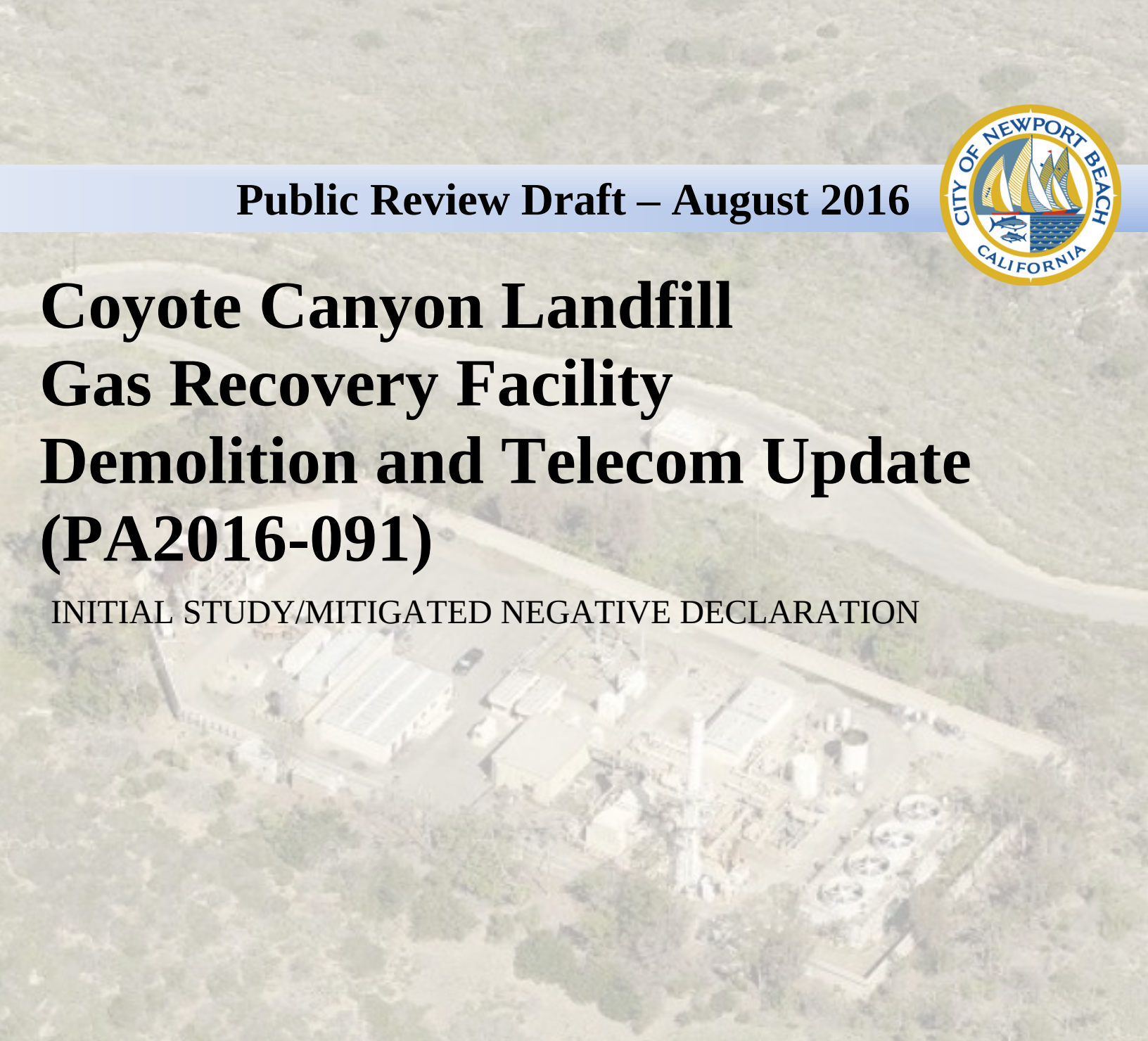
Public Review Draft – August 2016

Coyote Canyon Landfill Gas Recovery Facility Demolition and Telecom Update (PA2016-091)

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION



Prepared by:
OC Waste & Recycling
County of Orange

PUBLIC REVIEW DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Coyote Canyon Landfill Gas Recovery Facility Demolition and Telecom Update

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August 2016

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INITIAL ENVIRONMENTAL STUDY

ENVIRONMENTAL CHECKLIST FORM AND ENVIRONMENTAL DETERMINATION

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

1.1 PROJECT TITLE

Coyote Canyon Landfill Gas Recovery Facility Demolition and Telecom Update

1.2 PROJECT APPLICANTS

The project applicants for the proposed project are Sprint, AT&T, Verizon Wireless, T-Mobile (cell carriers) and Fortistar (demolition of gas-to-energy facility structures).

