	Anticipated Consequences Statewide
Reduction of the State's average annual snowpack	<ul style="list-style-type: none"> <li>• Specifically, the decline of the Sierra snowpack would lead to a loss in half of the surface water storage in California by 70 to 90 percent over the next 100 years.</li> <li>• Potential loss of 5 million acre-feet or more of average annual water storage in the State's snowpack.</li> <li>• Increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply.</li> <li>• Higher surface evaporation rates with a corresponding increase in tropospheric water vapor</li> </ul>
Rise in average sea level	<ul style="list-style-type: none"> <li>• Potential economic impacts related to coastal tourism, commercial fisheries, coastal agriculture, and ports</li> <li>• Increased risk of flooding, coastal erosion along the State's coastline, and seawater intrusion into the Delta and levee systems</li> </ul>
Changes in weather	<ul style="list-style-type: none"> <li>• Changes in precipitation, ocean salinity, and wind patterns</li> <li>• Increased likelihood for extreme weather events, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones</li> </ul>
Changes in the timing, intensity, location, amount, and variability of precipitation	<ul style="list-style-type: none"> <li>• Potential increased storm intensity and increased potential for flooding</li> <li>• Possible increased potential for droughts</li> <li>• Long-term changes in vegetation and increased incidence of wildfires</li> <li>• Changes in the intensity and timing of runoff</li> <li>• Possible increased incidence of flooding and increased sedimentation</li> <li>• Sea level rise and inundation of coastal marshes and estuaries</li> <li>• Increased potential for salinity intrusion into coastal aquifers (groundwater)</li> <li>• Increased potential for flooding near the mouths of rivers due to backwater effects</li> </ul>
Increased water temperatures	<ul style="list-style-type: none"> <li>• Increased environmental water demand for temperature control</li> <li>• Possible increased problems with foreign invasive species in aquatic ecosystems</li> <li>• Potential adverse changes in water quality, including the reduction of dissolved oxygen levels</li> <li>• Possible critical effects on listed and endangered aquatic species</li> </ul>
Changes in urban and agricultural water demand	<ul style="list-style-type: none"> <li>• Changes in demand patterns and evapotranspiration</li> </ul>
Increase in the number of days conducive to O <sub>3</sub> formation	<ul style="list-style-type: none"> <li>• Increased temperatures</li> <li>• Potential health effects, including adverse impacts to respiratory systems</li> </ul>

Source: Environmental Water Account, Draft Supplemental EIS/EIR to the Environmental Water Account Final EIS/EIR, Bureau of Reclamation Mid-Pacific Region, Sacramento, California. October (United States Department of the Interior 2007).

EIR = Environmental Impact Report

EIS = Environmental Impact Statement

O<sub>3</sub> = ozone

## AIR QUALITY REGULATORY SETTING

The EPA and CARB regulate direct emissions from motor vehicles. The SCAQMD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

## Federal Regulations

### *Clean Air Act*

The 1970 Federal Clean Air Act (CAA) authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The CAA Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required of areas of the nation that exceed the standards. Under the CAA, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans (SIPs) to demonstrate how they will achieve the national standards by specified dates.

### *Federal Regulatory Authority for Toxic Air Contaminants*

The EPA administers several programs that regulate TAC emissions from stationary and mobile sources. The EPA identified 188 TACs that are known or suspected carcinogens, present a threat to human health or the environment, and are regulated under control technology programs. Also, the EPA has identified 33 urban TACs that pose the greatest threat to public health in urban areas and are regulated under the Urban Air Toxics Strategy. The EPA regulates TACs primarily by setting emission standards for vehicles and technology standards for industrial source categories.

In 2003, the EPA issued the final National Emissions Standard for Hazardous Air Pollutants rule to ensure reduction of TACs from municipal solid waste (MSW) landfills. The regulation largely incorporated the requirements of Subpart WWW, with the added requirements for Start-up, Shutdown, Malfunction plans, and requirements for bioreactor landfills.

The CAA includes standards of performance for new stationary sources, including MSW landfills, per 40 Code of Federal Regulations Part 60, Subpart WWW. The provisions of this subpart apply to each MSW landfill that commenced construction, reconstruction, or modification on or after May 30, 1991. Subpart Cc of the same Part 60 (Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills) applies to each existing landfill for which construction, reconstruction, or modification commenced before May 30, 1991. A modification is defined as an increase in the permitted volume design capacity by either horizontal or vertical expansion. Under Subpart WWW rules, facilities with design capacities less than 2.5 million metric tons (MMT) are required to submit initial design capacity reports; facilities with design capacities greater than 2.5 MMT are required to calculate the facility's generated nonmethane organic compounds (NMOC) emissions. Estimated NMOC emissions exceeding 50 metric tons (MT) per year require the owner or operator to submit a collection and control system design plan and install a collection system to capture and control the gas generated. The SCAQMD's Rule 1150.1 was deemed equivalent to Subpart Cc by the EPA; MSW landfills in compliance with Rule 1150.1 are deemed in compliance with Subpart Cc.

## State Regulations

### *California Clean Air Act*

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain CAAQS for CO, O<sub>3</sub>, SO<sub>2</sub>, and NO<sub>2</sub> by the earliest practical date. The CCAA provides districts with the authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent

annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

#### *Assembly Bill 2588, Air Toxics “Hot Spots” Information and Assessment Act*

Under Assembly Bill (AB) 2588, stationary sources of air pollutants are required to report the types and quantities of certain substances their facilities routinely released into the air. The goals of the Air Toxics “Hot Spots” Information and Assessment Act are to collect emission data, identify facilities having localized impacts, determine health risks, and notify nearby residents of significant risks.

#### *The California Air Resources Board Handbook*

CARB developed its CARB Handbook (CARB 2005), which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other noncancer health effects and proximity to high-traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for “sensitive” land uses such as homes, medical facilities, day-care centers, schools, and playgrounds.

Land use designations with air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome-plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 ft of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day
- Within 1,000 ft of a major service and maintenance rail yard
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries
- Within 300 ft of any dry cleaning operation (for operations with two or more machines, provide 500 feet)
- Within 300 ft of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater)

The CARB Handbook specifically states that its recommendations are advisory and acknowledges that land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality-of-life issues.

The recommendations are generalized and do not consider site-specific meteorology, freeway truck percentages, or other factors that influence risk for a particular project site. The purpose of this

guidance is to further examine project sites for actual health risk associated with the location of new sensitive land uses.

### *Diesel Regulations*

As part of California's Diesel Risk Reduction Plan, CARB has passed numerous regulations to reduce diesel emissions from vehicles and equipment that are already in use. Combining these retrofit regulations with new engine standards for diesel-fueled vehicles and equipment, CARB intends to reduce DPM emissions by 85 percent from the use of diesel particulate filters installed. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment Program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several airborne toxic control measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 California Code of Regulations [CCR] 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

**Diesel Fuels.** California Diesel Fuel Regulations (13 CCR §2281-2285; 17 CCR §93114) provide standards for motor vehicle fuels and diesel fuel.

**In-Use Off-Road Diesel Vehicle Regulation.** CARB's In-Use Off-Road Diesel Vehicle Regulation establishes various requirements for owners of off-road diesel vehicles, with engine ratings of 25 horsepower and greater, to reduce emissions of NO<sub>x</sub> and DPM generated during combustion. Requirements to date have included reporting fleet vehicles to CARB, obtaining a CARB-issued equipment identification number for all diesel-fleet vehicles, and developing and implementing a written idling policy restricting nonessential idling to less than 5 minutes. Emission performance requirements became effective January 2014 and established fleet average targets for NO<sub>x</sub> emission reductions. Emission performance can be achieved through fleet turnover and use of newer-model-year equipment, as well as installation of certified retrofit equipment such as a particulate filter.

**On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation.** CARB's On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation applies to diesel-fueled trucks and buses with a gross vehicle weight greater than 14,000 pounds. The regulation establishes a phase-in schedule for fleet owners and operators to reduce emissions of PM through fleet turnover and/or installation of retrofit equipment such as exhaust filters. The phase-in schedule began January 1, 2012, and applies to fleets based on model year.

### *California Health and Safety Code Section 41700*

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.



## Regional Regulations

### *South Coast Air Quality Management District*

The SCAQMD is the air pollution control agency for Orange County, as well as the urban portions of Los Angeles, Riverside, and San Bernardino Counties. The agency's primary responsibility is to ensure that the NAAQS and CAAQS are attained and maintained in the South Coast Air Basin (Basin). The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects within the Basin are subject to SCAQMD rules and regulations in effect at the time of construction.

As stated previously, the Air Quality Management Plan (AQMP) is the SIP for the Basin. The AQMP is a regional blueprint for implementing air quality standards within the Basin and some portions of the Salton Sea Air Basin that are under the SCAQMD's jurisdiction. The AQMP asserts that the most effective way to reduce air pollution impacts is to reduce emissions from mobile sources. Additionally, the AQMP relies on partnerships between governmental agencies at the federal, State, regional, and local level. These agencies, which comprise the EPA, CARB, local governments, the Southern California Association of Governments (SCAG), and the SCAQMD, are the primary agencies that implement the AQMP programs. The SCAQMD has adopted several regulations that apply to the proposed project, as presented below.

**Rule 401: Visible Emissions.** This rule establishes the limit for visible emissions from stationary sources for a period or periods aggregating more than 3 minutes in any hour. This rule prohibits visible emissions dark or darker than Ringelmann No. 1 for periods greater than 3 minutes in any hour or such opacity that could obscure an observer's view to a degree equal or greater than smoke does.

**Rule 402: Nuisance.** Regional odor regulations include the SCAQMD's Rule 402, Nuisance, which limits the discharge of odors that "cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property" (SCAQMD 1976).

**Rule 403: Fugitive Dust.** The SCAQMD has adopted specific regulations geared toward reducing and controlling emissions of PM from fugitive dust generated during construction activities. SCAQMD Rule 403, Fugitive Dust, states that any active operations, including demolition, grading, and/or earthmoving activities, shall include appropriate best control measures designed to control localized fugitive dust emissions. Best control measures include, but are not limited to, the following:

- Watering the site two to three times a day with a water truck
- Applying nonchemical soil stabilizers to unpaved roads or disturbed areas



- Stabilizing equipment staging areas through site watering, applying nonchemical stabilizers, or track-out installation
- Prewatering material prior to loading into a crusher (i.e., rocks and boulders)
- Applying water to crushed material to prevent dust plumes
- Adding or removing material from the downwind portion of the storage pile
- Limiting vehicle speeds to 15 miles per hour (mph)
- Limiting the number and size of staging area entrances/exits

**Rule 1150: Excavation of Landfill Sites.** The SCAQMD has adopted source-specific regulations to reduce and control fugitive emissions from landfills during excavation activities. SCAQMD Rule 1150, Excavation of Landfill Sites, states that excavation of an active or inactive landfill requires an Excavation Management Plan approved by the SCAQMD Executive Officer. At a minimum, the Excavation Management Plan must describe the quantity and characteristics of the material to be excavated and transported and identify mitigation measures to ensure that a public nuisance condition does not occur. Mitigation measures may include gas collection and disposal, baling, encapsulation, covering of the material, chemical neutralizing, or other actions approved by the Executive Officer.

**Rule 1150.1: Control of Gaseous Emissions from MSW Landfills.** The SCAQMD has also adopted source-specific regulations to limit gaseous emissions from MSW landfills to prevent public nuisance and public health impacts. SCAQMD Rule 1150.1, Control of Gaseous Emissions from MSW Landfills, requires active landfills to have a collection and control system designed to handle the maximum expected gas flow rate and minimize migration of subsurface gas. The regulation was updated in 2011 to incorporate the CARB regulation that controls CH<sub>4</sub> emissions from MSW landfills. Rule 1150.1 requires all collected gas to be routed to a treatment system that processes the collected gas for subsequent sale or use. The system must either reduce NMOC by at least 98 percent by weight or reduce the outlet NMOC concentration to less than 20 parts per million by volume (ppmv), dry basis as hexane at 3 percent oxygen. In addition, the treatment system must achieve a CH<sub>4</sub> emissions destruction efficiency of at least 99 percent, except for lean-burn internal combustion engines, which must reduce outlet CH<sub>4</sub> concentration to less than 3,000 parts per million (ppm), dry basis, corrected to 15 percent oxygen. The system must also prevent the concentration of total organic carbon, measured as CH<sub>4</sub>, from exceeding 5 percent by volume in subsurface refuse boundary sampling probes, 25 ppmv in samples taken on numbered 50,000-square-foot (sf) landfill grids, or 500 ppmv above background as determined by instantaneous monitoring at any location on the landfill (except at the outlet of any control device).

## Local Regulations

### *Orange County General Plan*

The Resources Element, one of nine elements of the County of Orange (County) General Plan, contains official County policies on the conservation and management of resources (County of

Orange 2011). One component of the Resources Element is Air Resources. The policy of the Air Resources Component is “to develop and support programs which improve air quality or reduce air pollutant emissions” (County of Orange 2011). The Air Resources Component includes 15 implementation programs. The responsibility for implementation is designated to the County, the Orange County Transportation Authority, and other public agencies.

## GLOBAL CLIMATE CHANGE REGULATION

This section describes regulations related to GCC at the federal, State, and local level.

### Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO<sub>2</sub> emissions under the CAA.

While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 to implement a regulatory approach to GCC, including the 2009 EPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the EPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that six GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) constitute a threat to public health and welfare and that the combined emissions from motor vehicles cause and contribute to GCC, leading to national GHG emission standards.

### State Regulations

CARB is the lead agency for implementing climate change regulations in the State. Since its formation, CARB has worked with the public, the business sector, and local governments to find solutions to California’s air pollution problems. Key efforts by the State are described below.

#### *Assembly Bill 1493 (2002)*

In a response to the transportation sector’s significant contribution to California’s CO<sub>2</sub> emissions, AB 1493 was enacted on July 22, 2002. AB 1493 requires CARB to set GHG emission standards for passenger vehicles and light-duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model year 2009 and going up to 2016) were approved by CARB in 2004, but the needed waiver of CAA Preemption was not granted by the EPA until June 30, 2009. CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 and going up to 2025.

#### *Executive Order S-3-05 (2005)*

Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, EO S-3-05 established California’s GHG emissions reduction targets, which established the following goals:

- GHG emissions should be reduced to 2000 levels by 2010.

- GHG emissions should be reduced to 1990 levels by 2020.
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

The Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate the efforts of various State agencies in order to collectively and efficiently reduce GHGs. A biannual progress report must be submitted to the Governor and State legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, coastline, and forestry, and report possible mitigation and adaptation plans to address these impacts.

The Secretary of CalEPA leads the CAT, which is made up of representatives from State agencies as well as numerous other boards and departments. The CAT members work to coordinate statewide efforts to implement global warming emission reduction programs and the State's Climate Adaptation Strategy. The CAT is also responsible for reporting on the progress made toward meeting the statewide GHG targets that were established in EO S-3-05 and further defined under AB 32, the Global Warming Solutions Act of 2006. The first CAT report to the Governor and State legislature was released in March 2006; it laid out 46 specific emission reduction strategies for reducing GHG emissions and reaching the targets established in EO S-3-05. The most recent CAT report to the Governor and State legislature was released in December 2010.

#### *Assembly Bill 32 (2006), California Global Warming Solutions Act*

California's major initiative for reducing GHG emissions is AB 32, which was passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. CARB established the level of GHG emissions in 1990 at 427 MMT CO<sub>2</sub>e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to GCC. The Scoping Plan was approved by CARB on December 11, 2008, and contains the main strategies that California will implement to achieve the reduction of approximately 169 MMT CO<sub>2</sub>e, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMT CO<sub>2</sub>e under a business-as-usual scenario (this is a reduction of 42 MMT CO<sub>2</sub>e, or almost 10 percent from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO<sub>2</sub>e)
- The Low Carbon Fuel Standard (LCFS) (15.0 MMT CO<sub>2</sub>e)
- Energy efficiency measures in buildings and appliances, and the widespread development of combined heat and power systems (26.3 MMT CO<sub>2</sub>e)
- A Renewables Portfolio Standard (RPS) for electricity production (21.3 MMT CO<sub>2</sub>e)

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional

transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high-speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO<sub>2</sub>e by 2020.

On August 24, 2011, CARB unanimously approved the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. CARB also approved a more robust CEQA equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade program took effect on January 1, 2012, with an enforceable compliance obligation that began on January 1, 2013.

CARB has not yet determined what amount of GHG reductions it recommends from local government operations and local land use decisions; however, the Scoping Plan states that land use planning and urban growth decisions will play an important role in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions (meanwhile, CARB is also developing an additional protocol for community emissions). CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. With regard to land use planning, the Scoping Plan expects an approximately 5.0 MMT CO<sub>2</sub>e reduction due to implementation of Senate Bill (SB) 375.

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed CARB and the CAT to identify a list of "discrete early-action GHG reduction measures" that could be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed EO S-1-07, further solidifying California's dedication to reducing GHGs by setting a new LCFS. EO S-1-07 sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs CARB to consider the LCFS as a discrete early action measure. In 2011, United States District Court Judge Lawrence O'Neil issued an injunction preventing implementation of the LCFS, ruling that it is unconstitutional. In 2012, the Ninth Circuit Court of Appeals stayed the District Court's injunction, allowing implementation of the LCFS. The Ninth Circuit decided to uphold the LCFS.

In June 2007, CARB approved a list of 37 early-action measures, including three discrete early-action measures (the LCFS, Restrictions on GWP Refrigerants, and Landfill CH<sub>4</sub> Capture) (CARB 2007a). Discrete early-action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, which is the date established by Health and Safety Code Section 38560.5. CARB adopted additional early-action measures in October 2007 that tripled the number of discrete early-action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF<sub>6</sub> reductions from the nonelectricity sector. The combination of early-action measures is estimated to reduce statewide GHG emissions by nearly 16 MMT (CARB 2007b).

CARB approved the First Update to the Climate Change Scoping Plan (First Update) on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low-carbon investments. The First

Update defines CARB climate change priorities until 2020 and also sets the groundwork to reach long-term goals set forth in EO S-3-05 and EO B-16-2012. The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a Second Update to the Scoping Plan, the 2017 Scoping Plan (CARB 2017b), to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

#### *Senate Bill 97 (2007)*

SB 97, signed by Governor Schwarzenegger in August 2007 (Chapter 185, Statutes of 2007, and Public Resources Code Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA.

The California Natural Resources Agency adopted the amendments to the *State CEQA Guidelines* in November 2018, which then went into effect in December 2018. The amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs when they perform individual project analyses.

#### *Senate Bill 375 (2008)*

Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). CARB may update the targets every 4 years and must update them every 8 years. MPOs in turn must demonstrate how their plans, policies, and transportation investments meet the targets set by CARB through Sustainable Community Strategies (SCSs). The SCSs are included with the Regional Transportation Plan (RTP), a report required by State law. However, if an MPO finds that its SCS will not meet the GHG reduction target, it may prepare an Alternative Planning Strategy (APS). The APS identifies the impediments to achieving the targets.

#### *Executive Order B-30-15 (2015)*

Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the following immediate target:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was

directed to update the AB 32 Scoping Plan to reflect the 2030 target and is therefore moving forward with the update process. The midterm target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

#### *Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act*

SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's RPS from 33 percent to 50 percent.
- Increase energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for private utilities and by the California Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other nonrenewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to State energy agencies under the existing law. The addition made by this legislation requires State energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

#### *Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197*

In summer 2016, the State legislature passed and the Governor signed SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 ppm CO<sub>2</sub>e and reduce the likelihood of catastrophic impacts from climate change.

AB 197, the companion bill to SB 32, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data collected by CARB was posted in December 2016.

#### *Senate Bill 100*

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under SB 100, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.



*Executive Order B-55-18*

EO B-55-18, signed September 10, 2018, sets a goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” EO B-55-18 directs CARB to work with relevant State agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning that not only should emissions be reduced to 80 percent below 1990 levels by 2050, but also, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO<sub>2</sub>e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

*Title 24, Building Efficiencies Standards, and the California Green Building Standards Code*

In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen) (CCR, Title 24, Part 11), which sets performance standards for residential and nonresidential development to reduce environmental impacts and encourage sustainable construction practices. CALGreen addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. CALGreen was most recently updated in 2016 to include new mandatory measures for residential as well as nonresidential uses. The new measures took effect on January 1, 2017.

*Cap and Trade*

The development of a cap-and-trade program was included as a key reduction measure of CARB’s AB 32 Climate Change Scoping Plan. The cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. The cap-and-trade emissions trading program developed by CARB took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap-and-trade program aims to regulate GHG emissions from the largest producers in the State by setting a statewide firm limit, or cap, on allowable annual GHG emissions. The cap was set in 2013 at approximately 2 percent below the emissions forecast for 2020. In 2014, the cap declined approximately 2 percent. Beginning in 2015 and continuing through 2020, the cap has been declining approximately 3 percent annually. CARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including energy companies, agriculture and food industries, steel mills, cement companies, and universities. On January 1, 2015, compliance obligation began for distributors of transportation fuels, natural gas, and other fuels. California is working closely with British Columbia, Ontario, Quebec, and Manitoba through the Western Climate Initiative to develop harmonized cap-and-trade programs that will deliver cost-effective emission reductions. Two lawsuits have been filed against cap and trade, but the cap-and-trade program will be implemented as is until further notice.<sup>1</sup>

<sup>1</sup> California Air Resources Board (CARB). Cap-and-Trade Program. Copyright 2021. Website: <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm> (accessed October 2020).

## Regional Regulations

### *South Coast Air Quality Management District*

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the Basin. The Working Group developed several different options that are contained in the SCAQMD 2008 draft guidance document titled *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* (SCAQMD 2008a) that could be applied by lead agencies. On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. The SCAQMD has not presented a finalized version of these thresholds to the governing board.

The SCAQMD identifies the emissions level for which a project would not be expected to substantially conflict with any State legislation adopted to reduce statewide GHG emissions. As such, the utilization of a service population represents the rates of emissions needed to achieve a fair share of the State's mandated emissions reductions. Overall, SCAQMD identifies a GHG efficiency level that, when applied statewide or to a defined geographic area, would meet the year 2020 and post-2020 emissions targets as required by AB 32 and SB 32. If projects are able to achieve targeted rates of emissions per the service population, the State will be able to accommodate expected population growth and achieve economic development objectives, while also abiding by AB 32's emissions target and future post-2020 targets.

### *Southern California Association of Governments*

SCAG is a regional council consisting of the following six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. In total, the SCAG region encompasses 191 cities and over 38,000 square miles within Southern California. SCAG is the MPO serving the region under federal law and serves as the Joint Powers Authority, the Regional Transportation Planning Agency, and the Council of Governments under State law. As the Regional Transportation Planning Agency, SCAG prepares long-range transportation plans for the Southern California region, including the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2008 Regional Comprehensive Plan (RCP).

On September 3, 2020, SCAG adopted Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (2020–2045 RTP/SCS) (SCAG 2020). In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled (VMT) from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources. For the SCAG region, CARB has set GHG reduction targets at 8 percent below 2005 per capita emissions levels by 2020, and 19 percent below 2005 per capita emissions levels by 2035. The RTP/SCS lays out a strategy for the region to meet these targets. Overall, the SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high-quality transit areas and livable corridors and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles (SCAG 2020). However, the SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.



## ENVIRONMENTAL SETTING

### ATTAINMENT STATUS

CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all State standards. An *attainment* designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A *nonattainment* designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An *unclassified* designation signifies that data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The EPA designates areas for O<sub>3</sub>, CO, and NO<sub>2</sub> as either Does Not Meet the Primary Standards, Cannot Be Classified, or Better Than National Standards. For SO<sub>2</sub>, areas are designated as Does Not Meet the Primary Standards, Does Not Meet the Secondary Standards, Cannot Be Classified, or Better Than National Standards.

Table E provides a summary of the attainment status for the Basin with respect to NAAQS and CAAQS.

**Table E: Attainment Status of Criteria Pollutants in the South Coast Air Basin**

Pollutant	State	Federal
O <sub>3</sub> 1 hour	Nonattainment	Extreme Nonattainment
O <sub>3</sub> 8 hour	Nonattainment	Extreme Nonattainment
PM <sub>10</sub>	Nonattainment	Attainment/Maintenance
PM <sub>2.5</sub>	Nonattainment	Serious Nonattainment
CO	Attainment	Attainment/Maintenance
NO <sub>2</sub>	Attainment	Attainment/Maintenance
SO <sub>2</sub>	N/A	Attainment/Unclassified
Lead	Attainment	Attainment <sup>1</sup>
All others	Attainment/Unclassified	Attainment/Unclassified

Source: National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin (SCAQMD 2016).

<sup>1</sup> Except in Los Angeles County.

CARB = California Air Resources Board

CO = carbon monoxide

N/A = not applicable

NO<sub>2</sub> = nitrogen dioxide

O<sub>3</sub> = ozone

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

PM<sub>10</sub> = particulate matter less than 10 microns in size

SO<sub>2</sub> = sulfur dioxide

### EXISTING CLIMATE AND AIR QUALITY

Air quality in the planning area is affected by not only various emission sources (e.g., mobile and industry) but also atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin some of the worst air pollution in the nation.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s °F. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Laguna Beach station.<sup>1</sup> The monthly average maximum temperature recorded at this station ranges from 65.1°F in January to 78.1°F in August, with an annual average maximum of 71.2°F. The monthly average minimum temperature recorded at this station ranges from 43.0°F in January to 59.6°F in August, with an annual average minimum of 51.0°F. These levels are still representative of the project area.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. Average monthly rainfall at the Laguna Beach station varies from 2.77 inches in February to 0.03 inch in July, with an annual total of 12.52 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in midafternoon to late afternoon on hot summer days, when the air appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 mph. Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly on shore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and NO<sub>x</sub> because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and brighter sunshine combine to cause a reaction between hydrocarbons and NO<sub>x</sub> to form photochemical smog. Smog is a general term for naturally occurring fog that has become mixed with smoke or pollution. In this context, it is better described as a form of air pollution produced by the photochemical reaction of sunlight with pollutants that have been released into the atmosphere, especially by automotive emissions.

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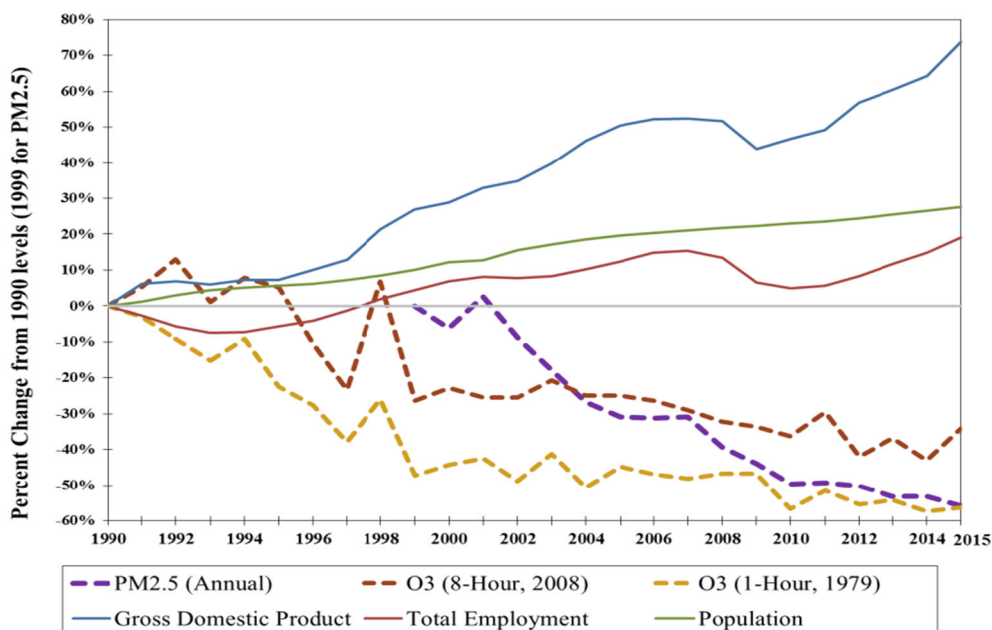
<sup>1</sup> Western Regional Climate Center (WRCC). Laguna Beach, California (044647): Period of Record Monthly Climate Summary. Website: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4647> (accessed October 2020).

## REGIONAL AIR QUALITY TRENDS

### Criteria Pollutants

As previously discussed, the proposed project is under the jurisdiction of the SCAQMD, which is responsible for formulating and implementing the AQMP for the Basin in order to bring the area into compliance with federal and State air quality standards. Air quality in the Air Basin has improved as a result of the development of SCAQMD rules and control programs and the development and application of cleaner technology. Ambient levels of O<sub>3</sub>, NO<sub>x</sub>, VOCs, and CO have been generally decreasing since 1975. The levels of PM<sub>10</sub> and PM<sub>2.5</sub> in the air have decreased since 1975, and direct emissions of PM<sub>2.5</sub> have decreased, although direct emissions of PM<sub>10</sub> have shown little change. As stated in the SCAQMD 2016 AQMP for the Basin, the overall population of the region is expected to continue to increase beyond 2023. Despite this population growth, air quality has improved significantly over the years, primarily due to the impacts of air quality control programs at the local, State, and federal levels.

Figure 3 shows the trends since 1990 of the 8-hour O<sub>3</sub> levels, 1-hour O<sub>3</sub> levels, and annual average PM<sub>2.5</sub> concentrations (since 1999) compared to the regional gross domestic product, total employment, and population. The 2007–2009 recession decreased gross domestic product and employment, but they have recovered, as shown on Figure 3. However, the O<sub>3</sub> and PM<sub>2.5</sub> levels continue to trend downward despite increasing economic activity and population, demonstrating that it is possible to maintain a healthy economy while improving public health through air quality improvements.



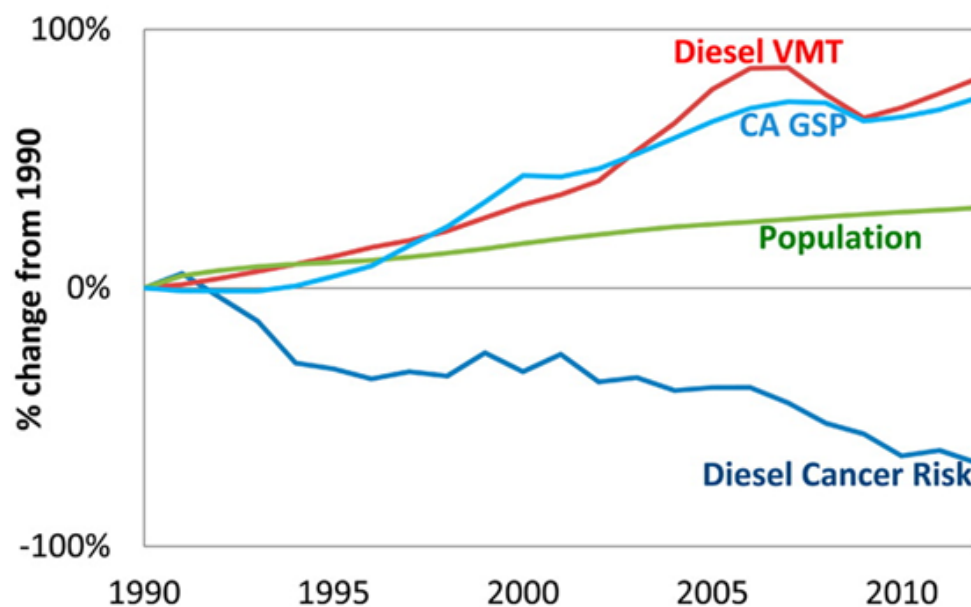
Source: Final Report: Multiple Air Toxics Exposure Study in the South Coast Air Basin (SCAQMD 2015).

**Figure 3: South Coast Air Basin Percent Change in Air Quality and Demographic Data**

### Toxic Air Contaminants Trends

In 1984, CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012 (Propper et al. 2015). Concentrations of DPM, a key TAC, declined by 68 percent between 1990 and 2012, despite a 31 percent increase in State population and an 81 percent increase in diesel VMT, as shown on Figure 4.

The study also found that the significant reductions in cancer risk to California residents from the implementation of air toxics controls are likely to continue. SCAQMD has conducted four *Multiple Air Toxics Exposure Study in the South Coast Air Basin* (MATES) studies that document a decrease in cancer risk of 57 percent between the last two editions (i.e., between 2005 and 2015).



Source: Ambient and Emission Trends of Toxic Air Contaminants in California (Propper et al. 2015).

**Figure 4: California Population, Gross State Product, Diesel Cancer Risk, and Diesel Vehicle Miles Traveled**

### AIR QUALITY MONITORING RESULTS

Air quality monitoring stations are located throughout the nation and are maintained by the local air pollution control district and State air quality regulating agencies. The SCAQMD, together with CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the project area is the 26081 Via Pera ambient air quality monitoring station in Mission Viejo. The air quality trends from this station are used to represent the ambient air quality in the project area. Ambient air quality in the project area from 2017 to 2019 is shown in Table F. NO<sub>2</sub> and SO<sub>2</sub> are not monitored at the Mission Viejo station; therefore, Table F includes NO<sub>2</sub> data from the 812 West Vermont Street ambient air quality monitoring station in Anaheim and SO<sub>2</sub> data from the 2850 Mesa Verde Drive ambient air quality monitoring station in Costa Mesa.

**Table F: Ambient Air Quality at the Mission Viejo Monitoring Station**

Pollutant	Standard	2017	2018	2019
<b>Carbon Monoxide (CO)</b>				
Maximum 1-hour concentration (ppm)		1.4	1.2	0.9
Number of days exceeded:	State: >20 ppm	0	0	0
	Federal: >35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.9	0.9	0.8
Number of days exceeded:	State: >9 ppm	0	0	0
	Federal: >9 ppm	0	0	0
<b>Ozone (O<sub>3</sub>)</b>				
Maximum 1-hour concentration (ppm)		0.102	0.121	0.106
Number of days exceeded:	State: >0.09 ppm	3	2	3
Maximum 8-hour concentration (ppm)		0.084	0.088	0.088
Number of days exceeded:	State: >0.07 ppm	27	10	11
	Federal: >0.08 ppm	25	9	11
<b>Coarse Particulates (PM<sub>10</sub>)</b>				
Maximum 24-hour concentration (µg/m <sup>3</sup> )		58.2	55.6	45.1
Number of days exceeded:	State: >50 µg/m <sup>3</sup>	1	1	0
	Federal: >150 µg/m <sup>3</sup>	0	0	0
Annual arithmetic average concentration (µg/m <sup>3</sup> )		18.8	19.1	16.7
Exceeded for the year:	State: >20 µg/m <sup>3</sup>	No	No	No
	Federal: >50 µg/m <sup>3</sup>	No	No	No
<b>Fine Particulates (PM<sub>2.5</sub>)</b>				
Maximum 24-hour concentration (µg/m <sup>3</sup> )		19.5	38.9	20.8
Number of days exceeded:	Federal: >35 µg/m <sup>3</sup>	0	1	0
Annual arithmetic average concentration (µg/m <sup>3</sup> )		7.0	7.0	7.1
Exceeded for the year:	State: >12 µg/m <sup>3</sup>	No	No	No
	Federal: >12 µg/m <sup>3</sup>	No	No	No
<b>Nitrogen Dioxide (NO<sub>2</sub>)<sup>1</sup></b>				
Maximum 1-hour concentration (ppm)		0.086	0.062	0.059
Number of days exceeded:	State: >0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.023	0.021	0.019
Exceeded for the year:	Federal: >0.053 ppm	No	No	No
<b>Sulfur Dioxide (SO<sub>2</sub>)<sup>2</sup></b>				
Maximum 1-hour concentration (ppm)		0.002	ND	ND
Number of days exceeded:	State: >0.25 ppm	0	ND	ND
Maximum 24-hour concentration (ppm)		0.0005	ND	ND
Number of days exceeded:	State: >0.04 ppm	0	ND	ND
	Federal: >0.14 ppm	0	ND	ND
Annual arithmetic average concentration (ppm)		0.0001	ND	ND
Exceeded for the year:	Federal: >0.030 ppm	No	No	ND

Sources: CARB. Top 4 Summary: Select Pollutant, Years, & Area. Website: <https://www.arb.ca.gov/adam/topfour/topfour1.php> (accessed October 2020), and EPA. Outdoor Air Quality Data: Monitor Values Report. Website: <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report> (accessed October 2020).

<sup>1</sup> Data taken at the 812 West Vermont Street ambient air quality monitoring station in Anaheim.

<sup>2</sup> Data taken at the 2850 Mesa Verde Drive ambient air quality monitoring station in Costa Mesa.

µg/m<sup>3</sup> = micrograms per cubic meter

CARB = California Air Resources Board

EPA = United States Environmental Protection Agency

ND = No data. There were insufficient (or no) data to determine the value.

ppm = parts per million

Pollutant monitoring results for the years 2017 to 2019 indicate that air quality in the project vicinity has generally been good. As indicated in the monitoring results, no violations of the federal PM<sub>10</sub> standard occurred during the 3-year period. The State PM<sub>10</sub> standard was exceeded once in 2017 and once in 2018. PM<sub>2.5</sub> levels exceeded the federal standard once in 2018. The State 1-hour O<sub>3</sub> standard was exceeded three times in 2017, twice in 2018, and three times in 2019. In addition, the State 8-hour O<sub>3</sub> standard was exceeded 27 times in 2017, 10 times in 2018, and 11 times in 2019, and the federal 8-hour O<sub>3</sub> standard was exceeded 25 times in 2017, 9 times in 2018, and 11 times in 2019. The CO, SO<sub>2</sub>, and NO<sub>2</sub> standards were not exceeded in this area during the 3-year period.

## GREENHOUSE GAS EMISSIONS INVENTORY

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

### Global Emissions

Worldwide emissions of GHGs in 2016 totaled approximately 26 billion MT CO<sub>2</sub>e.<sup>1</sup> Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change (UNFCCC).

### United States Emissions

According to CARB emission inventory estimates, the State emitted approximately 425 MMT CO<sub>2</sub>e emissions in 2018, 8 MMT CO<sub>2</sub>e higher than 2017 levels and 6 MMT CO<sub>2</sub>e below the 2020 GHG Limit of 431 MMT CO<sub>2</sub>e (CARB 2020).

CARB estimates that transportation was the source of approximately 40 percent of the State's GHG emissions in 2018, followed by industrial sources at 21 percent and electricity generation at 15 percent. The remaining sources of GHG emissions were agriculture at 8 percent, residential activities at 6 percent, commercial activities at 4 percent, high GWP at 5 percent, and waste at 2 percent (CARB 2020).

### State of California Emissions

According to CARB emission inventory estimates, the State emitted approximately 425 MMT CO<sub>2</sub>e emissions in 2018, 8 MMT CO<sub>2</sub>e higher than 2017 levels and 6 MMT CO<sub>2</sub>e below the 2020 GHG Limit of 431 MMT CO<sub>2</sub>e (CARB 2020).

CARB estimates that transportation was the source of approximately 40 percent of the State's GHG emissions in 2018, followed by industrial sources at 21 percent and electricity generation at 15 percent. The remaining sources of GHG emissions were agriculture at 8 percent, residential

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<sup>1</sup> United Nations Framework Convention on Climate Change (UNFCCC). GHG Data from UNFCCC. Copyright 2021. Website: <https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc> (accessed October 2020).



activities at 6 percent, commercial activities at 4 percent, high GWP at 5 percent, and waste at 2 percent (CARB 2020).



## METHODOLOGY

### CONSTRUCTION EMISSIONS

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include site preparation, earthmoving, and general construction. The emissions generated from these common construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site.

Construction of the proposed project would begin in June 2021 and would take place over an approximately 6- to 12-month period during landfill operational hours (7:00 a.m. to 5:00 p.m.). Construction would include grading, asphalt placement, building construction, and utility relocation. The proposed project would require net fill of approximately 78,000 cy of soil; however, all cut and fill will be balanced on-site. Filled soil would be borrowed from other areas on site, and any cut would be used on site or placed in an on-site stockpile. No dirt would be trucked on or off site. Equipment utilized in construction is anticipated to include a scraper, an excavator, and approximately ten 10-yard dump trucks for moving soil on site.

### OPERATIONAL EMISSIONS

Consistent with the SCAQMD guidance for estimating emissions associated with land use development projects, CalEEMod was used to calculate the long-term operational emissions associated with the proposed project. For purposes of evaluating the proposed project, the county in CalEEMod was specified as Orange County, and the climate zone of 13 was selected. Based on this climate zone, CalEEMod assumed a wind speed of 2.2 meters per second (4.9 mph) and precipitation frequency of 30 days per year. The operational year was assumed to be 2021. The utility company for the region was selected as San Diego Gas & Electric. The CalEEMod analysis assumed 1,390 sf of building area and 9.47 acres (ac) of asphalt surfaces, for a total project acreage of 9.5. Once operational, the proposed project is not expected to generate new vehicle or truck trips. Where project-specific data were not available, default assumptions (i.e., energy usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions. CalEEMod output sheets are included in Appendix A.

### GREENHOUSE GAS ANALYSIS

GHG emissions associated with the proposed project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be minimal long-term GHG emissions associated with project-related vehicular trips or other sources. Recognizing that the field of GCC analysis is rapidly evolving, the approaches advocated most recently indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and any other significant source of emissions within the project area.

## THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or State AAQS
- Expose sensitive receptors to substantial pollutant concentrations
- Result in other emissions (such as those leading to odors) affecting a substantial number of people

Certain air districts (e.g., the SCAQMD) have created guidelines and requirements to conduct air quality analysis. The SCAQMD's current guidelines, the *CEQA Air Quality Handbook* with associated updates, were followed in this assessment of air quality impacts for the proposed project.

## REGIONAL EMISSIONS THRESHOLDS

The SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Table G lists the CEQA significance thresholds for construction and operational emissions established for the Basin.

**Table G: Regional Thresholds for Construction and Operational Emissions**

Emissions Source	Pollutant Emissions Threshold (lbs/day)					
	VOCs	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: South Coast AQMD Air Quality Significance Thresholds (SCAQMD 2019).

AQMD = Air Quality Management District

CO = carbon monoxide

lbs/day = pounds per day

NO<sub>x</sub> = nitrogen oxides

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

PM<sub>10</sub> = particulate matter less than 10 microns in size

SCAQMD = South Coast Air Quality Management District

SO<sub>x</sub> = sulfur oxides

VOC = volatile organic compound

Projects in the Basin with construction- or operation-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. These thresholds, which the SCAQMD developed and that apply throughout the Basin, apply as both

project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

### LOCAL MICROSCALE CONCENTRATION STANDARDS

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the Basin, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

### HEALTH RISK THRESHOLDS

Both the State and federal governments have established health-based AAQS for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, “substantial” is taken to mean that the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and the noncancer chronic and acute Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the Air Basin:

- MICR is the estimated probability of a maximally exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 30 years for adults and 9 years for children in residential locations. As a conservative measure, the SCAQMD does not recognize indoor adjustments for residents. However, the typical person spends the majority of his or her time indoors versus remaining outdoors 24 hours per day, 350 days per year.<sup>1</sup> The MICR calculations include multipathway consideration, when applicable.

The cumulative increase in MICR that is the sum of the calculated MICR values for all TACs would be considered significant if it would result in an increased MICR greater than 10 in 1 million ( $1.0 \times 10^{-5}$ ) for any resident.

- The chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic Reference Exposure Level (REL). The chronic HI calculations include multipathway consideration, when applicable. The proposed project would be considered significant if the cumulative increase in the total chronic HI for any target organ system would exceed 1.0 for any resident.

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<sup>1</sup> In May 1991, the California Air Resources Board Research Division, in association with the University of California, Berkeley, published research findings titled *Activity Patterns of California Residents* (CARB 1991). The findings of that study indicate that on average, adults and adolescents in California spent almost 15 hours per day inside their homes and 6 hours in other indoor locations, for a total of 21 hours (87 percent of the day). About 2 hours per day were spent in transit, and just over 1 hour per day was spent in outdoor locations.

- The acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute REL. The project would be considered significant if the cumulative increase in the total acute HI for any target organ system would exceed 1.0 for any resident.

## LOCALIZED IMPACTS ANALYSIS

The SCAQMD published its Final Localized Significance Threshold Methodology in July 2008, recommending that all air quality analyses include an assessment of air quality impacts to nearby sensitive receptors (SCAQMD 2008b). This guidance was used to analyze potential localized air quality impacts associated with construction of the proposed project. Localized significance thresholds (LSTs) are developed based on the size or total area of the emission source, the ambient air quality in the source receptor area, and the distance to the project. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality.

LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For the proposed project, the appropriate SRA for the LST is the Capistrano Valley area (SRA 21). The SCAQMD provides LST screening tables for 25-, 50-, 100-, 200-, and 500-meter (82-, 164-, 328-, 656-, and 1,640 ft) source-receptor distances. As identified above, there are existing sensitive receptors approximately 700 ft from the project site. The total project site is 9.5 ac; therefore, the 5 ac thresholds would apply to the proposed project. Table H lists the emissions thresholds that apply during project construction and operation.

**Table H: Localized Significance Thresholds (lbs/day)**

Emissions Source	Pollutant Emissions Threshold (lbs/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Construction (5 ac, 700 ft distance)	309	6,826	106	45
Operations (5 ac, 700 ft distance)	309	6,826	25	12

Source: Final Localized Significance Threshold Methodology (SCAQMD 2008b).

ac = acre/acres

CO = carbon monoxide

ft = foot/feet

lbs/day = pounds per day

LST = localized significance threshold

NO<sub>x</sub> = nitrogen oxides

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in size

PM<sub>10</sub> = particulate matter less than 10 microns in size

SCAQMD = South Coast Air Quality Management District

## GLOBAL CLIMATE CHANGE

The SCAQMD has adopted a significance threshold of 10,000 MT CO<sub>2</sub>e for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, the SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting held in September 2010 (Meeting No. 15), the SCAQMD proposed to adopt a tiered approach for evaluating GHG emissions for development projects where the SCAQMD is not the lead agency:

- **Tier 1. Exemptions:** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.
- **Tier 2. Consistency with a Locally Adopted GHG Reduction Plan:** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.
- **Tier 3. Numerical Screening Threshold:** If GHG emissions are less than the numerical screening-level threshold, project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, the SCAQMD requires an assessment of GHG emissions. The SCAQMD, under Option 1, proposed a "bright-line" screening-level threshold of 3,000 MT CO<sub>2</sub>e per year for all land use types or, under Option 2, the following land-use-specific thresholds: 1,400 MT CO<sub>2</sub>e for commercial projects, 3,500 MT CO<sub>2</sub>e for residential projects, or 3,000 MT CO<sub>2</sub>e for mixed-use projects. This bright-line threshold is based on a review of the OPR database of CEQA projects. Based on that review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal and therefore less than cumulatively considerable impact on GHG emissions.

- **Tier 4. Performance Standards:** If emissions exceed the numerical screening threshold, a more detailed review of the project's GHG emissions is warranted. The SCAQMD has proposed an efficiency target for projects that exceed the bright-line threshold. The current recommended approach is per-capita efficiency targets. The SCAQMD is not recommending use of a percent emissions reduction target. Instead, the SCAQMD proposes proposed a 2020 efficiency target of 4.8 MT CO<sub>2</sub>e per year per service population for project-level analyses and 6.6 MT CO<sub>2</sub>e per year per service population for plan-level projects (e.g., program-level projects such as General Plans). The GHG efficiency metric divides annualized GHG emissions by the service population, which is the sum of residents and employees, per the following equation:

$$\text{Rate of Emission} = \text{GHG Emissions (MT CO}_2\text{e/yr)} \div \text{Service Population}$$

The efficiency evaluation consists of comparing the project's efficiency metric to efficiency targets. Efficiency targets represent the maximum quantity of emissions each resident and employee in California could emit in various years based on emission levels necessary to achieve the statewide GHG emissions reduction goals. A project that results in a lower rate of emissions would be more efficient than a project with a higher rate of emissions, based on the same service population. The metric considers GHG reduction measures integrated into a project's design and operation (or through mitigation). The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan. Because the project would begin operations in the post-2020 timeframe, the 2020 efficiency target of 4.8 metric tons of CO<sub>2</sub>e per year per service population would not apply.

CARB has completed a Scoping Plan, which will be utilized by the SCAQMD to establish the 2030 GHG efficiency threshold. SCAQMD has yet to publish a quantified GHG efficiency threshold for the 2030 target. A scaled threshold consistent with State goals detailed in SB 32, Executive Order B-30-15, and Executive Order S-3-05 to reduce GHG emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, respectively was developed for 2021. Though the SCAQMD has not published a quantified threshold beyond 2020, if it is determined that the proposed project is estimated to exceed the 3,000 MT CO<sub>2</sub>e screening threshold, it will then be compared to the scaled efficiency-based threshold of 4.6 MT CO<sub>2</sub>e/yr/SP in 2021.

For the purpose of this analysis, the proposed project will first be compared to the SCAQMD interim screening-level Tier 3 Numerical Screening Threshold of 3,000 MT CO<sub>2</sub>e per year for all land use types. If it is determined that the proposed project is estimated to exceed this screening threshold, it will then be compared to the efficiency-based threshold.

The proposed project will also be evaluated for compliance with SCAG's 2020–2045 RTP/SCS, which establishes an overall GHG target for the project region consistent with the post-2020 GHG reduction goals of SB 32.

## IMPACT ANALYSIS

This section identifies the air quality and GHG impacts associated with implementation of the proposed project. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate them or reduce them to a less than significant level.

### AIR QUALITY IMPACTS

This section describes the construction and operational phase criteria pollutant emission impacts.

#### Consistency with Applicable Air Quality Plans

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The AQMP is based on regional growth projections developed by SCAG. The proposed project would reconstruct the fee booth and entranceway access roads to the landfill. The proposed project would not house any persons, occupy more than 40 ac of land, or encompass more than 650,000 sf of floor area. Thus, the proposed project would not be defined as a regionally significant project under CEQA; therefore, it does not meet SCAG's Intergovernmental Review criteria.

Pursuant to the methodology provided in the SCAQMD CEQA Air Quality Handbook, consistency with the Basin 2016 AQMP is affirmed when a project (1) would not increase the frequency or severity of an air quality standards violation or cause a new violation and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented as follows:

1. The proposed project would result in short-term construction and long-term operational pollutant emissions that are all less than the CEQA significance emissions thresholds established by the SCAQMD, as demonstrated below; therefore, the proposed project would not result in an increase in the frequency or severity of an air quality standards violation or cause a new air quality standard violation.
2. The CEQA Air Quality Handbook indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities. The proposed project would reconstruct the fee booth and entranceway access roads to the Landfill and would not increase solid waste disposal activities; therefore, the proposed project is not defined as a significant project as defined by the SCAQMD CEQA Air Quality Handbook.



Based on the consistency analysis presented above, the proposed project would be consistent with the regional AQMP. FEIR No. 575 did not evaluate consistency with the applicable AQMD. However, because the proposed project would be consistent with the Basin 2016 AQMP, the proposed project would not result in any new or more severe significant impacts related to consistency with applicable clean air plans.

### Criteria Pollutant Analysis

The following sections describe the proposed project's construction- and operation-related air quality impacts and localized impacts.

#### Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO<sub>x</sub>, VOCs, directly emitted PM (PM<sub>2.5</sub> and PM<sub>10</sub>), and TACs such as DPM.

Project construction activities would include grading, asphalt placement, building construction, and utility relocation. Construction-related effects on air quality from the proposed project would be greatest during the grading phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM<sub>10</sub> emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM<sub>10</sub> emissions would depend on the soil moisture, silt content of soil, wind speed, and amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The SCAQMD has established Rule 403: Fugitive Dust, which would require the applicant to implement measures that would reduce the amount of PM generated during the construction period. The following Rule 403 measures were incorporated in the CalEEMod analysis:

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

In addition to dust-related PM<sub>10</sub> emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO<sub>2</sub>, NO<sub>x</sub>, VOCs, and some soot particulate (PM<sub>2.5</sub> and PM<sub>10</sub>) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod. As discussed in the Project Description, the proposed project would require a net fill of approximately 78,000 cy of soil; however, all soil needed for cut and fill would be provided internally. Filled soil would be borrowed from other areas on site, and any cut would be used on site or placed in an on-site stockpile. No dirt would be trucked on or off site. Construction will take place over an approximately 6- to 12-month period, which was included in CalEEMod. Equipment utilized in construction is anticipated to include a scraper, an excavator, and approximately ten 10-yard dump trucks for moving soil on site, which was included in CalEEMod for the site preparation, grading, and utility relocation phases. Default construction equipment was assumed for the building construction, paving, and architectural coating phases. Other construction details are not yet known; therefore, default assumptions (e.g., construction worker and truck trips) from CalEEMod were used. This analysis assumes the use of Tier 2 construction equipment.

Table I lists the illustrative project construction schedule for the proposed project based on an estimated start date of June 2021 and an approximately 6-month construction duration. Table J lists the potential construction equipment to be used during project construction. Construction-related emissions are presented in Table K. CalEEMod output sheets are included in Appendix A.

**Table I: Illustrative Project Construction Schedule**

Phase Number	Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
1	Site Preparation	6/7/2021	6/18/2021	5	10
2	Grading	6/21/2021	7/30/2021	5	30
3	Utility Relocation	8/2/2021	8/27/2021	5	20
4	Building Construction	8/30/2021	10/8/2021	5	30
5	Paving	10/11/2021	11/19/2021	5	30
6	Architectural Coating	11/22/2021	12/17/2021	5	20

Source: Compiled by LSA Associates, Inc., assuming a 6-month construction period (December 2020).

**Table J: Diesel Construction Equipment Utilized by Construction Phase**

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Site Preparation	Dumpers/Tenders	10	10	16	0.38
	Excavators	1	10	158	0.38
	Scrapers	1	10	367	0.48
Grading	Dumpers/Tenders	10	10	16	0.38
	Excavators	1	10	158	0.38
	Scrapers	1	10	367	0.48
Utility Relocation	Dumpers/Tenders	10	10	16	0.38
	Excavators	1	10	158	0.38
	Scrapers	1	10	367	0.48
Building Construction	Cranes	1	10	231	0.29
	Forklifts	3	10	89	0.2
	Generator Sets	1	10	84	0.74
	Tractors/Loaders/Backhoes	3	10	97	0.37
	Welders	1	10	46	0.45
	Pavers	2	10	130	0.42
Paving	Paving Equipment	2	10	132	0.36
	Rollers	2	10	80	0.38
Architectural Coating	Air Compressors	1	10	78	0.48

Sources: Compiled by LSA Associates, Inc. (December 2020).

**Table K: Project Construction Emissions in Pounds Per Day**

Project Construction	Maximum Pollutant Emissions (lbs/day)					
	VOCs	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Preparation	0.8	20.3	15.9	<0.1	0.8	0.6
Grading	0.8	20.3	15.9	<0.1	1.0	0.6
Utility Relocation	0.8	20.3	15.9	<0.1	0.8	0.6
Building Construction	2.3	38.4	30.9	0.1	3.6	1.9
Paving	2.1	25.2	22.1	<0.1	1.0	0.9
Architectural Coating	6.7	4.0	4.1	<0.1	0.6	0.3
<b>Peak Daily Emissions</b>	<b>6.7</b>	<b>38.4</b>	<b>30.9</b>	<b>0.1</b>	<b>3.6</b>	<b>1.9</b>
SCAQMD Thresholds	75.0	100.0	550.0	150	150.0	55.0
<b>Exceeds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: Compiled by LSA Associates, Inc. (December 2020).

CO = carbon monoxide

lbs/day = pounds per day

NO<sub>x</sub> = nitrogen oxidesPM<sub>2.5</sub> = particulate matter less than 2.5 microns in sizePM<sub>10</sub> = particulate matter less than 10 microns in size

SCAQMD = South Coast Air Quality Management District

SO<sub>x</sub> = sulfur oxides

VOC = volatile organic compound

As shown in Table K, construction emissions associated with the proposed project would not exceed the SCAQMD thresholds for VOCs, NO<sub>x</sub>, CO, sulfur oxides (SO<sub>x</sub>), PM<sub>2.5</sub>, or PM<sub>10</sub> emissions. In addition to the construction period thresholds of significance, the proposed project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission

source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site.

In addition, FSEIR No. 597 Mitigation Measures MM 5.4-1 and MM 5.4-2 would be required and remain as project commitments that apply to the proposed project. With implementation of FSEIR No. 597 Mitigation Measures MM 5.4-1 and MM 5.4-2, construction of the proposed project would not result in emissions that would result in a cumulatively considerable net increase of any criteria pollutant for which the proposed project is in nonattainment under an applicable federal or State AAQS. Furthermore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to a cumulatively considerable net increase of any criteria pollutant.

### *Operational Air Quality Impacts*

Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project.

PM<sub>10</sub> emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM<sub>10</sub> occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of PM emissions compared with diesel-powered vehicles. The proposed project would not generate any new vehicle or truck trips.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. The primary sources of energy demand for the proposed project would include building mechanical systems, such as heating and air conditioning; lighting; and plug-in electronics, such as computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the proposed project would include emissions from the use of architectural coatings, consumer products, and landscaping equipment.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod.

The annual emissions associated with operation of the proposed project are identified in Table L for VOCs, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

**Table L: Project Operational Emissions in Pounds per Day**

Source	Pollutant Emissions (lbs/day)					
	VOCs	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Project Area Sources	0.2	<0.1	<0.1	0.0	0.0	0.0
Project Energy Sources	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Project Mobile Sources	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Project Emissions</b>	<b>0.2</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>
SCAQMD Thresholds	55.0	55.0	550.0	150.0	150.0	55.0
<b>Exceeds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: Compiled by LSA Associates, Inc. (December 2020).

CO = carbon monoxide

lbs/day = pounds per day

NO<sub>x</sub> = nitrogen oxidesPM<sub>2.5</sub> = particulate matter less than 2.5 microns in sizePM<sub>10</sub> = particulate matter less than 10 microns in size

SCAQMD = South Coast Air Quality Management District

SO<sub>x</sub> = sulfur oxides

VOC = volatile organic compound

The results shown in Table L indicate the proposed project would not exceed the significance criteria for VOCs, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> emissions; therefore, the proposed project would not result in a significant effect on regional air quality. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the proposed project is in nonattainment under an applicable federal or State AAQS. Furthermore, as compared to the findings of FEIR No. 575, operation of the proposed project would not result in any new or more severe significant impacts related to a cumulatively considerable net increase of any criteria pollutant.

#### Localized Significance Analysis

Project construction and operation emissions were compared to the LST screening tables in SRA 21, based on a 700 ft source-receptor distance and a 5 ac project size. The results of the LST analysis, summarized in Table M and Table N, indicate that the proposed project would not result in an exceedance of SCAQMD LSTs during project construction or operation. Therefore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to the exposure of sensitive receptors to substantial pollutant concentrations.

**Table M: Project Localized Construction Emissions in Pounds Per Day**

Source	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
On-Site Project Emissions	31.6	23.9	1.2	1.2
Localized Significance Threshold	309.0	6,826.0	106.0	45.0
<b>Exceeds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: LSA Associates, Inc. (December 2020).

CO = carbon monoxide

NO<sub>x</sub> = nitrogen oxidesPM<sub>2.5</sub> = particulate matter less than 2.5 microns in sizePM<sub>10</sub> = particulate matter less than 10 microns in size**Table N: Project Localized Operational Emissions in Pounds Per Day**

Source	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
On-Site Project Emissions	<0.1	<0.1	<0.1	<0.1

**Table N: Project Localized Operational Emissions in Pounds Per Day**

Source	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Localized Significance Threshold	309.0	6,826.0	25.0	12.0
Exceeds?	No	No	No	No

Source: LSA Associates, Inc. (December 2020).

CO = carbon monoxide

PM<sub>2.5</sub> = particulate matter less than 2.5 microns in sizeNO<sub>x</sub> = nitrogen oxidesPM<sub>10</sub> = particulate matter less than 10 microns in size

### Long-Term Microscale (CO Hot Spot) Analysis

Vehicular trips contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, CO disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

As indicated above, once operational, the proposed project is not expected to generate new vehicle or truck trips. In addition, implementation of the proposed project would reduce traffic congestion and idling at the fee booth and entranceway access roads. Since the proposed project would improve traffic operations and reduce delay, the proposed project would result in a net benefit in CO emission concentrations. Therefore, the proposed project is not expected to result in CO concentrations that would exceed the State or federal CO standards. Because no CO hot spots would occur, there would be no project-related impacts on CO concentrations. Therefore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to CO hotspots.

### Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as residential uses, schools, day-care centers, nursing homes, and medical centers. Individuals particularly vulnerable to DPM are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to DPM. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic noncancer health risks.

In addition to impacts from criteria pollutants, certain projects may include emissions of pollutants identified by the State and federal government as TACs or hazardous air pollutants. State law has established the framework for California's TAC identification and control project, which is generally more stringent than the federal project and is aimed at TACs that are a problem in California. The State has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants, and is adopting appropriate control measures for sources of these TACs.

“Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard Office of Environmental Health Hazard Assessment (OEHHA) risk assessment methodology (OEHHA 2020). In addition, some TACs have noncarcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on typical residency period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2020). Construction of the proposed project is only anticipated to last 6 to 12 months; therefore, construction activities would not be a long-term source of TAC emissions. After project construction is completed, there would be no long-term source of TAC emissions during operation.

As identified in the Project Description, the closest sensitive receptor locations to the project site include the single-family residences located approximately 700 ft northwest of the project site along Via Granada. Construction activities associated with the proposed project may expose these sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants associated with the use of construction equipment (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions by following Rule 403, as required by FSEIR No. 597 Mitigation Measures MM 5.4-1 and MM 5.4-2. As indicated in Table K above, project construction emissions would be well below the SCAQMD’s significance thresholds. In addition, as previously described, filled soil would be borrowed from other areas on site, and any cut would be used on site or placed in an on-site stockpile. No dirt would be trucked on or off site. Therefore, during construction, the proposed project would not expose sensitive receptors to diesel exhaust associated with haul trucks. Therefore, based on the anticipated duration of construction, the lack of new vehicle or truck trips, and the distance to nearby sensitive receptors, the proposed project is not expected to result in a significant health risk impact during construction.

Once operational, the proposed project would reconstruct the fee booth and entranceway access roads to the landfill in order to facilitate improved traffic flow and management at the site. The proposed project would not generate new vehicle or truck trips and would not increase solid waste disposal activities. As such, the proposed project would not be a significant source of long-term operational emissions.

Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during project construction or operation. Therefore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to the exposure of sensitive receptors to substantial pollutant concentrations.

## Odors

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of the receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying, cause distress among the public, and generate citizen



complaints. Vehicles and equipment exhaust emissions would potentially generate odors during construction and operation of the proposed project. Potential odors produced during construction and operation would be attributable to concentrations of unburned hydrocarbons from tailpipes of diesel-powered, heavy-duty trucks and equipment and asphalt pavement application. Such odors would disperse rapidly from the project site and would generally occur at magnitudes that would not affect substantial numbers of people.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project would not include changes to regular operations and maintenance activity by OCWR personnel. In addition, the proposed project would be required to comply with Mitigation Measure MM 4.9-1 from FEIR No. 575, which requires that landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill. Therefore, proposed project operations would not result in a significant odor impact.

Other emissions, including nuisance odors, may occur during the operation of diesel-fueled equipment during construction and operation of the proposed project. However, these emissions would be short-term in duration and are expected to be isolated to the immediate vicinity of the construction site or transport route. SCAQMD Rules 402, 403, and 431.2, as well as Title 13, Section 2449(d)(d) of the CCR, require the project applicant to include implementation of standard control measures for fugitive dust and diesel equipment emissions. Additionally, operators of off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on roads) are required to limit vehicle idling to 5 minutes or less; register and label vehicles in accordance with the CARB Diesel Off-Road Online Reporting System; restrict the inclusion of older vehicles into fleets; and retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). Additionally, SCAQMD Rule 402 regarding nuisances states the following: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."

Pursuant to SCAQMD Rule 403, fugitive dust must be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Additionally, Title 13, Section 2449(d)(D) of the CCR requires operators of off-road vehicles (i.e., self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on road) to limit vehicle idling to 5 minutes or less. SCAQMD Rules 402 and 403 and Title 13, Section 2449(d)(D), of the CCR require the project applicant to implement standard control measures to limit fugitive dust and construction equipment emissions. In addition, the proposed project would comply with Mitigation Measure MM 4.9-8 from Final EIR No. 575, which requires that the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal, if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill.

Therefore, as described above, operation of fueled equipment would not expose a substantial number of people to objectionable odors on a permanent basis. Furthermore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to odors.

## GREENHOUSE GAS EMISSIONS IMPACTS

This section discusses the proposed project's impacts related to the release of GHG emissions.

### Generation of Greenhouse Gas Emissions

The proposed project would generate GHG emissions during both construction and operational phases of the proposed project, as discussed below.

#### Construction Greenhouse Gas Emissions

During construction of the proposed project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. Furthermore, CH<sub>4</sub> is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

As indicated above, the SCAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. The SCAQMD then requires the construction GHG emissions to be amortized over the life of the project, defined as 30 years, added to the operational emissions, and compared to the applicable interim GHG significance threshold tier.

Construction activities produce combustion GHG emissions from various sources (e.g., utility engines and motor vehicles transporting the construction crew). The tentative project construction schedule for the proposed project is based on an anticipated start date in June 2021 and a 6- to 12-month construction duration. Table O presents the annual CO<sub>2</sub>e emissions for each of the planned construction phases based on the results from CalEEMod.

**Table O: Project Construction GHG Emissions**

Construction Phase	Total Emissions (MT/yr)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Site Preparation	16.0	<0.1	0.0	16.1
Grading	48.0	<0.1	0.0	48.3
Utility Relocation	32.0	<0.1	0.0	32.2
Building Construction	95.1	<0.1	0.0	95.4
Paving	39.6	<0.1	0.0	39.9
Architectural Coating	7.5	<0.1	0.0	7.5
<b>Total Construction Emissions</b>	<b>238.1</b>	<b>0.1</b>	<b>0.0</b>	<b>239.4</b>
<b>Amortized over 30 years</b>	<b>7.9</b>	<b>&lt;0.1</b>	<b>0.0</b>	<b>8.0</b>

Source: LSA Associates, Inc. (December 2020).

CH<sub>4</sub> = methane

CO<sub>2</sub> = carbon dioxide

CO<sub>2</sub>e = carbon dioxide equivalent

MT/yr = metric tons per year

N<sub>2</sub>O = nitrous oxide

*Operational Greenhouse Gas Emissions*

Long-term GHG emissions are typically generated from mobile and area sources as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions include project-generated vehicle trips to and from a project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions are typically generated at off-site utility providers as a result of increased electricity demand generated by a project. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project-generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Following guidance from the SCAQMD, GHG emissions were estimated using CalEEMod. Table P shows the calculated GHG emissions for the proposed project. Additional calculation details are included in Appendix A.