1.3 PROJECT LOCATION

The project site is the landfill gas-to-energy facility located at 20662 Newport Coast Drive, Newport Beach. The location of the project site is shown on **Figure 1**.

1.4 EXISTING CONDITIONS

The closed Coyote Canyon Landfill is located at 20661 Newport Coast Drive in the City of Newport Beach. The landfill site is owned by the County of Orange and maintained by OC Waste & Recycling, the County's solid waste landfill department. The landfill operated from 1963 to 1990. The landfill site consists of four areas, including the main canyon landfill, located immediately west of Newport Coast Drive and north of San Joaquin Hills Road. The east and south canyon landfilling areas, as well as the landfill gas-to-energy facility site, are all located immediately east of Newport Coast Drive, across the street from the main canyon landfill. The location of the landfill gas-to-energy facility site, which is the project site, is shown on **Figure 1**. All of the landfill areas including the project site are shown on **Figure 2**.

The project site is a 4.14-acre project site. The project site is situated on a ridge at an elevation of approximately 780 feet above mean sea level. The site is relatively flat, but there is a drop in elevation around the site on three sides. On the eastern side of the site, elevations rise to the next hill. The general topographic gradient for the area appears to be falling to the northwest, although there are numerous local variations due to the hill and canyon topography in the area. At the project site, the topographical gradient is slightly falling to the north (GRS, 1993).

Land uses that are immediately adjacent to the project site include the landfill areas described above, an Irvine Ranch Water District water pumping station and designated open space. In addition, Sage Hill High School is located immediately north of the east canyon landfill area. The closest homes to the project site are located along the northerly end of Arbella, Marisol, Renata, and Portica streets, approximately 1,283 feet south of the project site, as shown on **Figure 2**. A representative view of the project site from these closest homes is shown on **Figure**

3, taken from Renata. In addition, Sage Hill High School is approximately 1,500 feet north of the project site and Newport Coast Elementary School is approximately 1,875 feet southwest of the project site. In addition, the Newport Coast Community Center is approximately 1,575 feet southwest of the project site, as shown on **Figure 2**. Other local land uses near the project site include the Newport Coast Shopping Center located southwest of the Newport Coast Community Center and the Newport Coast Community Park located west of the Newport Coast Community Center. In addition, the San Joaquin Hills Transportation Corridor (i.e., SR-73), located immediately north of Sage Hills High School. North of SR-73, there are residential areas in the City of Irvine (i.e., Turtle Ridge) that have views of the project site.

The 4.14-acre project site consists of structures associated with a landfill gas-to-energy facility that was operated from 1988 to December 2015. The facility received landfill gas from the adjacent Coyote Canyon Landfill and converted it to electricity. The landfill gas was dewatered, compressed, entrained with oil, and used as an energy source to heat a boiler which generated steam to drive a turbine generator (GRS, 2004). The facility has five buildings as well as numerous other supporting structures on-site, which are shown on **Figure 4**. In addition to the five buildings on the project site, the major features of the facility include the following: a boiler and dilution fan structure, five pad-mounted transformers, a generator breaker, a cooling tower structure, landfill gas blowers, four flares for burning excess landfill gas, a storage area and an exhaust stack associated with the steam plant. In addition, there are several above ground storage tanks located on the project site.[1]

There is also a 105-foot high exhaust stack that is the dominant visual feature on the site, as shown on **Figure 3**. Attached to the 105-foot high exhaust stack are four wireless communication facilities with associated infrastructure that is attached to the perimeter wall. The landfill gas-to-energy facility was constructed in 1987 and began operation in 1988. The facility converted landfill gas[2] that is generated by the landfill into electricity. The facility was privately owned and operated by GRS and then by Fortistar. In December 2015, Fortistar closed the facility since the landfill was no longer producing enough landfill gas for the facility to remain economically viable. Since that time, the County has been flaring the collected landfill gas, in compliance with South Coast Air Quality Management District (SCAQMD) and Local Enforcement Agency (LEA) regulations.

The project site is completely paved and is surrounded by a 12-foot high perimeter wall, which has a front gate that is locked when facility personnel are not on-site. All of the landfill gas-to-energy structures are located inside the perimeter wall. The wall is surrounded by tall trees that are an estimated 20 to 60 feet in height. These trees are all non-native, ornamental trees that are primarily eucalyptus blue gum (*Eucalyptus globulus*) trees. The perimeter wall and tall trees were installed to screen the landfill gas-to-energy facility structures from nearby residential areas in both Newport Beach and Irvine.