**Table P: Operational Greenhouse Gas Emissions**

Source	Pollutant Emissions (MT/yr)			
	Total CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>Project Construction Emissions</b>				
Construction emissions amortized over 30 years	7.9	<0.1	0.0	8.0
<b>Project Operational Emissions</b>				
Area Sources	<0.1	0.0	0.0	<0.1
Energy Sources	6.6	<0.1	<0.1	6.6
Mobile Sources	0.0	0.0	0.0	0.0
Waste Sources	0.3	<0.1	0.0	0.6
Water Usage	1.7	<0.1	<0.1	1.9
<b>Total Project Emissions</b>				<b>16.6</b>
<b>SCAQMD Tier 3 GHG Numerical Screening Threshold</b>				<b>3,000.0</b>
<b>Exceedance?</b>				<b>No</b>

Source: LSA Associates, Inc. (December 2020).

Note: Numbers in the table may not appear to add up correctly due to rounding of all numbers to two significant digits.

CH<sub>4</sub> = methane

MT/yr = metric tons per year

CO<sub>2</sub> = carbon dioxide

N<sub>2</sub>O = nitrous oxide

CO<sub>2</sub>e = carbon dioxide equivalent

NBio-CO<sub>2</sub> = Non-biologically generated CO<sub>2</sub>

As discussed above, according to the SCAQMD, a project would have less than significant GHG emissions if it would result in operations-related GHG emissions of less than 3,000 MT CO<sub>2</sub>e per year. As shown in Table P, the proposed project would result in approximately 16.6 MT CO<sub>2</sub>e per year, which would be well below the SCAQMD's Tier 3 threshold of 3,000 MT CO<sub>2</sub>e per year. Therefore, operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment. As compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to GHG emissions.

## Consistency with Greenhouse Gas Reduction Plans

### *CARB Scoping Plan*

California's major initiative for reducing GHG emissions is AB 32, passed by the State legislature on August 31, 2006. AB 32 is aimed at reducing GHG emissions to 1990 levels by 2020. AB 32 requires CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to GCC. The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms (e.g., a cap-and-trade system), and an AB 32 implementation fee to fund the program.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan (CARB 2017b), to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reduction target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32 (i.e., AB 197) provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 that is intended to provide easier public access to air emissions data collected by CARB was posted in December 2016.

As identified above, the AB 32 Scoping Plan contains GHG reduction measures that work toward reducing GHG emissions, consistent with the targets set by AB 32 and EO B-30-15 and codified by SB 32 and AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts (including new technologies and new policy and implementation mechanisms), and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would result in low levels of off-site emissions due to energy generation associated with the lighting. However, these emissions would be minimal and would not conflict with any of the energy efficient measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. The proposed project would include a modification of the internal access road system and would include a new fee booth, covered scales, and a staff office building. The proposed project is not expected to result in significant water usage. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emission reduction targets for passenger vehicles. Specific regional targets for transportation emissions would not directly apply to the proposed project. In addition, once operational, the proposed project is not expected to generate new vehicle or truck trips. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Therefore, the proposed project would not conflict with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in AB 32 and would be consistent with applicable plans and programs designed to reduce GHG emissions. Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to the consistency with GHG reduction plans.

#### *SCAG's Regional Transportation Plan/Sustainable Communities Strategy*

SCAG's 2020–2045 RTP/SCS was adopted September 3, 2020. SCAG's RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high-quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The core vision in the 2020–2045 RTP/SCS is to better manage the existing transportation system through design management strategies, integrate land use decisions and technological advancements, create complete streets that are safe to all roadway users, preserve the transportation system, and expand transit and foster development in transit-oriented communities. The 2020–2045 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as a forecasted development pattern that is generally consistent with regional-level General Plan data. The forecasted development pattern, when integrated with the financially constrained transportation investments identified in the 2020–2045 RTP/SCS, would reach the regional target of reducing GHG emissions from autos and light-duty trucks by 8 percent per capita by 2020 and 19 percent by 2035 (compared to 2005 levels). The 2020–2045 RTP/SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the 2020–2045 RTP/SCS but provides incentives for consistency for governments and developers.

Implementing SCAG's RTP/SCS will greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emission reduction targets. As stated above, the proposed project would not conflict with the stated goals of the RTP/SCS; therefore, the proposed project would not interfere with SCAG's ability to achieve the region's GHG reduction targets at 8 percent below 2005 per capita emissions levels by 2020 and 19 percent below 2005 per capita emissions levels by 2035, and it can be assumed that regional mobile emissions will decrease in line with the goals of the RTP/SCS. Furthermore, the proposed project is not regionally significant per *State CEQA Guidelines* Section 15206, and, as such, it would not conflict with the SCAG RTP/SCS targets, since those targets were established and are applicable on a regional level.

The proposed project would reconstruct the fee booth and entranceway access roads to the landfill in order to facilitate improved traffic flow and management at the site. The proposed project would not generate new vehicle or truck trips and would not increase solid waste disposal activities. Based on the nature of the proposed project, it is anticipated that implementation of the proposed project

would not interfere with SCAG's ability to implement the regional strategies outlined in the RTP/SCS. Therefore, the proposed project would not conflict with an adopted plan, policy, or regulation pertaining to GHG emissions. Therefore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant impacts related to the consistency with GHG reduction plans.

## CONCLUSION

Based on the analysis presented above, with implementation of FSEIR No. 597 Mitigation Measures MM 5.4-1 and MM 5.4-2, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed SCAQMD thresholds of significance. Construction and operation of the proposed project are not expected to produce significant emissions that would affect nearby sensitive receptors. With implementation of FEIR No. 575 Mitigation Measures MM 4.9-1 and MM 4.9-8 and FSEIR No. 597 Mitigation Measures MM 5.4-1 and 5.4-2, the proposed project would also not result in other emissions (such as those leading to odors) affecting a substantial number of people. GHG emissions would not be cumulatively considerable. The proposed project would not conflict with existing regulations adopted to achieve GHG emissions reduction goals and would be consistent with applicable plans and programs designed to reduce GHG emissions. Therefore, as compared to the findings of FEIR No. 575, the proposed project would not result in any new or more severe significant air quality or GHG impacts.

## REFERENCES

### Published Resources

- California Air Resources Board (CARB). 1991. *Activity Patterns of California Residents*.
- . 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.
- . 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.
- . 2007a. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.
- . 2007b. ARB Approves Tripling of Early Action Measures Required under AB 32. News Release 07-46. October.
- . 2016. Ambient Air Quality Standards. Website: <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf> (accessed October 2020).
- . 2017a. *Strategies to Reduce Air Pollution Exposure near High-Volume Roadways: Technical Advisory*.
- . 2017b. *California's 2017 Climate Change Scoping Plan*. November.

- 
- . 2020. California Greenhouse Gas Emissions for 2000 to 2018. Website: [https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2018/ghg\\_inventory\\_trends\\_00-18.pdf](https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf) (accessed October 2020).
- California Environmental Protection Agency (CalEPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.
- County of Orange. 2011. Orange County General Plan. Chapter VI. Resources Elements. December. Website: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40235> (accessed October 2020).
- Intergovernmental Panel on Climate Change (IPCC). 2007a. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC*.
- . 2007b. *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*. February.
- Office of Environmental Health Hazard Assessment (OEHHA). 2020. Consolidated Table of OEHHA/CARB Approved Risk Assessment Health Values. Website: <https://ww2.arb.ca.gov/sites/default/files/classic/toxics/healthval/contable.pdf> (accessed October 2020).
- Propper, Ralph, Patrick Wong, Son Bui, Jeff Austin, William Vance, Alvaro Alvarado, Bart Croes, and Dongmin Luo. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. *Environmental Science & Technology* 49(19):11329–11339. Website: [pubs.acs.org/doi/full/10.1021/acs.est.5b02766](https://pubs.acs.org/doi/full/10.1021/acs.est.5b02766) (accessed October 2020).
- South Coast Air Quality Management District (SCAQMD). 1976. Rule 402. Nuisance. Website: <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf> (accessed January 2021).
- . 1993. *CEQA Air Quality Handbook*. Website: [http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-\(1993\)](http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993)) (accessed November 2020).
- . 2008a. *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*.
- . 2008b. Final Localized Significance Threshold Methodology. July. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2> (accessed January 2021).
- . 2015. Final Report: Multiple Air Toxics Exposure Study in the South Coast Air Basin. Website: [www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf](http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf) (accessed October 2020).
- . 2016. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin. Website:
-



<http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf> (accessed January 2021).

- . 2019. South Coast AQMD Air Quality Significance Thresholds. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf> (accessed October 2020).

Southern California Association of Governments (SCAG). 2020. *Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments*. Website: [https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan\\_0.pdf?1606001176](https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176) (accessed October 2020).

United States Department of the Interior. 2007. Environmental Water Account, Draft Supplemental EIS/EIR to the Environmental Water Account Final EIS/EIR, Bureau of Reclamation Mid-Pacific Region, Sacramento, California. October.

### Online Resources

California Air Resources Board (CARB). Cap-and-Trade Program. Copyright 2021. Website: <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm> (accessed October 2020).

- . Common Air Pollutants. Copyright 2021. Website: <https://ww2.arb.ca.gov/resources/common-air-pollutants> (accessed September 2020).

- . GHGs Descriptions & Sources in California. Copyright 2021. Website: [ww2.arb.ca.gov/ghg-descriptions-sources](http://ww2.arb.ca.gov/ghg-descriptions-sources) (accessed October 2020).

- . Top 4 Summary: Select Pollutant, Years, & Area. Website: <https://www.arb.ca.gov/adam/topfour/topfour1.php> (accessed October 2020).

United Nations Framework Convention on Climate Change (UNFCCC). GHG Data from UNFCCC. Copyright 2021. Website: <https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc> (accessed October 2020).

United States Environmental Protection Agency (EPA). Basic Information: What Is Black Carbon? Last updated February 14, 2017. Website: [19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html](http://19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html) (accessed October 2020).

- . Climate Impacts on Human Health. April. Website: [https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health\\_.html](https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html) (accessed October 2020).

- . Outdoor Air Quality Data: Monitor Values Report. Website: <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report> (accessed October 2020).

Western Regional Climate Center (WRCC). Laguna Beach, California (044647): Period of Record Monthly Climate Summary. Website: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4647> (accessed October 2020).

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## **APPENDIX A**

### **CALEEMOD OUTPUT SHEETS**



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## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

## Prima Deshecha Landfill Fee Booth Reconstruction Project

### Orange County, Annual

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.39	1000sqft	0.03	1,390.00	0
Other Asphalt Surfaces	9.47	Acre	9.47	412,513.20	0

### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	13			Operational Year	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

## Project Characteristics -

Land Use - The total project site is 9.5 acres and includes the fee booth, office, employee parking, and entranceway access roads to the landfill.

Construction Phase - 6-12 month construction duration.

Off-road Equipment - Default architectural coating equipment.

Off-road Equipment - Default building construction equipment.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Off-road Equipment - Default paving equipment.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Vehicle Trips - The proposed project would not generate new vehicle or truck trips.

Construction Off-road Equipment Mitigation - Assuming compliance with SCAQMD Rule 403 and use of Tier 2 construction equipment.

Grading - Filled soil would be harvested within the site and the cut would be put into an on-site stockpile.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Energy Mitigation - Assuming compliance with 2019 Title 24 standards.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	30.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	20.00	30.00
tblGrading	AcresOfGrading	37.50	9.50
tblGrading	AcresOfGrading	12.50	0.00
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
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tblOffRoadEquipment	UsageHours	6.00	10.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	11.03	0.00

## 2.0 Emissions Summary

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## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2301	1.3828	1.2604	2.7200e-003	0.0563	0.0601	0.1164	0.0143	0.0563	0.0706	0.0000	238.1068	238.1068	0.0506	0.0000	239.3716
Maximum	0.2301	1.3828	1.2604	2.7200e-003	0.0563	0.0601	0.1164	0.0143	0.0563	0.0706	0.0000	238.1068	238.1068	0.0506	0.0000	239.3716

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1565	1.6050	1.3081	2.7200e-003	0.0532	0.0480	0.1012	0.0140	0.0479	0.0619	0.0000	238.1066	238.1066	0.0506	0.0000	239.3714
Maximum	0.1565	1.6050	1.3081	2.7200e-003	0.0532	0.0480	0.1012	0.0140	0.0479	0.0619	0.0000	238.1066	238.1066	0.0506	0.0000	239.3714

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	31.99	-16.07	-3.78	0.00	5.45	20.17	13.05	2.38	14.85	12.32	0.00	0.00	0.00	0.00	0.00	0.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-7-2021	9-6-2021	0.7760	0.7047
2	9-7-2021	9-30-2021	0.2874	0.3482
		Highest	0.7760	0.7047

## 2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0381	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Energy	1.5000e-004	1.3800e-003	1.1600e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	7.6029	7.6029	2.7000e-004	8.0000e-005	7.6331
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.2619	0.0000	0.2619	0.0155	0.0000	0.6487
Water						0.0000	0.0000		0.0000	0.0000	0.0784	1.6011	1.6794	8.1100e-003	2.0000e-004	1.9429
<b>Total</b>	<b>0.0382</b>	<b>1.3800e-003</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>1.0000e-004</b>	<b>0.3402</b>	<b>9.2043</b>	<b>9.5445</b>	<b>0.0239</b>	<b>2.8000e-004</b>	<b>10.2251</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0381	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Energy	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	6.6120	6.6120	2.4000e-004	7.0000e-005	6.6379
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.2619	0.0000	0.2619	0.0155	0.0000	0.6487
Water						0.0000	0.0000		0.0000	0.0000	0.0784	1.6011	1.6794	8.1100e-003	2.0000e-004	1.9429
<b>Total</b>	<b>0.0382</b>	<b>1.0500e-003</b>	<b>1.0200e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.3402</b>	<b>8.2134</b>	<b>8.5536</b>	<b>0.0238</b>	<b>2.7000e-004</b>	<b>9.2299</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.08</b>	<b>23.91</b>	<b>21.54</b>	<b>0.00</b>	<b>0.00</b>	<b>20.00</b>	<b>20.00</b>	<b>0.00</b>	<b>20.00</b>	<b>20.00</b>	<b>0.00</b>	<b>10.77</b>	<b>10.38</b>	<b>0.13</b>	<b>3.57</b>	<b>9.73</b>

**3.0 Construction Detail****Construction Phase**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/7/2021	6/18/2021	5	10	
2	Grading	Grading	6/21/2021	7/30/2021	5	30	
3	Utility Relocation	Trenching	8/2/2021	8/27/2021	5	20	
4	Building Construction	Building Construction	8/30/2021	10/8/2021	5	30	
5	Paving	Paving	10/11/2021	11/19/2021	5	30	
6	Architectural Coating	Architectural Coating	11/22/2021	12/17/2021	5	20	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 9.5**

**Acres of Paving: 9.47**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,085; Non-Residential Outdoor: 695; Striped Parking Area: 24,751 (Architectural Coating – sqft)**

**OffRoad Equipment**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Dumpers/Tenders	10	10.00	16	0.38
Site Preparation	Excavators	1	10.00	158	0.38
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Scrapers	1	10.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Dumpers/Tenders	10	10.00	16	0.38
Grading	Excavators	1	10.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	1	10.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	10.00	231	0.29
Building Construction	Forklifts	3	10.00	89	0.20
Building Construction	Generator Sets	1	10.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	10.00	97	0.37
Building Construction	Welders	1	10.00	46	0.45
Paving	Pavers	2	10.00	130	0.42
Paving	Paving Equipment	2	10.00	132	0.36
Paving	Rollers	2	10.00	80	0.38
Architectural Coating	Air Compressors	1	10.00	78	0.48
Utility Relocation	Scrapers	1	10.00	367	0.48
Utility Relocation	Excavators	1	10.00	158	0.38
Utility Relocation	Dumpers/Tenders	10	10.00	16	0.38

Trips and VMT

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	174.00	68.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	35.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.1094	0.0799	1.7000e-004		4.3500e-003	4.3500e-003		4.0900e-003	4.0900e-003	0.0000	14.6142	14.6142	3.9800e-003	0.0000	14.7137
<b>Total</b>	<b>0.0118</b>	<b>0.1094</b>	<b>0.0799</b>	<b>1.7000e-004</b>	<b>0.0000</b>	<b>4.3500e-003</b>	<b>4.3500e-003</b>	<b>0.0000</b>	<b>4.0900e-003</b>	<b>4.0900e-003</b>	<b>0.0000</b>	<b>14.6142</b>	<b>14.6142</b>	<b>3.9800e-003</b>	<b>0.0000</b>	<b>14.7137</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**3.2 Site Preparation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.7000e-004	4.3100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3758	1.3758	3.0000e-005	0.0000	1.3765
<b>Total</b>	<b>5.5000e-004</b>	<b>3.7000e-004</b>	<b>4.3100e-003</b>	<b>2.0000e-005</b>	<b>1.6500e-003</b>	<b>1.0000e-005</b>	<b>1.6600e-003</b>	<b>4.4000e-004</b>	<b>1.0000e-005</b>	<b>4.5000e-004</b>	<b>0.0000</b>	<b>1.3758</b>	<b>1.3758</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>1.3765</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5900e-003	0.1012	0.0750	1.7000e-004		2.5600e-003	2.5600e-003		2.5600e-003	2.5600e-003	0.0000	14.6142	14.6142	3.9800e-003	0.0000	14.7137
<b>Total</b>	<b>3.5900e-003</b>	<b>0.1012</b>	<b>0.0750</b>	<b>1.7000e-004</b>	<b>0.0000</b>	<b>2.5600e-003</b>	<b>2.5600e-003</b>	<b>0.0000</b>	<b>2.5600e-003</b>	<b>2.5600e-003</b>	<b>0.0000</b>	<b>14.6142</b>	<b>14.6142</b>	<b>3.9800e-003</b>	<b>0.0000</b>	<b>14.7137</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**3.2 Site Preparation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.7000e-004	4.3100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3758	1.3758	3.0000e-005	0.0000	1.3765
<b>Total</b>	<b>5.5000e-004</b>	<b>3.7000e-004</b>	<b>4.3100e-003</b>	<b>2.0000e-005</b>	<b>1.6500e-003</b>	<b>1.0000e-005</b>	<b>1.6600e-003</b>	<b>4.4000e-004</b>	<b>1.0000e-005</b>	<b>4.5000e-004</b>	<b>0.0000</b>	<b>1.3758</b>	<b>1.3758</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>1.3765</b>

**3.3 Grading - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0400e-003	0.0000	5.0400e-003	5.4000e-004	0.0000	5.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0355	0.3282	0.2397	5.2000e-004		0.0130	0.0130		0.0123	0.0123	0.0000	43.8427	43.8427	0.0119	0.0000	44.1411
<b>Total</b>	<b>0.0355</b>	<b>0.3282</b>	<b>0.2397</b>	<b>5.2000e-004</b>	<b>5.0400e-003</b>	<b>0.0130</b>	<b>0.0181</b>	<b>5.4000e-004</b>	<b>0.0123</b>	<b>0.0128</b>	<b>0.0000</b>	<b>43.8427</b>	<b>43.8427</b>	<b>0.0119</b>	<b>0.0000</b>	<b>44.1411</b>



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**3.3 Grading - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6500e-003	1.1100e-003	0.0129	5.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1274	4.1274	9.0000e-005	0.0000	4.1296
<b>Total</b>	<b>1.6500e-003</b>	<b>1.1100e-003</b>	<b>0.0129</b>	<b>5.0000e-005</b>	<b>4.9400e-003</b>	<b>3.0000e-005</b>	<b>4.9700e-003</b>	<b>1.3100e-003</b>	<b>3.0000e-005</b>	<b>1.3400e-003</b>	<b>0.0000</b>	<b>4.1274</b>	<b>4.1274</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>4.1296</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9600e-003	0.0000	1.9600e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.3036	0.2249	5.2000e-004		7.6700e-003	7.6700e-003		7.6700e-003	7.6700e-003	0.0000	43.8426	43.8426	0.0119	0.0000	44.1411
<b>Total</b>	<b>0.0108</b>	<b>0.3036</b>	<b>0.2249</b>	<b>5.2000e-004</b>	<b>1.9600e-003</b>	<b>7.6700e-003</b>	<b>9.6300e-003</b>	<b>2.1000e-004</b>	<b>7.6700e-003</b>	<b>7.8800e-003</b>	<b>0.0000</b>	<b>43.8426</b>	<b>43.8426</b>	<b>0.0119</b>	<b>0.0000</b>	<b>44.1411</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**3.3 Grading - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6500e-003	1.1100e-003	0.0129	5.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1274	4.1274	9.0000e-005	0.0000	4.1296
<b>Total</b>	<b>1.6500e-003</b>	<b>1.1100e-003</b>	<b>0.0129</b>	<b>5.0000e-005</b>	<b>4.9400e-003</b>	<b>3.0000e-005</b>	<b>4.9700e-003</b>	<b>1.3100e-003</b>	<b>3.0000e-005</b>	<b>1.3400e-003</b>	<b>0.0000</b>	<b>4.1274</b>	<b>4.1274</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>4.1296</b>

**3.4 Utility Relocation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0237	0.2188	0.1598	3.5000e-004		8.7000e-003	8.7000e-003		8.1700e-003	8.1700e-003	0.0000	29.2284	29.2284	7.9600e-003	0.0000	29.4274
<b>Total</b>	<b>0.0237</b>	<b>0.2188</b>	<b>0.1598</b>	<b>3.5000e-004</b>		<b>8.7000e-003</b>	<b>8.7000e-003</b>		<b>8.1700e-003</b>	<b>8.1700e-003</b>	<b>0.0000</b>	<b>29.2284</b>	<b>29.2284</b>	<b>7.9600e-003</b>	<b>0.0000</b>	<b>29.4274</b>

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**3.4 Utility Relocation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-003	7.4000e-004	8.6200e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7516	2.7516	6.0000e-005	0.0000	2.7530
<b>Total</b>	<b>1.1000e-003</b>	<b>7.4000e-004</b>	<b>8.6200e-003</b>	<b>3.0000e-005</b>	<b>3.2900e-003</b>	<b>2.0000e-005</b>	<b>3.3200e-003</b>	<b>8.7000e-004</b>	<b>2.0000e-005</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>2.7516</b>	<b>2.7516</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>2.7530</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.1800e-003	0.2024	0.1500	3.5000e-004		5.1100e-003	5.1100e-003		5.1100e-003	5.1100e-003	0.0000	29.2284	29.2284	7.9600e-003	0.0000	29.4274
<b>Total</b>	<b>7.1800e-003</b>	<b>0.2024</b>	<b>0.1500</b>	<b>3.5000e-004</b>		<b>5.1100e-003</b>	<b>5.1100e-003</b>		<b>5.1100e-003</b>	<b>5.1100e-003</b>	<b>0.0000</b>	<b>29.2284</b>	<b>29.2284</b>	<b>7.9600e-003</b>	<b>0.0000</b>	<b>29.4274</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**3.4 Utility Relocation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-003	7.4000e-004	8.6200e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7516	2.7516	6.0000e-005	0.0000	2.7530
<b>Total</b>	<b>1.1000e-003</b>	<b>7.4000e-004</b>	<b>8.6200e-003</b>	<b>3.0000e-005</b>	<b>3.2900e-003</b>	<b>2.0000e-005</b>	<b>3.3200e-003</b>	<b>8.7000e-004</b>	<b>2.0000e-005</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>2.7516</b>	<b>2.7516</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>2.7530</b>

**3.5 Building Construction - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0379	0.3516	0.3313	5.4000e-004		0.0192	0.0192		0.0181	0.0181	0.0000	46.5393	46.5393	0.0115	0.0000	46.8264
<b>Total</b>	<b>0.0379</b>	<b>0.3516</b>	<b>0.3313</b>	<b>5.4000e-004</b>		<b>0.0192</b>	<b>0.0192</b>		<b>0.0181</b>	<b>0.0181</b>	<b>0.0000</b>	<b>46.5393</b>	<b>46.5393</b>	<b>0.0115</b>	<b>0.0000</b>	<b>46.8264</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7800e-003	0.0972	0.0272	2.5000e-004	6.4200e-003	2.0000e-004	6.6200e-003	1.8500e-003	1.9000e-004	2.0400e-003	0.0000	24.6155	24.6155	1.9900e-003	0.0000	24.6653
Worker	9.5600e-003	6.4300e-003	0.0750	2.6000e-004	0.0287	1.9000e-004	0.0288	7.6100e-003	1.7000e-004	7.7800e-003	0.0000	23.9387	23.9387	5.1000e-004	0.0000	23.9515
<b>Total</b>	<b>0.0123</b>	<b>0.1036</b>	<b>0.1022</b>	<b>5.1000e-004</b>	<b>0.0351</b>	<b>3.9000e-004</b>	<b>0.0355</b>	<b>9.4600e-003</b>	<b>3.6000e-004</b>	<b>9.8200e-003</b>	<b>0.0000</b>	<b>48.5542</b>	<b>48.5542</b>	<b>2.5000e-003</b>	<b>0.0000</b>	<b>48.6168</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0216	0.4743	0.3588	5.4000e-004		0.0180	0.0180		0.0180	0.0180	0.0000	46.5393	46.5393	0.0115	0.0000	46.8264
<b>Total</b>	<b>0.0216</b>	<b>0.4743</b>	<b>0.3588</b>	<b>5.4000e-004</b>		<b>0.0180</b>	<b>0.0180</b>		<b>0.0180</b>	<b>0.0180</b>	<b>0.0000</b>	<b>46.5393</b>	<b>46.5393</b>	<b>0.0115</b>	<b>0.0000</b>	<b>46.8264</b>

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**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7800e-003	0.0972	0.0272	2.5000e-004	6.4200e-003	2.0000e-004	6.6200e-003	1.8500e-003	1.9000e-004	2.0400e-003	0.0000	24.6155	24.6155	1.9900e-003	0.0000	24.6653
Worker	9.5600e-003	6.4300e-003	0.0750	2.6000e-004	0.0287	1.9000e-004	0.0288	7.6100e-003	1.7000e-004	7.7800e-003	0.0000	23.9387	23.9387	5.1000e-004	0.0000	23.9515
<b>Total</b>	<b>0.0123</b>	<b>0.1036</b>	<b>0.1022</b>	<b>5.1000e-004</b>	<b>0.0351</b>	<b>3.9000e-004</b>	<b>0.0355</b>	<b>9.4600e-003</b>	<b>3.6000e-004</b>	<b>9.8200e-003</b>	<b>0.0000</b>	<b>48.5542</b>	<b>48.5542</b>	<b>2.5000e-003</b>	<b>0.0000</b>	<b>48.6168</b>

**3.6 Paving - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0235	0.2422	0.2748	4.3000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	37.5440	37.5440	0.0121	0.0000	37.8476
Paving	0.0124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0360</b>	<b>0.2422</b>	<b>0.2748</b>	<b>4.3000e-004</b>		<b>0.0127</b>	<b>0.0127</b>		<b>0.0117</b>	<b>0.0117</b>	<b>0.0000</b>	<b>37.5440</b>	<b>37.5440</b>	<b>0.0121</b>	<b>0.0000</b>	<b>37.8476</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.5000e-004	6.4600e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	2.0637	2.0637	4.0000e-005	0.0000	2.0648
<b>Total</b>	<b>8.2000e-004</b>	<b>5.5000e-004</b>	<b>6.4600e-003</b>	<b>2.0000e-005</b>	<b>2.4700e-003</b>	<b>2.0000e-005</b>	<b>2.4900e-003</b>	<b>6.6000e-004</b>	<b>1.0000e-005</b>	<b>6.7000e-004</b>	<b>0.0000</b>	<b>2.0637</b>	<b>2.0637</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>2.0648</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0175	0.3772	0.3243	4.3000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	37.5440	37.5440	0.0121	0.0000	37.8475
Paving	0.0124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0299</b>	<b>0.3772</b>	<b>0.3243</b>	<b>4.3000e-004</b>		<b>0.0125</b>	<b>0.0125</b>		<b>0.0125</b>	<b>0.0125</b>	<b>0.0000</b>	<b>37.5440</b>	<b>37.5440</b>	<b>0.0121</b>	<b>0.0000</b>	<b>37.8475</b>

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**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.2000e-004	5.5000e-004	6.4600e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	1.0000e-005	6.7000e-004	0.0000	2.0637	2.0637	4.0000e-005	0.0000	2.0648
<b>Total</b>	<b>8.2000e-004</b>	<b>5.5000e-004</b>	<b>6.4600e-003</b>	<b>2.0000e-005</b>	<b>2.4700e-003</b>	<b>2.0000e-005</b>	<b>2.4900e-003</b>	<b>6.6000e-004</b>	<b>1.0000e-005</b>	<b>6.7000e-004</b>	<b>0.0000</b>	<b>2.0637</b>	<b>2.0637</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>2.0648</b>

**3.7 Architectural Coating - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6500e-003	0.0255	0.0303	5.0000e-005		1.5700e-003	1.5700e-003		1.5700e-003	1.5700e-003	0.0000	4.2554	4.2554	2.9000e-004	0.0000	4.2627
<b>Total</b>	<b>0.0675</b>	<b>0.0255</b>	<b>0.0303</b>	<b>5.0000e-005</b>		<b>1.5700e-003</b>	<b>1.5700e-003</b>		<b>1.5700e-003</b>	<b>1.5700e-003</b>	<b>0.0000</b>	<b>4.2554</b>	<b>4.2554</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>4.2627</b>



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**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	8.6000e-004	0.0101	4.0000e-005	3.8400e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0400e-003	0.0000	3.2102	3.2102	7.0000e-005	0.0000	3.2119
<b>Total</b>	<b>1.2800e-003</b>	<b>8.6000e-004</b>	<b>0.0101</b>	<b>4.0000e-005</b>	<b>3.8400e-003</b>	<b>3.0000e-005</b>	<b>3.8700e-003</b>	<b>1.0200e-003</b>	<b>2.0000e-005</b>	<b>1.0400e-003</b>	<b>0.0000</b>	<b>3.2102</b>	<b>3.2102</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>3.2119</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-003	0.0392	0.0305	5.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	4.2554	4.2554	2.9000e-004	0.0000	4.2627
<b>Total</b>	<b>0.0657</b>	<b>0.0392</b>	<b>0.0305</b>	<b>5.0000e-005</b>		<b>1.5800e-003</b>	<b>1.5800e-003</b>		<b>1.5800e-003</b>	<b>1.5800e-003</b>	<b>0.0000</b>	<b>4.2554</b>	<b>4.2554</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>4.2627</b>

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**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	8.6000e-004	0.0101	4.0000e-005	3.8400e-003	3.0000e-005	3.8700e-003	1.0200e-003	2.0000e-005	1.0400e-003	0.0000	3.2102	3.2102	7.0000e-005	0.0000	3.2119
<b>Total</b>	<b>1.2800e-003</b>	<b>8.6000e-004</b>	<b>0.0101</b>	<b>4.0000e-005</b>	<b>3.8400e-003</b>	<b>3.0000e-005</b>	<b>3.8700e-003</b>	<b>1.0200e-003</b>	<b>2.0000e-005</b>	<b>1.0400e-003</b>	<b>0.0000</b>	<b>3.2102</b>	<b>3.2102</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>3.2119</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Other Asphalt Surfaces	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5.4703	5.4703	2.2000e-004	5.0000e-005	5.4893
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6.1053	6.1053	2.5000e-004	5.0000e-005	6.1266
NaturalGas Mitigated	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1418	1.1418	2.0000e-005	2.0000e-005	1.1486
NaturalGas Unmitigated	1.5000e-004	1.3800e-003	1.1600e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4976	1.4976	3.0000e-005	3.0000e-005	1.5065

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	28064.1	1.5000e-004	1.3800e-003	1.1600e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4976	1.4976	3.0000e-005	3.0000e-005	1.5065
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>1.5000e-004</b>	<b>1.3800e-003</b>	<b>1.1600e-003</b>	<b>1.0000e-005</b>		<b>1.0000e-004</b>	<b>1.0000e-004</b>		<b>1.0000e-004</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>1.4976</b>	<b>1.4976</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.5065</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	21396.3	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1418	1.1418	2.0000e-005	2.0000e-005	1.1486
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>1.2000e-004</b>	<b>1.0500e-003</b>	<b>8.8000e-004</b>	<b>1.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.1418</b>	<b>1.1418</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>1.1486</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	18681.6	6.1053	2.5000e-004	5.0000e-005	6.1266
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>6.1053</b>	<b>2.5000e-004</b>	<b>5.0000e-005</b>	<b>6.1266</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	16738.4	5.4703	2.2000e-004	5.0000e-005	5.4893
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>5.4703</b>	<b>2.2000e-004</b>	<b>5.0000e-005</b>	<b>5.4893</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0381	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
Unmitigated	0.0381	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0317					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
<b>Total</b>	<b>0.0381</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.9000e-004</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0317					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.7000e-004	2.7000e-004	0.0000	0.0000	2.9000e-004
<b>Total</b>	<b>0.0381</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.9000e-004</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.6794	8.1100e-003	2.0000e-004	1.9429
Unmitigated	1.6794	8.1100e-003	2.0000e-004	1.9429

## 7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.24705 / 0.151418	1.6794	8.1100e-003	2.0000e-004	1.9429
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>1.6794</b>	<b>8.1100e-003</b>	<b>2.0000e-004</b>	<b>1.9429</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.24705 / 0.151418	1.6794	8.1100e-003	2.0000e-004	1.9429
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>1.6794</b>	<b>8.1100e-003</b>	<b>2.0000e-004</b>	<b>1.9429</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2619	0.0155	0.0000	0.6487
Unmitigated	0.2619	0.0155	0.0000	0.6487

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	1.29	0.2619	0.0155	0.0000	0.6487
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.2619</b>	<b>0.0155</b>	<b>0.0000</b>	<b>0.6487</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	1.29	0.2619	0.0155	0.0000	0.6487
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.2619</b>	<b>0.0155</b>	<b>0.0000</b>	<b>0.6487</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Annual

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**Prima Deshecha Landfill Fee Booth Reconstruction Project**  
**Orange County, Summer**

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.39	1000sqft	0.03	1,390.00	0
Other Asphalt Surfaces	9.47	Acre	9.47	412,513.20	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	30
<b>Climate Zone</b>	13			<b>Operational Year</b>	2021
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	720.49	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

## Project Characteristics -

Land Use - The total project site is 9.5 acres and includes the fee booth, office, employee parking, and entranceway access roads to the landfill.

Construction Phase - 6-12 month construction duration.

Off-road Equipment - Default architectural coating equipment.

Off-road Equipment - Default building construction equipment.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Off-road Equipment - Default paving equipment.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Vehicle Trips - The proposed project would not generate new vehicle or truck trips.

Construction Off-road Equipment Mitigation - Assuming compliance with SCAQMD Rule 403 and use of Tier 2 construction equipment.

Grading - Filled soil would be harvested within the site and the cut would be put into an on-site stockpile.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Energy Mitigation - Assuming compliance with 2019 Title 24 standards.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	30.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	20.00	30.00
tblGrading	AcresOfGrading	37.50	9.50
tblGrading	AcresOfGrading	12.50	0.00
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	11.03	0.00

## 2.0 Emissions Summary

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## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	6.8715	30.1959	29.1033	0.0711	2.3794	1.3073	3.6866	0.6408	1.2274	1.8682	0.0000	7,078.6616	7,078.6616	1.0264	0.0000	7,104.3216
Maximum	6.8715	30.1959	29.1033	0.0711	2.3794	1.3073	3.6866	0.6408	1.2274	1.8682	0.0000	7,078.6616	7,078.6616	1.0264	0.0000	7,104.3216

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	6.6965	38.3779	30.9350	0.0711	2.3794	1.2285	3.6079	0.6408	1.2269	1.8677	0.0000	7,078.6616	7,078.6616	1.0264	0.0000	7,104.3216
Maximum	6.6965	38.3779	30.9350	0.0711	2.3794	1.2285	3.6079	0.6408	1.2269	1.8677	0.0000	7,078.6616	7,078.6616	1.0264	0.0000	7,104.3216

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.55	-27.10	-6.29	0.00	0.00	6.03	2.14	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
Energy	8.3000e-004	7.5400e-003	6.3300e-003	5.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004		9.0456	9.0456	1.7000e-004	1.7000e-004	9.0994
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.2095</b>	<b>7.5500e-003</b>	<b>7.4400e-003</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>5.7000e-004</b>	<b>5.7000e-004</b>	<b>0.0000</b>	<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>9.0480</b>	<b>9.0480</b>	<b>1.8000e-004</b>	<b>1.7000e-004</b>	<b>9.1019</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
Energy	6.3000e-004	5.7500e-003	4.8300e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.8965	6.8965	1.3000e-004	1.3000e-004	6.9374
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.2093</b>	<b>5.7600e-003</b>	<b>5.9400e-003</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>4.4000e-004</b>	<b>4.4000e-004</b>	<b>0.0000</b>	<b>4.4000e-004</b>	<b>4.4000e-004</b>		<b>6.8988</b>	<b>6.8988</b>	<b>1.4000e-004</b>	<b>1.3000e-004</b>	<b>6.9400</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.10	23.71	20.16	40.00	0.00	22.81	22.81	0.00	22.81	22.81	0.00	23.75	23.75	22.22	23.53	23.75

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/7/2021	6/18/2021	5	10	
2	Grading	Grading	6/21/2021	7/30/2021	5	30	
3	Utility Relocation	Trenching	8/2/2021	8/27/2021	5	20	
4	Building Construction	Building Construction	8/30/2021	10/8/2021	5	30	
5	Paving	Paving	10/11/2021	11/19/2021	5	30	
6	Architectural Coating	Architectural Coating	11/22/2021	12/17/2021	5	20	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 9.5****Acres of Paving: 9.47****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,085; Non-Residential Outdoor: 695; Striped Parking Area: 24,751 (Architectural Coating – sqft)****OffRoad Equipment**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Dumpers/Tenders	10	10.00	16	0.38
Site Preparation	Excavators	1	10.00	158	0.38
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Scrapers	1	10.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Dumpers/Tenders	10	10.00	16	0.38
Grading	Excavators	1	10.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	1	10.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	10.00	231	0.29
Building Construction	Forklifts	3	10.00	89	0.20
Building Construction	Generator Sets	1	10.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	10.00	97	0.37
Building Construction	Welders	1	10.00	46	0.45
Paving	Pavers	2	10.00	130	0.42
Paving	Paving Equipment	2	10.00	132	0.36
Paving	Rollers	2	10.00	80	0.38
Architectural Coating	Air Compressors	1	10.00	78	0.48
Utility Relocation	Scrapers	1	10.00	367	0.48
Utility Relocation	Excavators	1	10.00	158	0.38
Utility Relocation	Dumpers/Tenders	10	10.00	16	0.38

Trips and VMT

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	174.00	68.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	35.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.3665	21.8782	15.9809	0.0348		0.8695	0.8695		0.8174	0.8174		3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>2.3665</b>	<b>21.8782</b>	<b>15.9809</b>	<b>0.0348</b>	<b>0.0000</b>	<b>0.8695</b>	<b>0.8695</b>	<b>0.0000</b>	<b>0.8174</b>	<b>0.8174</b>		<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.2 Site Preparation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1083	0.0655	0.9112	3.1700e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		315.6582	315.6582	6.7600e-003		315.8272
<b>Total</b>	<b>0.1083</b>	<b>0.0655</b>	<b>0.9112</b>	<b>3.1700e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>315.6582</b>	<b>315.6582</b>	<b>6.7600e-003</b>		<b>315.8272</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7175	20.2387	14.9951	0.0348		0.5112	0.5112		0.5112	0.5112	0.0000	3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>0.7175</b>	<b>20.2387</b>	<b>14.9951</b>	<b>0.0348</b>	<b>0.0000</b>	<b>0.5112</b>	<b>0.5112</b>	<b>0.0000</b>	<b>0.5112</b>	<b>0.5112</b>	<b>0.0000</b>	<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.2 Site Preparation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1083	0.0655	0.9112	3.1700e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		315.6582	315.6582	6.7600e-003		315.8272
<b>Total</b>	<b>0.1083</b>	<b>0.0655</b>	<b>0.9112</b>	<b>3.1700e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>315.6582</b>	<b>315.6582</b>	<b>6.7600e-003</b>		<b>315.8272</b>

**3.3 Grading - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3358	0.0000	0.3358	0.0363	0.0000	0.0363			0.0000			0.0000
Off-Road	2.3665	21.8782	15.9809	0.0348		0.8695	0.8695		0.8174	0.8174		3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>2.3665</b>	<b>21.8782</b>	<b>15.9809</b>	<b>0.0348</b>	<b>0.3358</b>	<b>0.8695</b>	<b>1.2053</b>	<b>0.0363</b>	<b>0.8174</b>	<b>0.8537</b>		<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.3 Grading - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1083	0.0655	0.9112	3.1700e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		315.6582	315.6582	6.7600e-003		315.8272
<b>Total</b>	<b>0.1083</b>	<b>0.0655</b>	<b>0.9112</b>	<b>3.1700e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>315.6582</b>	<b>315.6582</b>	<b>6.7600e-003</b>		<b>315.8272</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1310	0.0000	0.1310	0.0141	0.0000	0.0141			0.0000			0.0000
Off-Road	0.7175	20.2387	14.9951	0.0348		0.5112	0.5112		0.5112	0.5112	0.0000	3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>0.7175</b>	<b>20.2387</b>	<b>14.9951</b>	<b>0.0348</b>	<b>0.1310</b>	<b>0.5112</b>	<b>0.6422</b>	<b>0.0141</b>	<b>0.5112</b>	<b>0.5253</b>	<b>0.0000</b>	<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.3 Grading - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1083	0.0655	0.9112	3.1700e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		315.6582	315.6582	6.7600e-003		315.8272
<b>Total</b>	<b>0.1083</b>	<b>0.0655</b>	<b>0.9112</b>	<b>3.1700e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>315.6582</b>	<b>315.6582</b>	<b>6.7600e-003</b>		<b>315.8272</b>

**3.4 Utility Relocation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3665	21.8782	15.9809	0.0348		0.8695	0.8695		0.8174	0.8174		3,221.8833	3,221.8833	0.8774		3,243.8189
<b>Total</b>	<b>2.3665</b>	<b>21.8782</b>	<b>15.9809</b>	<b>0.0348</b>		<b>0.8695</b>	<b>0.8695</b>		<b>0.8174</b>	<b>0.8174</b>		<b>3,221.8833</b>	<b>3,221.8833</b>	<b>0.8774</b>		<b>3,243.8189</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.4 Utility Relocation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1083	0.0655	0.9112	3.1700e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		315.6582	315.6582	6.7600e-003		315.8272
<b>Total</b>	<b>0.1083</b>	<b>0.0655</b>	<b>0.9112</b>	<b>3.1700e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>315.6582</b>	<b>315.6582</b>	<b>6.7600e-003</b>		<b>315.8272</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7175	20.2387	14.9951	0.0348		0.5112	0.5112		0.5112	0.5112	0.0000	3,221.8833	3,221.8833	0.8774		3,243.8189
<b>Total</b>	<b>0.7175</b>	<b>20.2387</b>	<b>14.9951</b>	<b>0.0348</b>		<b>0.5112</b>	<b>0.5112</b>		<b>0.5112</b>	<b>0.5112</b>	<b>0.0000</b>	<b>3,221.8833</b>	<b>3,221.8833</b>	<b>0.8774</b>		<b>3,243.8189</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.4 Utility Relocation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1083	0.0655	0.9112	3.1700e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		315.6582	315.6582	6.7600e-003		315.8272
<b>Total</b>	<b>0.1083</b>	<b>0.0655</b>	<b>0.9112</b>	<b>3.1700e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>315.6582</b>	<b>315.6582</b>	<b>6.7600e-003</b>		<b>315.8272</b>