[1] *Phase I Environmental Site Assessment, 20662 Newport Coast Drive, Parcel 4, Gas Recovery Systems, Newport Beach, Orange County, CA*, Geosyntec Consultants, p. 5, September 2006

[2] Landfill gas is a complex mix of different gases created by the actions of microorganisms within a landfill during the process of waste decomposition. Landfill gas is approximately forty to sixty percent methane, with the remainder being mostly carbon monoxide.

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FIGURE 1

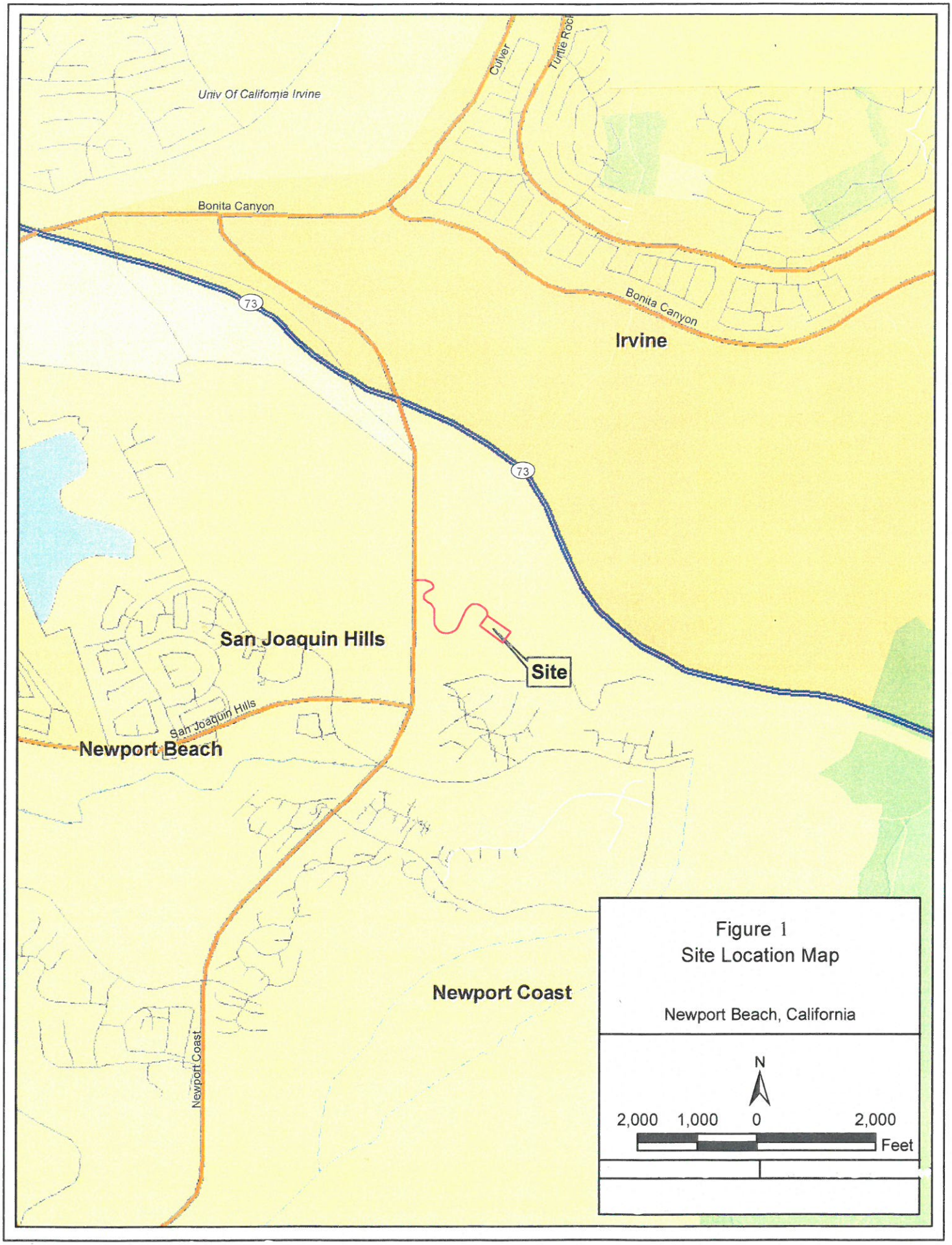

Univ Of California Irvine
Culver
Turtle Rock
Bonita Canyon
Bonita Canyon
73
73
Irvine
San Joaquin Hills
Site
San Joaquin Hills
Newport Beach
Newport Coast
Newport Coast
Figure 1
Site Location Map
Newport Beach, California
N
2,000 1,000 0 2,000
Feet

FIGURE 2

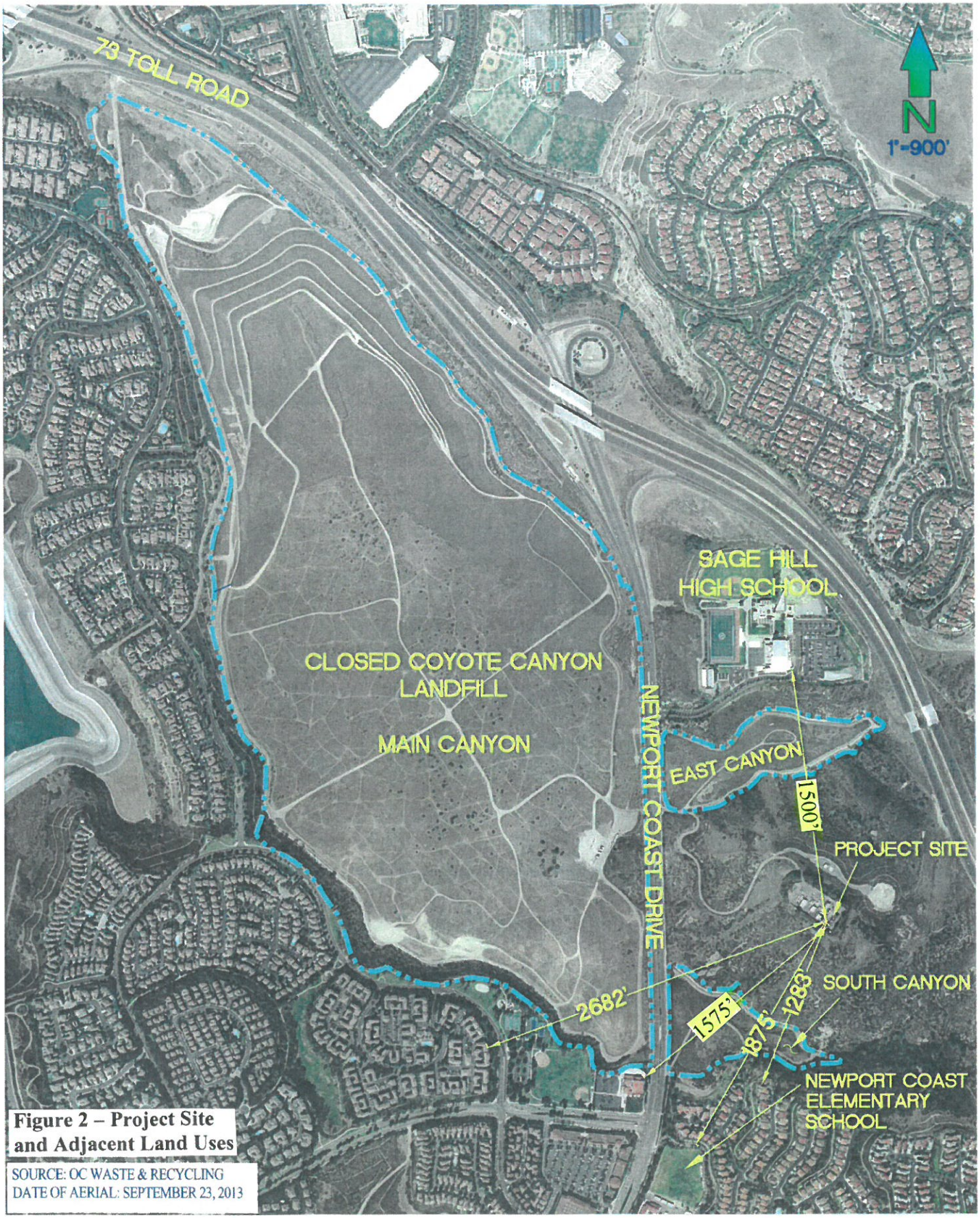


Figure 2 – Project Site and Adjacent Land Uses

SOURCE: OC WASTE & RECYCLING
DATE OF AERIAL: SEPTEMBER 23, 2013

FIGURE 3