**3.5 Building Construction - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5285	23.4365	22.0883	0.0360		1.2814	1.2814		1.2031	1.2031		3,420.0547	3,420.0547	0.8439		3,441.1515
<b>Total</b>	<b>2.5285</b>	<b>23.4365</b>	<b>22.0883</b>	<b>0.0360</b>		<b>1.2814</b>	<b>1.2814</b>		<b>1.2031</b>	<b>1.2031</b>		<b>3,420.0547</b>	<b>3,420.0547</b>	<b>0.8439</b>		<b>3,441.1515</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1815	6.3794	1.7301	0.0168	0.4345	0.0133	0.4477	0.1250	0.0127	0.1377		1,827.789 0	1,827.789 0	0.1433		1,831.372 1
Worker	0.6280	0.3800	5.2849	0.0184	1.9449	0.0126	1.9575	0.5158	0.0116	0.5274		1,830.817 8	1,830.817 8	0.0392		1,831.798 0
<b>Total</b>	<b>0.8095</b>	<b>6.7594</b>	<b>7.0150</b>	<b>0.0351</b>	<b>2.3794</b>	<b>0.0258</b>	<b>2.4052</b>	<b>0.6408</b>	<b>0.0243</b>	<b>0.6651</b>		<b>3,658.606 8</b>	<b>3,658.606 8</b>	<b>0.1825</b>		<b>3,663.170 1</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4415	31.6185	23.9201	0.0360		1.2027	1.2027		1.2027	1.2027	0.0000	3,420.054 7	3,420.054 7	0.8439		3,441.151 5
<b>Total</b>	<b>1.4415</b>	<b>31.6185</b>	<b>23.9201</b>	<b>0.0360</b>		<b>1.2027</b>	<b>1.2027</b>		<b>1.2027</b>	<b>1.2027</b>	<b>0.0000</b>	<b>3,420.054 7</b>	<b>3,420.054 7</b>	<b>0.8439</b>		<b>3,441.151 5</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1815	6.3794	1.7301	0.0168	0.4345	0.0133	0.4477	0.1250	0.0127	0.1377		1,827.789 0	1,827.789 0	0.1433		1,831.372 1
Worker	0.6280	0.3800	5.2849	0.0184	1.9449	0.0126	1.9575	0.5158	0.0116	0.5274		1,830.817 8	1,830.817 8	0.0392		1,831.798 0
<b>Total</b>	<b>0.8095</b>	<b>6.7594</b>	<b>7.0150</b>	<b>0.0351</b>	<b>2.3794</b>	<b>0.0258</b>	<b>2.4052</b>	<b>0.6408</b>	<b>0.0243</b>	<b>0.6651</b>		<b>3,658.606 8</b>	<b>3,658.606 8</b>	<b>0.1825</b>		<b>3,663.170 1</b>

**3.6 Paving - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5694	16.1489	18.3165	0.0285		0.8472	0.8472		0.7794	0.7794		2,759.013 6	2,759.013 6	0.8923		2,781.321 6
Paving	0.8271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.3965</b>	<b>16.1489</b>	<b>18.3165</b>	<b>0.0285</b>		<b>0.8472</b>	<b>0.8472</b>		<b>0.7794</b>	<b>0.7794</b>		<b>2,759.013 6</b>	<b>2,759.013 6</b>	<b>0.8923</b>		<b>2,781.321 6</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003		157.9136
<b>Total</b>	<b>0.0541</b>	<b>0.0328</b>	<b>0.4556</b>	<b>1.5800e-003</b>	<b>0.1677</b>	<b>1.0900e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0000e-003</b>	<b>0.0455</b>		<b>157.8291</b>	<b>157.8291</b>	<b>3.3800e-003</b>		<b>157.9136</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1638	25.1433	21.6196	0.0285		0.8337	0.8337		0.8337	0.8337	0.0000	2,759.0136	2,759.0136	0.8923		2,781.3216
Paving	0.8271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.9909</b>	<b>25.1433</b>	<b>21.6196</b>	<b>0.0285</b>		<b>0.8337</b>	<b>0.8337</b>		<b>0.8337</b>	<b>0.8337</b>	<b>0.0000</b>	<b>2,759.0136</b>	<b>2,759.0136</b>	<b>0.8923</b>		<b>2,781.3216</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003		157.9136
<b>Total</b>	<b>0.0541</b>	<b>0.0328</b>	<b>0.4556</b>	<b>1.5800e-003</b>	<b>0.1677</b>	<b>1.0900e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0000e-003</b>	<b>0.0455</b>		<b>157.8291</b>	<b>157.8291</b>	<b>3.3800e-003</b>		<b>157.9136</b>

**3.7 Architectural Coating - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.3803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3648	2.5447	3.0293	4.9500e-003		0.1568	0.1568		0.1568	0.1568		469.0801	469.0801	0.0322		469.8849
<b>Total</b>	<b>6.7451</b>	<b>2.5447</b>	<b>3.0293</b>	<b>4.9500e-003</b>		<b>0.1568</b>	<b>0.1568</b>		<b>0.1568</b>	<b>0.1568</b>		<b>469.0801</b>	<b>469.0801</b>	<b>0.0322</b>		<b>469.8849</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1263	0.0764	1.0631	3.6900e-003	0.3912	2.5300e-003	0.3938	0.1038	2.3300e-003	0.1061		368.2680	368.2680	7.8900e-003		368.4651
<b>Total</b>	<b>0.1263</b>	<b>0.0764</b>	<b>1.0631</b>	<b>3.6900e-003</b>	<b>0.3912</b>	<b>2.5300e-003</b>	<b>0.3938</b>	<b>0.1038</b>	<b>2.3300e-003</b>	<b>0.1061</b>		<b>368.2680</b>	<b>368.2680</b>	<b>7.8900e-003</b>		<b>368.4651</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.3803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1898	3.9207	3.0540	4.9500e-003		0.1585	0.1585		0.1585	0.1585	0.0000	469.0801	469.0801	0.0322		469.8849
<b>Total</b>	<b>6.5702</b>	<b>3.9207</b>	<b>3.0540</b>	<b>4.9500e-003</b>		<b>0.1585</b>	<b>0.1585</b>		<b>0.1585</b>	<b>0.1585</b>	<b>0.0000</b>	<b>469.0801</b>	<b>469.0801</b>	<b>0.0322</b>		<b>469.8849</b>



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1263	0.0764	1.0631	3.6900e-003	0.3912	2.5300e-003	0.3938	0.1038	2.3300e-003	0.1061		368.2680	368.2680	7.8900e-003		368.4651
<b>Total</b>	<b>0.1263</b>	<b>0.0764</b>	<b>1.0631</b>	<b>3.6900e-003</b>	<b>0.3912</b>	<b>2.5300e-003</b>	<b>0.3938</b>	<b>0.1038</b>	<b>2.3300e-003</b>	<b>0.1061</b>		<b>368.2680</b>	<b>368.2680</b>	<b>7.8900e-003</b>		<b>368.4651</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Other Asphalt Surfaces	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.3000e-004	5.7500e-003	4.8300e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.8965	6.8965	1.3000e-004	1.3000e-004	6.9374
NaturalGas Unmitigated	8.3000e-004	7.5400e-003	6.3300e-003	5.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004		9.0456	9.0456	1.7000e-004	1.7000e-004	9.0994

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	76.8879	8.3000e-004	7.5400e-003	6.3300e-003	5.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004		9.0456	9.0456	1.7000e-004	1.7000e-004	9.0994
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.3000e-004</b>	<b>7.5400e-003</b>	<b>6.3300e-003</b>	<b>5.0000e-005</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>9.0456</b>	<b>9.0456</b>	<b>1.7000e-004</b>	<b>1.7000e-004</b>	<b>9.0994</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0586199	6.3000e-004	5.7500e-003	4.8300e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.8965	6.8965	1.3000e-004	1.3000e-004	6.9374
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>6.3000e-004</b>	<b>5.7500e-003</b>	<b>4.8300e-003</b>	<b>3.0000e-005</b>		<b>4.4000e-004</b>	<b>4.4000e-004</b>		<b>4.4000e-004</b>	<b>4.4000e-004</b>		<b>6.8965</b>	<b>6.8965</b>	<b>1.3000e-004</b>	<b>1.3000e-004</b>	<b>6.9374</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
Unmitigated	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
<b>Total</b>	<b>0.2087</b>	<b>1.0000e-005</b>	<b>1.1100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3800e-003</b>	<b>2.3800e-003</b>	<b>1.0000e-005</b>		<b>2.5300e-003</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
<b>Total</b>	<b>0.2087</b>	<b>1.0000e-005</b>	<b>1.1100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3800e-003</b>	<b>2.3800e-003</b>	<b>1.0000e-005</b>		<b>2.5300e-003</b>

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**Prima Deshecha Landfill Fee Booth Reconstruction Project**  
**Orange County, Winter**

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.39	1000sqft	0.03	1,390.00	0
Other Asphalt Surfaces	9.47	Acre	9.47	412,513.20	0

### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	13			Operational Year	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

## Project Characteristics -

Land Use - The total project site is 9.5 acres and includes the fee booth, office, employee parking, and entranceway access roads to the landfill.

Construction Phase - 6-12 month construction duration.

Off-road Equipment - Default architectural coating equipment.

Off-road Equipment - Default building construction equipment.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Off-road Equipment - Default paving equipment.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Vehicle Trips - The proposed project would not generate new vehicle or truck trips.

Construction Off-road Equipment Mitigation - Assuming compliance with SCAQMD Rule 403 and use of Tier 2 construction equipment.

Grading - Filled soil would be harvested within the site and the cut would be put into an on-site stockpile.

Off-road Equipment - Equipment utilized in construction is anticipated to include a scraper, excavator, and ten 10-yard dump trucks.

Energy Mitigation - Assuming compliance with 2019 Title 24 standards.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	30.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	230.00	30.00
tblConstructionPhase	NumDays	20.00	30.00
tblGrading	AcresOfGrading	37.50	9.50
tblGrading	AcresOfGrading	12.50	0.00
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	11.03	0.00

## 2.0 Emissions Summary

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## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	6.8882	30.2184	28.8630	0.0698	2.3794	1.3078	3.6871	0.6408	1.2278	1.8687	0.0000	6,935.687 9	6,935.687 9	1.0313	0.0000	6,961.470 6
Maximum	6.8882	30.2184	28.8630	0.0698	2.3794	1.3078	3.6871	0.6408	1.2278	1.8687	0.0000	6,935.687 9	6,935.687 9	1.0313	0.0000	6,961.470 6

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	6.7132	38.4004	30.6948	0.0698	2.3794	1.2290	3.6084	0.6408	1.2274	1.8682	0.0000	6,935.687 9	6,935.687 9	1.0313	0.0000	6,961.470 6
Maximum	6.7132	38.4004	30.6948	0.0698	2.3794	1.2290	3.6084	0.6408	1.2274	1.8682	0.0000	6,935.687 9	6,935.687 9	1.0313	0.0000	6,961.470 6

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.54	-27.08	-6.35	0.00	0.00	6.02	2.14	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
Energy	8.3000e-004	7.5400e-003	6.3300e-003	5.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004		9.0456	9.0456	1.7000e-004	1.7000e-004	9.0994
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.2095</b>	<b>7.5500e-003</b>	<b>7.4400e-003</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>5.7000e-004</b>	<b>5.7000e-004</b>	<b>0.0000</b>	<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>9.0480</b>	<b>9.0480</b>	<b>1.8000e-004</b>	<b>1.7000e-004</b>	<b>9.1019</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
Energy	6.3000e-004	5.7500e-003	4.8300e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.8965	6.8965	1.3000e-004	1.3000e-004	6.9374
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.2093</b>	<b>5.7600e-003</b>	<b>5.9400e-003</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>4.4000e-004</b>	<b>4.4000e-004</b>	<b>0.0000</b>	<b>4.4000e-004</b>	<b>4.4000e-004</b>		<b>6.8988</b>	<b>6.8988</b>	<b>1.4000e-004</b>	<b>1.3000e-004</b>	<b>6.9400</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.10	23.71	20.16	40.00	0.00	22.81	22.81	0.00	22.81	22.81	0.00	23.75	23.75	22.22	23.53	23.75

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/7/2021	6/18/2021	5	10	
2	Grading	Grading	6/21/2021	7/30/2021	5	30	
3	Utility Relocation	Trenching	8/2/2021	8/27/2021	5	20	
4	Building Construction	Building Construction	8/30/2021	10/8/2021	5	30	
5	Paving	Paving	10/11/2021	11/19/2021	5	30	
6	Architectural Coating	Architectural Coating	11/22/2021	12/17/2021	5	20	

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 9.5****Acres of Paving: 9.47****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,085; Non-Residential Outdoor: 695; Striped Parking Area: 24,751 (Architectural Coating – sqft)****OffRoad Equipment**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Dumpers/Tenders	10	10.00	16	0.38
Site Preparation	Excavators	1	10.00	158	0.38
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Scrapers	1	10.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Dumpers/Tenders	10	10.00	16	0.38
Grading	Excavators	1	10.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	1	10.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	10.00	231	0.29
Building Construction	Forklifts	3	10.00	89	0.20
Building Construction	Generator Sets	1	10.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	10.00	97	0.37
Building Construction	Welders	1	10.00	46	0.45
Paving	Pavers	2	10.00	130	0.42
Paving	Paving Equipment	2	10.00	132	0.36
Paving	Rollers	2	10.00	80	0.38
Architectural Coating	Air Compressors	1	10.00	78	0.48
Utility Relocation	Scrapers	1	10.00	367	0.48
Utility Relocation	Excavators	1	10.00	158	0.38
Utility Relocation	Dumpers/Tenders	10	10.00	16	0.38

Trips and VMT

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	174.00	68.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	35.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.3665	21.8782	15.9809	0.0348		0.8695	0.8695		0.8174	0.8174		3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>2.3665</b>	<b>21.8782</b>	<b>15.9809</b>	<b>0.0348</b>	<b>0.0000</b>	<b>0.8695</b>	<b>0.8695</b>	<b>0.0000</b>	<b>0.8174</b>	<b>0.8174</b>		<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.2 Site Preparation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1226	0.0720	0.8408	3.0000e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		298.7497	298.7497	6.4000e-003		298.9096
<b>Total</b>	<b>0.1226</b>	<b>0.0720</b>	<b>0.8408</b>	<b>3.0000e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>298.7497</b>	<b>298.7497</b>	<b>6.4000e-003</b>		<b>298.9096</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7175	20.2387	14.9951	0.0348		0.5112	0.5112		0.5112	0.5112	0.0000	3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>0.7175</b>	<b>20.2387</b>	<b>14.9951</b>	<b>0.0348</b>	<b>0.0000</b>	<b>0.5112</b>	<b>0.5112</b>	<b>0.0000</b>	<b>0.5112</b>	<b>0.5112</b>	<b>0.0000</b>	<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.2 Site Preparation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1226	0.0720	0.8408	3.0000e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		298.7497	298.7497	6.4000e-003		298.9096
<b>Total</b>	<b>0.1226</b>	<b>0.0720</b>	<b>0.8408</b>	<b>3.0000e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>298.7497</b>	<b>298.7497</b>	<b>6.4000e-003</b>		<b>298.9096</b>

**3.3 Grading - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3358	0.0000	0.3358	0.0363	0.0000	0.0363			0.0000			0.0000
Off-Road	2.3665	21.8782	15.9809	0.0348		0.8695	0.8695		0.8174	0.8174		3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>2.3665</b>	<b>21.8782</b>	<b>15.9809</b>	<b>0.0348</b>	<b>0.3358</b>	<b>0.8695</b>	<b>1.2053</b>	<b>0.0363</b>	<b>0.8174</b>	<b>0.8537</b>		<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.3 Grading - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1226	0.0720	0.8408	3.0000e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		298.7497	298.7497	6.4000e-003		298.9096
<b>Total</b>	<b>0.1226</b>	<b>0.0720</b>	<b>0.8408</b>	<b>3.0000e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>298.7497</b>	<b>298.7497</b>	<b>6.4000e-003</b>		<b>298.9096</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1310	0.0000	0.1310	0.0141	0.0000	0.0141			0.0000			0.0000
Off-Road	0.7175	20.2387	14.9951	0.0348		0.5112	0.5112		0.5112	0.5112	0.0000	3,221.883 3	3,221.883 3	0.8774		3,243.818 9
<b>Total</b>	<b>0.7175</b>	<b>20.2387</b>	<b>14.9951</b>	<b>0.0348</b>	<b>0.1310</b>	<b>0.5112</b>	<b>0.6422</b>	<b>0.0141</b>	<b>0.5112</b>	<b>0.5253</b>	<b>0.0000</b>	<b>3,221.883 3</b>	<b>3,221.883 3</b>	<b>0.8774</b>		<b>3,243.818 9</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.3 Grading - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1226	0.0720	0.8408	3.0000e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		298.7497	298.7497	6.4000e-003		298.9096
<b>Total</b>	<b>0.1226</b>	<b>0.0720</b>	<b>0.8408</b>	<b>3.0000e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>298.7497</b>	<b>298.7497</b>	<b>6.4000e-003</b>		<b>298.9096</b>

**3.4 Utility Relocation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3665	21.8782	15.9809	0.0348		0.8695	0.8695		0.8174	0.8174		3,221.8833	3,221.8833	0.8774		3,243.8189
<b>Total</b>	<b>2.3665</b>	<b>21.8782</b>	<b>15.9809</b>	<b>0.0348</b>		<b>0.8695</b>	<b>0.8695</b>		<b>0.8174</b>	<b>0.8174</b>		<b>3,221.8833</b>	<b>3,221.8833</b>	<b>0.8774</b>		<b>3,243.8189</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.4 Utility Relocation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1226	0.0720	0.8408	3.0000e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		298.7497	298.7497	6.4000e-003		298.9096
<b>Total</b>	<b>0.1226</b>	<b>0.0720</b>	<b>0.8408</b>	<b>3.0000e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>298.7497</b>	<b>298.7497</b>	<b>6.4000e-003</b>		<b>298.9096</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7175	20.2387	14.9951	0.0348		0.5112	0.5112		0.5112	0.5112	0.0000	3,221.8833	3,221.8833	0.8774		3,243.8189
<b>Total</b>	<b>0.7175</b>	<b>20.2387</b>	<b>14.9951</b>	<b>0.0348</b>		<b>0.5112</b>	<b>0.5112</b>		<b>0.5112</b>	<b>0.5112</b>	<b>0.0000</b>	<b>3,221.8833</b>	<b>3,221.8833</b>	<b>0.8774</b>		<b>3,243.8189</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.4 Utility Relocation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1226	0.0720	0.8408	3.0000e-003	0.3353	2.1700e-003	0.3375	0.0889	2.0000e-003	0.0909		298.7497	298.7497	6.4000e-003		298.9096
<b>Total</b>	<b>0.1226</b>	<b>0.0720</b>	<b>0.8408</b>	<b>3.0000e-003</b>	<b>0.3353</b>	<b>2.1700e-003</b>	<b>0.3375</b>	<b>0.0889</b>	<b>2.0000e-003</b>	<b>0.0909</b>		<b>298.7497</b>	<b>298.7497</b>	<b>6.4000e-003</b>		<b>298.9096</b>

**3.5 Building Construction - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5285	23.4365	22.0883	0.0360		1.2814	1.2814		1.2031	1.2031		3,420.0547	3,420.0547	0.8439		3,441.1515
<b>Total</b>	<b>2.5285</b>	<b>23.4365</b>	<b>22.0883</b>	<b>0.0360</b>		<b>1.2814</b>	<b>1.2814</b>		<b>1.2031</b>	<b>1.2031</b>		<b>3,420.0547</b>	<b>3,420.0547</b>	<b>0.8439</b>		<b>3,441.1515</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1905	6.3643	1.8981	0.0164	0.4345	0.0138	0.4482	0.1250	0.0132	0.1382		1,782.885 2	1,782.885 2	0.1503		1,786.643 5
Worker	0.7111	0.4176	4.8767	0.0174	1.9449	0.0126	1.9575	0.5158	0.0116	0.5274		1,732.748 0	1,732.748 0	0.0371		1,733.675 6
<b>Total</b>	<b>0.9015</b>	<b>6.7819</b>	<b>6.7747</b>	<b>0.0337</b>	<b>2.3794</b>	<b>0.0263</b>	<b>2.4057</b>	<b>0.6408</b>	<b>0.0247</b>	<b>0.6656</b>		<b>3,515.633 2</b>	<b>3,515.633 2</b>	<b>0.1874</b>		<b>3,520.319 1</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4415	31.6185	23.9201	0.0360		1.2027	1.2027		1.2027	1.2027	0.0000	3,420.054 7	3,420.054 7	0.8439		3,441.151 5
<b>Total</b>	<b>1.4415</b>	<b>31.6185</b>	<b>23.9201</b>	<b>0.0360</b>		<b>1.2027</b>	<b>1.2027</b>		<b>1.2027</b>	<b>1.2027</b>	<b>0.0000</b>	<b>3,420.054 7</b>	<b>3,420.054 7</b>	<b>0.8439</b>		<b>3,441.151 5</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1905	6.3643	1.8981	0.0164	0.4345	0.0138	0.4482	0.1250	0.0132	0.1382		1,782.885 2	1,782.885 2	0.1503		1,786.643 5
Worker	0.7111	0.4176	4.8767	0.0174	1.9449	0.0126	1.9575	0.5158	0.0116	0.5274		1,732.748 0	1,732.748 0	0.0371		1,733.675 6
<b>Total</b>	<b>0.9015</b>	<b>6.7819</b>	<b>6.7747</b>	<b>0.0337</b>	<b>2.3794</b>	<b>0.0263</b>	<b>2.4057</b>	<b>0.6408</b>	<b>0.0247</b>	<b>0.6656</b>		<b>3,515.633 2</b>	<b>3,515.633 2</b>	<b>0.1874</b>		<b>3,520.319 1</b>

**3.6 Paving - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5694	16.1489	18.3165	0.0285		0.8472	0.8472		0.7794	0.7794		2,759.013 6	2,759.013 6	0.8923		2,781.321 6
Paving	0.8271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.3965</b>	<b>16.1489</b>	<b>18.3165</b>	<b>0.0285</b>		<b>0.8472</b>	<b>0.8472</b>		<b>0.7794</b>	<b>0.7794</b>		<b>2,759.013 6</b>	<b>2,759.013 6</b>	<b>0.8923</b>		<b>2,781.321 6</b>



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003		149.4548
<b>Total</b>	<b>0.0613</b>	<b>0.0360</b>	<b>0.4204</b>	<b>1.5000e-003</b>	<b>0.1677</b>	<b>1.0900e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0000e-003</b>	<b>0.0455</b>		<b>149.3748</b>	<b>149.3748</b>	<b>3.2000e-003</b>		<b>149.4548</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1638	25.1433	21.6196	0.0285		0.8337	0.8337		0.8337	0.8337	0.0000	2,759.0136	2,759.0136	0.8923		2,781.3216
Paving	0.8271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.9909</b>	<b>25.1433</b>	<b>21.6196</b>	<b>0.0285</b>		<b>0.8337</b>	<b>0.8337</b>		<b>0.8337</b>	<b>0.8337</b>	<b>0.0000</b>	<b>2,759.0136</b>	<b>2,759.0136</b>	<b>0.8923</b>		<b>2,781.3216</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003		149.4548
<b>Total</b>	<b>0.0613</b>	<b>0.0360</b>	<b>0.4204</b>	<b>1.5000e-003</b>	<b>0.1677</b>	<b>1.0900e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0000e-003</b>	<b>0.0455</b>		<b>149.3748</b>	<b>149.3748</b>	<b>3.2000e-003</b>		<b>149.4548</b>

**3.7 Architectural Coating - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.3803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3648	2.5447	3.0293	4.9500e-003		0.1568	0.1568		0.1568	0.1568		469.0801	469.0801	0.0322		469.8849
<b>Total</b>	<b>6.7451</b>	<b>2.5447</b>	<b>3.0293</b>	<b>4.9500e-003</b>		<b>0.1568</b>	<b>0.1568</b>		<b>0.1568</b>	<b>0.1568</b>		<b>469.0801</b>	<b>469.0801</b>	<b>0.0322</b>		<b>469.8849</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1430	0.0840	0.9809	3.4900e-003	0.3912	2.5300e-003	0.3938	0.1038	2.3300e-003	0.1061		348.5413	348.5413	7.4600e-003		348.7279
<b>Total</b>	<b>0.1430</b>	<b>0.0840</b>	<b>0.9809</b>	<b>3.4900e-003</b>	<b>0.3912</b>	<b>2.5300e-003</b>	<b>0.3938</b>	<b>0.1038</b>	<b>2.3300e-003</b>	<b>0.1061</b>		<b>348.5413</b>	<b>348.5413</b>	<b>7.4600e-003</b>		<b>348.7279</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.3803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1898	3.9207	3.0540	4.9500e-003		0.1585	0.1585		0.1585	0.1585	0.0000	469.0801	469.0801	0.0322		469.8849
<b>Total</b>	<b>6.5702</b>	<b>3.9207</b>	<b>3.0540</b>	<b>4.9500e-003</b>		<b>0.1585</b>	<b>0.1585</b>		<b>0.1585</b>	<b>0.1585</b>	<b>0.0000</b>	<b>469.0801</b>	<b>469.0801</b>	<b>0.0322</b>		<b>469.8849</b>

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1430	0.0840	0.9809	3.4900e-003	0.3912	2.5300e-003	0.3938	0.1038	2.3300e-003	0.1061		348.5413	348.5413	7.4600e-003		348.7279
<b>Total</b>	<b>0.1430</b>	<b>0.0840</b>	<b>0.9809</b>	<b>3.4900e-003</b>	<b>0.3912</b>	<b>2.5300e-003</b>	<b>0.3938</b>	<b>0.1038</b>	<b>2.3300e-003</b>	<b>0.1061</b>		<b>348.5413</b>	<b>348.5413</b>	<b>7.4600e-003</b>		<b>348.7279</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

## 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Other Asphalt Surfaces	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.3000e-004	5.7500e-003	4.8300e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.8965	6.8965	1.3000e-004	1.3000e-004	6.9374
NaturalGas Unmitigated	8.3000e-004	7.5400e-003	6.3300e-003	5.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004		9.0456	9.0456	1.7000e-004	1.7000e-004	9.0994

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	76.8879	8.3000e-004	7.5400e-003	6.3300e-003	5.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004		9.0456	9.0456	1.7000e-004	1.7000e-004	9.0994
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.3000e-004</b>	<b>7.5400e-003</b>	<b>6.3300e-003</b>	<b>5.0000e-005</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>5.7000e-004</b>	<b>5.7000e-004</b>		<b>9.0456</b>	<b>9.0456</b>	<b>1.7000e-004</b>	<b>1.7000e-004</b>	<b>9.0994</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0586199	6.3000e-004	5.7500e-003	4.8300e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.8965	6.8965	1.3000e-004	1.3000e-004	6.9374
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>6.3000e-004</b>	<b>5.7500e-003</b>	<b>4.8300e-003</b>	<b>3.0000e-005</b>		<b>4.4000e-004</b>	<b>4.4000e-004</b>		<b>4.4000e-004</b>	<b>4.4000e-004</b>		<b>6.8965</b>	<b>6.8965</b>	<b>1.3000e-004</b>	<b>1.3000e-004</b>	<b>6.9374</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
Unmitigated	0.2087	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
<b>Total</b>	<b>0.2087</b>	<b>1.0000e-005</b>	<b>1.1100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3800e-003</b>	<b>2.3800e-003</b>	<b>1.0000e-005</b>		<b>2.5300e-003</b>



## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0350					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-004	1.0000e-005	1.1100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.3800e-003	2.3800e-003	1.0000e-005		2.5300e-003
<b>Total</b>	<b>0.2087</b>	<b>1.0000e-005</b>	<b>1.1100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.3800e-003</b>	<b>2.3800e-003</b>	<b>1.0000e-005</b>		<b>2.5300e-003</b>

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

## Prima Deshecha Landfill Fee Booth Reconstruction Project - Orange County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

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## **Appendix B**

# **NOISE AND VIBRATION IMPACT ANALYSIS**

**PRIMA DESHECHA LANDFILL  
FEE BOOTH RECONSTRUCTION PROJECT  
ORANGE COUNTY, CALIFORNIA**

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# **NOISE AND VIBRATION IMPACT ANALYSIS**

## **PRIMA DESHECHA LANDFILL FEE BOOTH RECONSTRUCTION PROJECT ORANGE COUNTY, CALIFORNIA**

Submitted to:

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Project No. OCY1701.25

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## LIST OF ABBREVIATIONS AND ACRONYMS

ac	acre/acres
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of San Juan Capistrano
CNEL	Community Noise Equivalent Level
County	County of Orange
cy	cubic yards
dB	decibel
dBA	A-weighted decibel
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
ft	foot/feet
FTA	Federal Transit Administration
<i>FTA Manual</i>	Federal Transit Administration <i>Transit Noise and Vibration Impact Assessment Manual</i>
GDP	General Development Plan
I-5	Interstate 5
in/sec	inches per second
IWMD	Integrated Waste Management Department (now Orange County Waste & Recycling)
$L_{dn}$	day-night average noise level
$L_{eq}$	equivalent continuous sound level
$L_{max}$	maximum instantaneous noise level
$L_v$	velocity in decibels
mi	mile/miles
OCWR	Orange County Waste & Recycling
PF&RD	Public Facilities and Resources Department
project	Prima Deshecha Landfill Fee Booth Reconstruction Project
PPV	peak particle velocity
RMS	root-mean-square (velocity)
SR-74	State Route 74
V	root-mean-square velocity amplitude
VdB	vibration velocity decibels
$V_{ref}$	velocity reference amplitude

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## INTRODUCTION

This noise and vibration impact analysis has been prepared to evaluate the potential noise and vibration impacts and recommend mitigation measures, as appropriate, for the proposed Prima Deshecha Landfill Fee Booth Reconstruction Project (project) in Orange County, California. While the proposed project is located within unincorporated Orange County, the off-site sensitive receptors are located within San Juan Capistrano. This report is intended to satisfy the County of Orange (County) requirement for a project-specific noise and vibration impact analysis by examining the impacts of the proposed project and identifying any necessary noise reduction measures to reduce project noise impacts.

### PROJECT DESCRIPTION

Due to recent traffic congestion experienced at the entrance to the landfill, Orange County Waste & Recycling (OCWR) proposes to reconstruct the fee booth and entranceway access roads to the landfill in order to facilitate improved traffic flow and management at the site. The location of the proposed project is shown on Figure 1.

The proposed project would include a modification of the internal access road system, with an addition of three new inbound lanes and an increase from one outbound lane to two as shown in Figure 2. The new access lanes would be constructed slightly south of the existing access road. A new fee booth, covered scales, and a staff office building would be constructed. Site improvements would include three inbound scales, one dedicated outbound scale for weigh-backs, a bypass lane, and a staff parking lot. The existing access road and two of the three existing scales would remain in place for potential future use. The existing flare station and reclaimed water tanks would be relocated to accommodate the proposed project. The footprint of the proposed project, including flare relocation, would take place predominately within previously disturbed areas that are currently utilized for access roads, the flare station, the existing fee booths and scale house, and landscaping.

Any existing landscaping removed during project construction would be replaced. Due to slope instability to the north, a small section of previously undisturbed area at the south end of the project area would be impacted to ensure geotechnical integrity of the proposed project and prevent landslides. This area consists of ruderal, nonnative vegetation.

Construction of the proposed project would begin June 2021 and would take place over an approximately 6- to 12-month period during landfill operational hours (7:00 a.m. to 5:00 p.m.). Construction would include grading, asphalt placement, building construction, and utility relocation. The proposed project would require net fill of approximately 78,000 cubic yards (cy) of soil. Equipment utilized during construction is anticipated to include a scraper, an excavator, and approximately ten 10-yard dump trucks for moving soil on site.

Due to the need for the landfill to remain open, the proposed project would be phased such that there would be no lane or scale closures resulting in interruption to landfill traffic. Existing scales and lanes would remain open until the new lanes and scales are fully constructed, at which time

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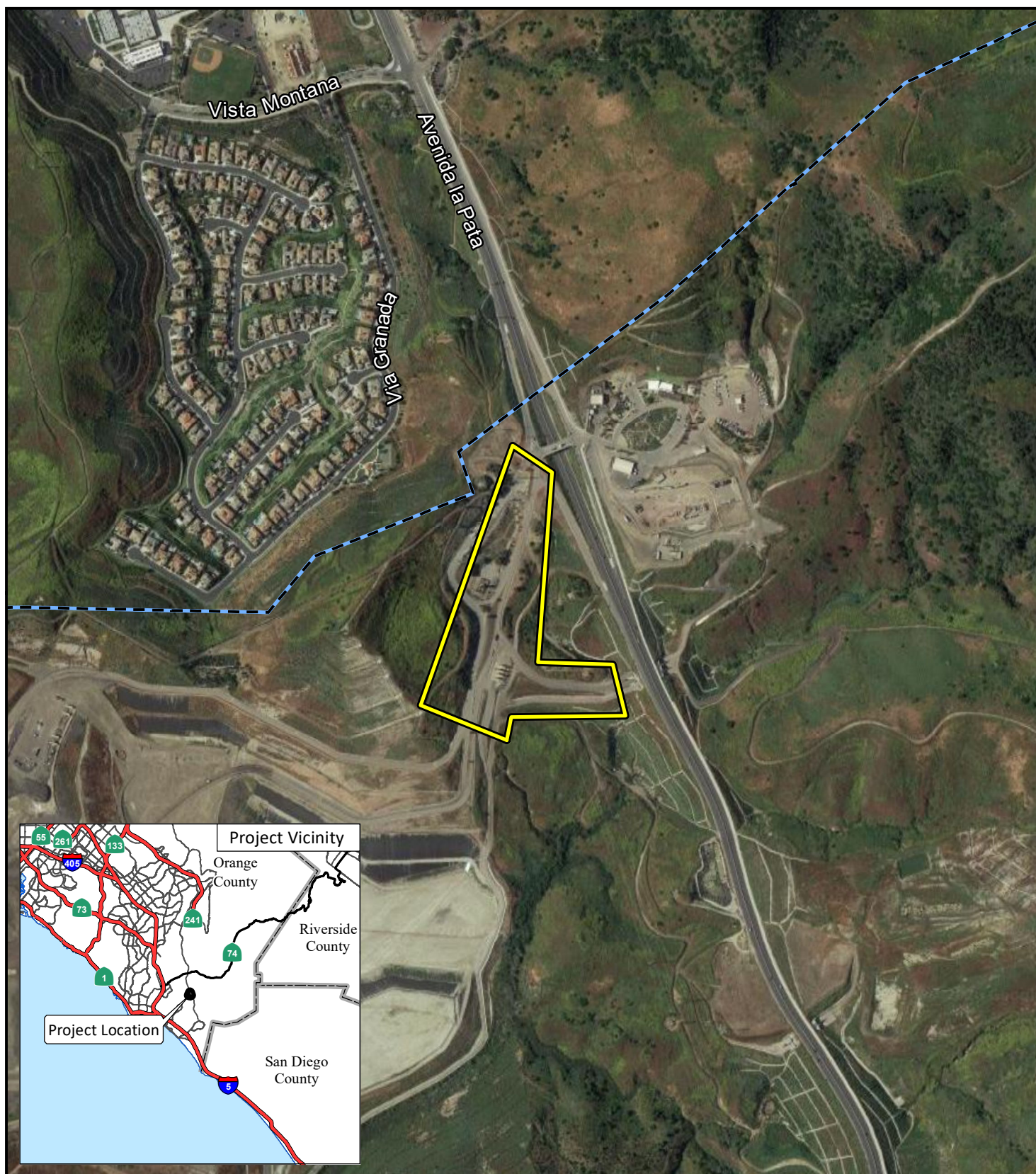


FIGURE 1

LSA

LEGEND

- Project Location
- Prima Deshecha Landfill Boundary



0 375 750  
FEET

SOURCE: Google (2019)

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*Fee Booth Reconstruction Project*  
Project Location

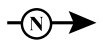
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FIGURE 2

LSA



0 60 120  
FEET

SOURCE: Tetra Tech BAS

I:\OCY1701.25\G\Site\_Plan.ai (12/22/2020)

*Fee Booth Reconstruction Project*  
Site Plan



traffic would be diverted to the new lanes while work on the old scales begins. Once operational, the proposed project is not expected to generate new vehicle or truck trips.

### Existing Sensitive Land Uses in the Project Area

The project site is surrounded primarily by the existing landfill, vacant land, and residential uses. The areas adjacent to the project site within 0.5 mile (mi) or 2,640 feet (ft) include the following uses as shown in Figure 2:

- **North and East:** Prima Deshecha Landfill operations facilities and Avenida La Pata
- **South:** Prima Deshecha Landfill Zone 1
- **West:** Single-family homes within the Rancho San Juan Community (formerly Whispering Hills) approximately 700 ft away
- **Northwest:** Existing San Juan Hills High School and Church of Jesus Christ of Latter Day Saints approximately 2,400 ft away

### SUMMARY OF PREVIOUS ENVIRONMENTAL DOCUMENTS

A summary of the noise analysis in Final Environmental Impact Report (EIR) No. 575, Final Supplemental EIR No. 597, and the applicable addenda to those documents related to construction noise and vibration are provided below.

#### Final EIR No. 575

The proposed project lies within the limits of the 2001 General Development Plan (GDP) Project. Potential noise impact associated with the GDP Project were identified and analyzed in Section 4.10, Noise, of Final EIR No. 575. The Addenda to Final EIR No. 575 did not change any of the conclusions of Final EIR No. 575.

The noise analysis within Final EIR No. 575 assessed noise impacts related to daily operations at the landfill and the future incorporation of a golf course on Zone 1 as well as traffic impacts associated with the completion of Avenida La Pata southward through the site to Avenida Pico.

The analysis of operations within Zone 1 determined that the noise impacts associated with the 2001 GDP would not be significant and that noise levels would likely decrease over time as operations moved farther away from sensitive receptors. Potential noise impacts associated with Zone 4 were screened out due to there being no line of sight to surrounding receptors. Also, a qualitative discussion of construction noise impacts indicated that construction noise impacts would be no louder than existing landfill operations due to the use of similar heavy equipment. While no specific impacts were found related to noise in Final EIR No. 575, the following mitigation measures were presented to reduce any potential noise increase that may occur:

- MM 4.10-1** Although the construction associated with landfilling under the GDP is not anticipated to result in significant noise impacts on residential uses adjacent to the site, the IWMD [Integrated Waste Management Department, which is now OCWR] shall reduce landfill operations noise impacts to the extent feasible based on

available funds through the use of landscaping, berms at the face of each landfill lift, phased construction of the landfill areas and the use of buffer areas between noise sources and sensitive recreation receptors.

- MM 4.10-3** During construction operations, the Director PF&RO shall mitigate noise levels associated with the construction of on-site roadways adjacent to sensitive receptors through the use of limited construction hours, landscape buffers and sound barriers as determined appropriate.

All the mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed project. Additional mitigation measures, if any, will be recommended within this analysis.

### **Final Supplemental EIR No. 597**

Final Supplemental EIR No. 597 determined that while there would be an incremental change to noise from construction activities at the landfill as a result of proposed landslide stabilization measures, noise levels were not expected to be greater than the noise levels associated with landslide stabilization construction previously analyzed in Final EIR No. 575. Furthermore, noise from construction activities associated with landslide stabilization was not expected to contribute significantly to ambient noise levels because of ongoing disposal operations at the landfill. Furthermore, much of this landslide remediation activity is to take place in and around Zone 4, which is farther from sensitive receptor sites than current operations within Zone 1. It was determined that the Pre-Mitigation and Regional Environmental Enhancement Plans supported the open space quality of the area and would reduce noise emissions from postclosure activities. Due to these determinations, no further analysis was warranted, and no additional mitigation was required.

### **Addendum No. 1 to Final Supplemental EIR No. 597**

During the course of geotechnical investigations and report preparation for Zone 4 occurring in 2008 and 2009, the extent of hard rock (San Onofre Breccia Formation) within the Zone 4 development was evaluated. It was determined that the hard rock would require controlled blasting to allow excavation pursuant to the approved development plan. The blasted rock, once excavated, will be crushed to create an aggregate byproduct material that may be used in road base or for other on-site construction materials. The purpose of Addendum No. 1 to Final Supplemental EIR No. 597 was to evaluate these blasting and crushing/processing operations, also known as the Breccia project, at the landfill site and the potential impacts of these operations.

In preparing the environmental checklist for Addendum No. 1 to Final Supplemental EIR No. 597, it was determined that the Breccia project would potentially result in noise and vibration effects from blasting and rock crushing/processing that were not analyzed in Final Supplemental EIR No. 597. Therefore, a noise and vibration assessment was prepared for the Breccia project. The noise and vibration assessment prepared for Addendum No. 1 to Final Supplemental EIR No. 597 showed that the Breccia project would not result in any new significant impacts that would require mitigation or any new unavoidably significant adverse impacts.

## BACKGROUND

This section provides an overview of the characteristics of sound and vibration that apply to the proposed project.

### CHARACTERISTICS OF SOUND

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements, which better represent how humans are more sensitive to sound at night.

As noise spreads from a source, it loses energy; therefore, the farther away the noise receiver is from the noise source, the lower the perceived noise level. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise-sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level ( $L_{eq}$ ) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are  $L_{eq}$ , the Community Noise Equivalent Level (CNEL), and the day-night average noise level ( $L_{dn}$ ) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly  $L_{eq}$  for noises occurring between 7:00 p.m. and 10:00 p.m. (defined as relaxation hours), and a 10 dBA weighting factor applied to noises occurring between 10:00 p.m. and 7:00 a.m. (defined as sleeping hours).  $L_{dn}$  is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and  $L_{dn}$  are within 1 dBA of each other and are normally interchangeable. Typically, local jurisdictions will use the CNEL noise scale for long-term noise impact assessment. When assessing the annoyance factor, other noise rating scales of importance include the maximum instantaneous noise level ( $L_{max}$ ), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by  $L_{max}$ , which reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Noise impacts can be described in three categories. The first category, audible impacts, refers to increases in noise levels noticeable to humans. Audible increases in noise levels generally involve a change of 3 dB or greater because this level has been found to be barely perceptible in exterior

environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels (3 dB or greater) are considered potentially significant. Table A lists definitions of acoustical terms, and Table B shows common sound levels and their sources.

**Table A: Definitions of Acoustical Terms**

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., the number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low- and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. (All sound levels in this report are A-weighted unless reported otherwise.)
$L_{01}$ , $L_{10}$ , $L_{50}$ , $L_{90}$	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period, respectively.
Equivalent Continuous Noise Level, $L_{eq}$	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dBA to sound levels occurring in the evening from 7:00 PM to 10:00 PM and after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM.
Day-Night Noise Level, $L_{dn}$	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00 AM.
$L_{max}$ , $L_{min}$	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time. It is usually a composite of sound from many sources from many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

Source: *Handbook of Acoustical Measurements and Noise Control* (Harris 1991).

dBA = A-weighted decibel

**Table B: Common Sound Levels and Their Noise Sources**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 ft	— 100 —	
Gas lawn mower at 3 ft	— 90 —	
Diesel truck at 50 ft at 50 mph	— 80 —	Food blender at 3 ft Garbage disposal at 3 ft
Noisy urban area, daytime	— 70 —	Vacuum cleaner at 10 ft Normal speech at 3 ft
Gas lawn mower, 100 ft	— 60 —	
Commercial area	— 50 —	Large business office Dishwasher in next room
Heavy traffic at 300 ft	— 40 —	Theater, large conference room (background)
Quiet urban daytime	— 30 —	Library
Quiet urban nighttime	— 20 —	Bedroom at night, concert hall (background)
Quiet suburban nighttime	— 10 —	Broadcast/recording studio
Quiet rural nighttime	— 0 —	Lowest threshold of human hearing
Lowest threshold of human hearing	— 0 —	

Source: *Technical Noise Supplement* (Caltrans 2013).

Caltrans = California Department of Transportation

dBA = A-weighted decibel

ft = foot/feet

mph = miles per hour

## CHARACTERISTICS OF VIBRATION

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Outdoors, the motion may be discernible, but without the effects associated with the shaking of a building, there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Building damage is not a factor for normal operation and heavy equipment activities, with the occasional exception of blasting and pile driving during construction.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Impacts from ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 ft of the vibration source, although there are examples of ground-borne vibration causing interference out to distances greater than 200 ft, as presented in the

Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual (FTA Manual)* (FTA 2018). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. For most projects, it is assumed that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction activities have the potential to result in ground-borne vibration that could be perceptible and annoying. Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path usually will be greater than ground-borne noise.

Ground-borne vibration has the potential to disturb people as well as damage buildings. Although it is very rare for ground-borne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to damage nearby buildings. Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS velocity is best for characterizing human response to building vibration, and PPV is used to characterize the potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as the following:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where  $L_v$  is the velocity in decibels (VdB),  $V$  is the RMS velocity amplitude, and  $V_{ref}$  is the reference velocity amplitude, or  $1 \times 10^{-6}$  inches per second (in/sec), used in the United States.

## EXISTING ENVIRONMENTAL SETTING

The proposed project is located within the Prima Deshecha Landfill, a 1,530-acre (ac) site in southeastern Orange County, partially within San Juan Capistrano, San Clemente, and unincorporated Orange County. The landfill is located at 32250 Avenida La Pata, and access is provided by Interstate 5 (I-5), State Route 74 (SR-74), and Avenida La Pata. Traffic noise on Avenida La Pata and existing operations at the landfill property are the dominant noise sources to surrounding uses, while local traffic and maintenance activities in the surrounding communities make up the remainder of the existing noise environment.

## EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise conditions, noise measurements were gathered in the vicinity of the proposed project site. The locations of those noise measurements are shown on Figure 3. One long-term, 24-hour measurement (LT-1) and one 30-minute short-term measurement (ST-1) were taken from September 16 to September 17, 2020. Table C shows the results of the noise measurements. The existing daily noise levels, which include the allowed hours of construction, ranged from 41.9 dBA  $L_{eq}$  to 55.5 dBA  $L_{eq}$ , and the maximum noise levels approached 76.0 dBA  $L_{max}$  at the surrounding sensitive receptors. Noise measurement survey sheets are presented in Appendix A.

**Table C: Existing Noise Level Measurements**

Location	Description	Range of Daytime Noise Levels (dBA $L_{eq}$ )	Range of Evening Noise Levels (dBA $L_{eq}$ )	Range of Nighttime Noise Levels (dBA $L_{eq}$ )	Existing Maximum Noise Level (dBA $L_{max}$ )
LT-1	The corner of Via Granada and Paseo Carmona in the Rancho San Juan Community	41.9–55.4	42.4–49.7	38.8–41.5	75.9
ST-1 <sup>1</sup>	30 ft south of Building J at San Juan Hills High School, 29211 Stallion Ridge	42.0–55.5	42.5–49.8	38.9–41.6	76.0

Source: Compiled by LSA Associates, Inc. (September 16–17, 2020).

<sup>1</sup> Hourly and daily noise levels are estimated based on the noise contour for LT-1, which is a location with a similar noise environment.

CNEL= Community Noise Equivalent Level

dBA = A-weighted decibels

ft = foot/feet

$L_{eq}$  = equivalent continuous sound level





FIGURE 3

LSA

LEGEND

- Project Location
- Long-Term Monitoring Location
- Short-Term Monitoring Location



0 375 750  
FEET

SOURCE: OCWR (2001, 2005, 2010, 2017, 6/2020); Google (2019)

I:\OCY1701.25\GIS\MXD\NoiseMonLocs.mxd (12/22/2020)

*Fee Booth Reconstruction Project*  
Existing Noise Monitoring Locations



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## REGULATORY SETTING

### FEDERAL REGULATIONS

#### Federal Transit Administration

The County of Orange and the Cities of San Juan Capistrano and San Clemente do not have specific limits or thresholds for vibration. Vibration standards included in the *FTA Manual* are used in this analysis for ground-borne vibration impacts on human annoyance, as shown in Table D.

**Table D: Vibration Annoyance Criteria**

Land Use	Maximum $L_v$ (VdB) <sup>1</sup>	Description of Use
Workshop	90	Distinctly feelable vibration. Appropriate for workshops and nonsensitive areas.
Office	84	Feelable vibration. Appropriate for offices and nonsensitive areas.
Residential Day	78	Feelable vibration. Appropriate for computer equipment and low-power optical microscopes (up to 20X).
Residential Night and Operating Rooms	72	Vibration not feelable, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power microscopes (100X) and other equipment of low sensitivity.

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018)

<sup>1</sup> As measured in 1/3-octave bands of frequency over the frequency range 8 to 80 Hz.

Hz = hertz

$L_v$  = velocity in decibels

VdB = vibration velocity decibels

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table E lists the potential vibration building damage criteria, as suggested in the *FTA Manual*. FTA guidelines show that a vibration level of up to 0.5 in/sec in PPV is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster) and would not result in any vibration damage. For a nonengineered timber and masonry building, the building vibration damage criterion is 0.2 in/sec in PPV.

**Table E: Vibration Damage Criteria**

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Nonengineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018)

FTA = Federal Transit Administration

in/sec = inches per second

PPV = peak particle velocity

## COUNTY REGULATIONS

While the proposed project is located within the limits of Orange County, the surrounding sensitive receptors are located within San Juan Capistrano. Noise regulations for Orange County are described below.

### County of Orange Noise Element of the General Plan

The County's Standard Conditions of Approval within the County of Orange Noise Element of the General Plan (County of Orange 2002) require that all heavy vehicles or equipment, fixed or mobile, operated within 1,000 ft of a dwelling shall be equipped with properly operating and maintained mufflers. All operations shall comply with Orange County Noise Ordinance Division 6 (Noise Control) County of Orange 2016). Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.

### County of Orange Noise Ordinance

Sections 4-6-5 and 4-6-6 of the County's Noise Ordinance (County of Orange 2020) are designed to control unnecessary, excessive, and annoying sound from sources on private property by specifying noise levels that cannot be exceeded. Table F defines the exterior and interior noise level limits for noise from one property to adjacent residential land uses.

**Table F: County of Orange—Nontransportation Noise Standards**

Land Use	Location	Time Period	L <sub>50</sub> (30 minutes) <sup>1</sup>	L <sub>25</sub> (15 minutes) <sup>2</sup>	L <sub>8</sub> (5 minutes) <sup>3</sup>	L <sub>2</sub> (1 minute) <sup>4</sup>	L <sub>max</sub> (Anytime) <sup>5</sup>
Residential	Exterior	7:00 AM to 7:00 PM	55	60	65	70	75
		10:00 PM to 7:00 AM	50	55	60	65	70
	Interior	7:00 AM to 7:00 PM	—	—	55	60	65
		10:00 PM to 7:00 AM	—	—	45	50	55

Source: General Plan—Noise Ordinance (County of Orange 2020).

Note: Each of the noise levels set forth in this table shall be reduced by 5 dBA for impacts of simple tone noises or noises consisting of speech or music.

<sup>1</sup> The noise standard for a cumulative period of more than 30 minutes in any hour

<sup>2</sup> The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour

<sup>3</sup> The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour

<sup>4</sup> The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour

<sup>5</sup> The noise standard plus 20 dBA or the maximum measured ambient noise level for any period of time

dBA = A-weighted decibels

L<sub>max</sub> = maximum instantaneous noise level

In addition, Section 4-6-7 of the County's Noise Ordinance (County of Orange 2020) addresses construction noise and states that construction activity noise is exempt from the County's noise standards if conducted between the hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday. Construction noise is prohibited on Sundays and national holidays. Should construction occur outside the exempt hours, the standards presented in Table F would be applicable.

## CITY REGULATIONS

While the proposed project is located within the limits of Orange County and the County is the Lead Agency for the purposes of the California Environmental Quality Act (CEQA), the surrounding sensitive receptors are located within San Juan Capistrano. Noise regulations for the City of San Juan Capistrano (City) are presented below.

### City of San Juan Capistrano Municipal Code.

Section 9-3.531 of the City's Municipal Code, Noise Standards (residential and nonresidential) (City of San Juan Capistrano 2019), addresses the creation or permitting the creation of any noise that exceeds the standards shown in Table G within a residential, public , or institutional district.

**Table G: City of San Juan Capistrano—Nontransportation Noise Standards**

Land Use	Location	Time Period	L <sub>50</sub> (30 minutes) <sup>1</sup>	L <sub>25</sub> (15 minutes) <sup>2</sup>	L <sub>8</sub> (5 minutes) <sup>3</sup>	L <sub>2</sub> (1 minute) <sup>4</sup>	L <sub>max</sub> (Anytime) <sup>5</sup>
Residential and Public and Institutional Districts	Exterior	7:00 AM to 7:00 PM	65	70	75	80	85
		7:00 PM to 10:00 PM	55	65	70	75	80
		10:00 PM to 7:00 AM	45	50	55	65	70
Residential	Interior	10:00 PM to 7:00 AM	—	—	45	50	55

Source: Municipal Code (City of San Juan Capistrano 2019).

Note: Each of the noise levels set forth in this table shall be reduced by 5 dBA for impacts of simple tone noises or noises consisting of speech or music.

<sup>1</sup> The noise standard for a cumulative period of more than 30 minutes in any hour

<sup>2</sup> The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour

<sup>3</sup> The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour

<sup>4</sup> The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour

<sup>5</sup> The noise standard plus 20 dBA or the maximum measured ambient noise level for any period of time

dBA = A-weighted decibels

L<sub>max</sub> = maximum instantaneous noise level

## **METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE**

### **METHODOLOGY**

The Noise Element of the County's General Plan (County of Orange 2012) and the Noise Ordinance within the County Code (County of Orange 2020) provide criteria for assessing potential noise impacts. Additionally, the Noise Ordinance within the City's Municipal Code (City of San Juan Capistrano 2019) provides criteria for assessing operational impacts to sensitive receptors. Where appropriate, if the Lead Agency does not provide criteria to analyze a potential impact (i.e., vibration damage), guidance from the federal level is often used. Therefore, for the purposes of this analysis, the FTA criteria will be utilized to evaluate potential vibration impacts. The evaluation of noise and vibration impacts associated with the proposed project includes the following:

- Determination of the noise levels from on-site stationary sources associated with the proposed project using reference noise data at off-site noise-sensitive uses, and comparison of these levels to the County's and City's pertinent noise standards
- Determination of the vibration levels at off-site noise-sensitive uses and comparison to the vibration building damage and/or human annoyance criteria recommended by the FTA
- Determination of the potential mitigation measures to reduce operational noise and vibration impacts to all off-site noise-sensitive land uses

### **THRESHOLDS OF SIGNIFICANCE**

A project would normally have a significant effect on the environment related to noise and vibration if the answer to any of the following questions is yes:

- a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b. Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?
- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 mi of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not located within the vicinity of a private airstrip. The project site is approximately 20 mi southeast of John Wayne Airport and does not fall within the John Wayne Airport Planning Area. Due to the distance of the airport from the project site, there would be no noise-related impacts due to airport activities following project implementation, and no mitigation would be required. This topic will not be analyzed further.

The following criteria were used to respond to the questions above to determine whether the proposed project would result in a significant noise impact:

- For off-site nontransportation-related stationary source construction impacts, including operations:
  - If project operations would generate noise levels in excess of the maximum allowable noise levels in Tables F and G for the surrounding receptors outside the permissible construction hours
- For off-site vibration impacts:
  - Exceedance of the FTA standards of 0.2 PPV in/sec and 72 VdB as listed above in Tables D and E for vibration

## IMPACT ANALYSIS

This section identifies the noise and vibration impacts associated with the construction and operation of the proposed project.

### CONSTRUCTION NOISE IMPACTS

Construction of the proposed project would utilize heavy equipment that has the potential to generate noise impacts at surrounding receptors. In order to conduct an evaluation, reference noise levels were first determined.

Table H lists the maximum noise levels from typical equipment that could be used at the landfill as recommended for noise impact assessments based on a distance of 50 ft between the equipment and a noise receptor.

**Table H: Typical Maximum Equipment Noise Levels ( $L_{max}$ )**

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA $L_{max}$ at 50 ft)
Crane	16	85
Excavator	40	85
Forklift	20	85
Generator	50	82
Loader	40	80
Paver	20	85
Paving Equipment	50	85
Roller	20	85
Rubber-Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84

Source: *Highway Construction Noise Handbook* (FHWA 2006).

dBA = A-weighted decibels

FHWA = Federal Highway Administration

ft = foot/feet

$L_{max}$  = maximum instantaneous noise level

Each piece of equipment operates as an individual point source. Using the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$L_{max} (composite) = 10 * \log_{10} \left( \sum_{1}^n 10^{\frac{L_n}{10}} \right)$$

Using the equations from the methodology above and the reference information in Table H, the composite noise level of each phase at a distance of 50 is presented in Table I.

**Table I: Potential Noise Impacts by Phase**

Phase	Equipment	Composite Maximum Noise Level at 50 ft (dBA L <sub>max</sub> )
Site Preparation, Grading, Utility Relocation	Dump Truck, Excavator, Scraper	95
Building Construction	Crane, Forklift, Generator, Tractor, Loader, Backhoe, Welder	93
Paving	Paver, Paving Equipment, Roller	93

Source: Compiled by LSA Associates, Inc. (2020).

dBA = A-weighted decibels

L<sub>max</sub> = maximum instantaneous noise level

In order to calculate the noise levels expected to result from construction activities, the software SoundPLAN was used. SoundPLAN is a noise-modeling program that allows 3-D calculations to be made taking into account topography, ground attenuation, and shielding from structures and walls. Within the model, the noise library allows for the input of many noise sources and calculates the composite noise levels experienced at any receptor necessary. Noise model results of construction activities indicate that maximum noise levels at the nearest sensitive receptor would approach 51.7 dBA L<sub>max</sub>. Table J provides the maximum construction noise level at each sensitive receptor. Per the County Code, construction noise impacts are exempt during the allowed hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday; however, the results of the construction noise modeling indicate that maximum noise levels would be well below the applicable maximum noise levels standards.

**Table J: Summary of Fee Booth Construction Noise Levels**

Receptor <sup>1</sup>	Distance <sup>2</sup> (ft)	Maximum Noise Level (dBA L <sub>max</sub> )	County of Orange Maximum Noise Level Threshold Daytime/Nighttime (dBA L <sub>max</sub> )	City of San Juan Capistrano Maximum Noise Level Threshold Daytime/Evening/Nighttime (dBA L <sub>max</sub> )
San Juan Hills High School	2,980	38.1	75/70	85/80/70
Church of Jesus Christ of Latter Day Saints	2,420	36.7	75/70	85/80/70
Rancho San Juan Community	775	51.7	75/70	85/80/70

Source: Compiled by LSA Associates, Inc. (2020).

<sup>1</sup> Surrounding receptors include all uses that have any portion of the respective property within 0.5 miles of the construction limits.

<sup>2</sup> Distances reflect the nearest structure of each land use category in a given direction to the nearest activity boundary. The SoundPLAN modeling will determine the maximum noise level at the receptor regardless of the distance to the boundary.

dBA = A-weighted decibels

ft = foot/feet

L<sub>max</sub> = maximum instantaneous noise level

As discussed above, Final EIR No. 575 determined that construction-related noise impacts would be less than significant to surrounding receptors; however, because noise levels would be elevated over ambient levels, mitigation measures were required as follows:



- MM 4.10-1** Although the construction associated with landfilling under the GDP is not anticipated to result in significant noise impacts on residential uses adjacent to the site, the IWMD [Integrated Waste Management Department, which is now OCWR] shall reduce landfill operations noise impacts to the extent feasible based on available funds through the use of landscaping, berms at the face of each landfill lift, phased construction of the landfill areas and the use of buffer areas between noise sources and sensitive recreation receptors.
- MM 4.10-3** During construction operations, the Director PF&RD shall mitigate noise levels associated with the construction of on-site roadways adjacent to sensitive receptors through the use of limited construction hours, landscape buffers and sound barriers as determined appropriate.

As shown in Table J, project-related increases in daytime noise levels would be less than significant, and no additional mitigation would be required. Further, because all mitigation measures from Final EIR No. 575 remain as project commitments that apply to the proposed project, with the implementation of mitigation measures MM 4.10-1 and MM 4.10-3, construction noise impacts would be reduced to the extent feasible.

## CONSTRUCTION VIBRATION IMPACTS

This section discusses the vibration impacts related to construction of the proposed project.

Ground-borne noise and vibration from heavy equipment activity during construction would be mostly low to moderate. The proposed project would utilize equipment such as bulldozers, excavators, and scrapers, which are all expected to generate similar vibration levels. As shown in Table K, a large bulldozer would generate approximately 87 VdB (0.089 PPV in/sec) of ground-borne vibration when measured at 25 ft, based on the *FTA Manual*.

**Table K: Vibration Source Amplitudes for Heavy Equipment**

Equipment	Reference PPV/L <sub>v</sub> at 25 ft	
	PPV (in/sec)	L <sub>v</sub> (VdB) <sup>1</sup>
Vibratory Roller/Rock Crushers	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

<sup>1</sup> RMS VdB is 1  $\mu$ in/sec.

$\mu$ in/sec = microinches per second

ft = foot/feet

FTA = Federal Transit Administration

in/sec = inches per second

L<sub>v</sub> = velocity in decibels

PPV = peak particle velocity

RMS = root-mean-square

VdB = vibration velocity decibels

The distance to the surrounding receptors for vibration impact analysis is measured at the surrounding building façades and the project site boundary (assuming the equipment would be used at or near the project boundary). The formulas for vibration transmission at a distance D are provided below.

$$L_{\text{vdB}}(D) = L_{\text{vdB}}(25 \text{ feet}) - 30 \log(D/25)$$

$$\text{PPV}_{\text{equip}} = \text{PPV}_{\text{ref}} \times (25/D)^{1.1}$$

Table L presents the results of the vibration assessment during construction of the proposed project, which indicate that potential vibration levels would be well below the applicable thresholds.

**Table L: Summary of Construction Vibration Levels**

Receptor	Distance <sup>1</sup> (ft)	Vibration Damage Threshold (PPV in/sec)	Vibration Annoyance Threshold (VdB)	Maximum Vibration Level (PPV)	Maximum Vibration Level (VdB)
San Juan Hills High School	2,980	0.2	72	0.0004	25
Church of Jesus Christ of Latter Day Saints	2,420	0.2	72	0.0006	27
Rancho San Juan Community	775	0.2	72	0.0020	42

Source: Compiled by LSA Associates, Inc. (2020).

<sup>1</sup> Distances reflect the nearest structure of receptor in a given direction to the nearest project construction boundary. All other structures of each land use category in the given direction would experience lower vibration levels.

ft = foot/feet

PPV = peak particle velocity

in/sec = inches per second

VdB = vibration velocity decibels

Neither Final EIR No. 575 nor Final Supplemental EIR No. 597 assessed vibration impacts for the landfill operations or subsequent modifications; however, Addendum No. 1 to Final Supplemental EIR No. 597 did assess vibration impacts related to construction activities including blasting. It is expected that vibration impacts associated the proposed project would be less intense than those associated with blasting or rock removal. As shown in Table L, construction of the proposed project would not result in new significant or unavoidable impacts related to vibration, and no additional mitigation would be required.

## LONG-TERM OPERATIONAL NOISE IMPACTS

As described in the Project Description, the proposed project would not generate any new trips that would increase noise levels at receptors in the vicinity of the project site. Furthermore, a reduction in operational noise levels could occur, as the proposed scales and office building would be located approximately 275 ft to the southeast of the current location, which would be farther away from sensitive receptors. With the increased distance from the nearest residential uses, noise levels may decrease as much as 2 dBA. Also, with the additional scale and bypass lanes, the amount of idling time would be reduced and would reduce noise generated when trucks are idling. The proposed project would not result in a new significant or unavoidable impact related to operational noise, and no mitigation would be required.

## **LONG-TERM OPERATIONAL VIBRATION IMPACTS**

Similarly to the long-term operational noise impacts, there would be no new operational vibration impacts associated with truck activities, as the proposed project would not generate any new trips. Also, the increased distance of 275 ft of the fee booth from the nearest sensitive receptors would reduce existing vibration levels by 0.001 PPV in/sec. The proposed project would not result in a new significant or unavoidable impact related to operational vibration, and no mitigation would be required.

## **CONCLUSION**

Based on the analysis presented above, the proposed project would generate both construction noise and vibration levels that are well below the applicable County and City standards, resulting in impacts that are less than significant. Furthermore, with the implementation of the mitigation measures established by Final EIR No. 575, noise levels generated during construction would be reduced to the greatest extent feasible. Lastly, the proposed project would not result in a change to the operational noise level of the project site or the ambient noise conditions at the surrounding receptors. As such, based on the analysis presented above, construction and operation of the proposed project would not result in new significant or unavoidable impacts related to noise or vibration, and no additional mitigation would be required.

## REFERENCES

- California Department of Transportation (Caltrans). 2013. *Technical Noise Supplement*. September.
- City of San Juan Capistrano. 2019. San Juan Capistrano Municipal Code Section 9-3.531, Noise Standards. October.
- County of Orange. 2012. General Plan—Noise Element.
- \_\_\_\_\_. 2016. Municipal Code—Division 6—Noise Control.
- Federal Highway Administration (FHWA). 2006. *Highway Construction Noise Handbook*. Roadway Construction Noise Model, FHWA-HEP-06-015. DOT-VNTSC-FHWA-06-02. NTIS No. PB2006-109012. August.
- Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. Office of Planning and Environment. Report No. 0123. September.
- Harris, Cyril M., ed. 1991. *Handbook of Acoustical Measurements and Noise Control*. 3<sup>rd</sup> ed. New York: McGraw Hill.

## **APPENDIX A**

### **NOISE MEASUREMENT SURVEY SHEETS**

Project Number: OWR2001  
 Project Name: Prima Deshecha  
 Test Personnel: Corey Knips

## Noise Measurement Survey

Site Number: ST-1 Date: 9/17/2020 Time: From 3:09 p.m. To 3:39 p.m.

Site Location: San Juan Hills High School, 29211 Stallion Ridge, San Juan Capistrano. In the parking lot 30 feet south of Building J.

Primary Noise Sources: Very light traffic on Stallion Ridge and a clanking noise at the transmission line poles near the corner of Via Zamora and Via Pamplona (for long periods at a time throughout the measurement).

### Measurement Results

	dBA
L <sub>eq</sub>	47.8
L <sub>max</sub>	64.0
L <sub>min</sub>	37.2
L <sub>peak</sub>	82.8
L <sub>2</sub>	53.3
L <sub>8</sub>	51.1
L <sub>25</sub>	48.9
L <sub>50</sub>	46.8
L <sub>90</sub>	41.0
L <sub>99</sub>	38.7
SEL	80.1

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Equipment: Larson Davis 831 SLM

### Atmospheric Conditions:

Maximum Wind Velocity (mph)	Average Wind Velocity (mph)	Temperature (F)	Relative Humidity (%)	Comments
9.0	2.8	100.6	10.9	

Location Photo:





## Noise Measurement Survey – 24 HR

Project Number: OWR2001Test Personnel: Corey KnipsProject Name: Prima DeshechaEquipment: LD Spark 706RCSite Number: LT-1 Date: 9/16/2020Time: From 4:00 pm To 4:00 pmSite Location: Corner of Via Granada and Paseo Carmona, on light pole.

Primary Noise Sources: Very quiet, occasional car driving by on Via Granada/Paseo Carmona.  
There was a dog at the nearest residence that barked when the dosimeter was picked up.

Comments: Resident said they can hear the equipment at the landfill when they are working at  
the top of the hill, but not when they are lower (like they were during the measurement).

Location Photo:

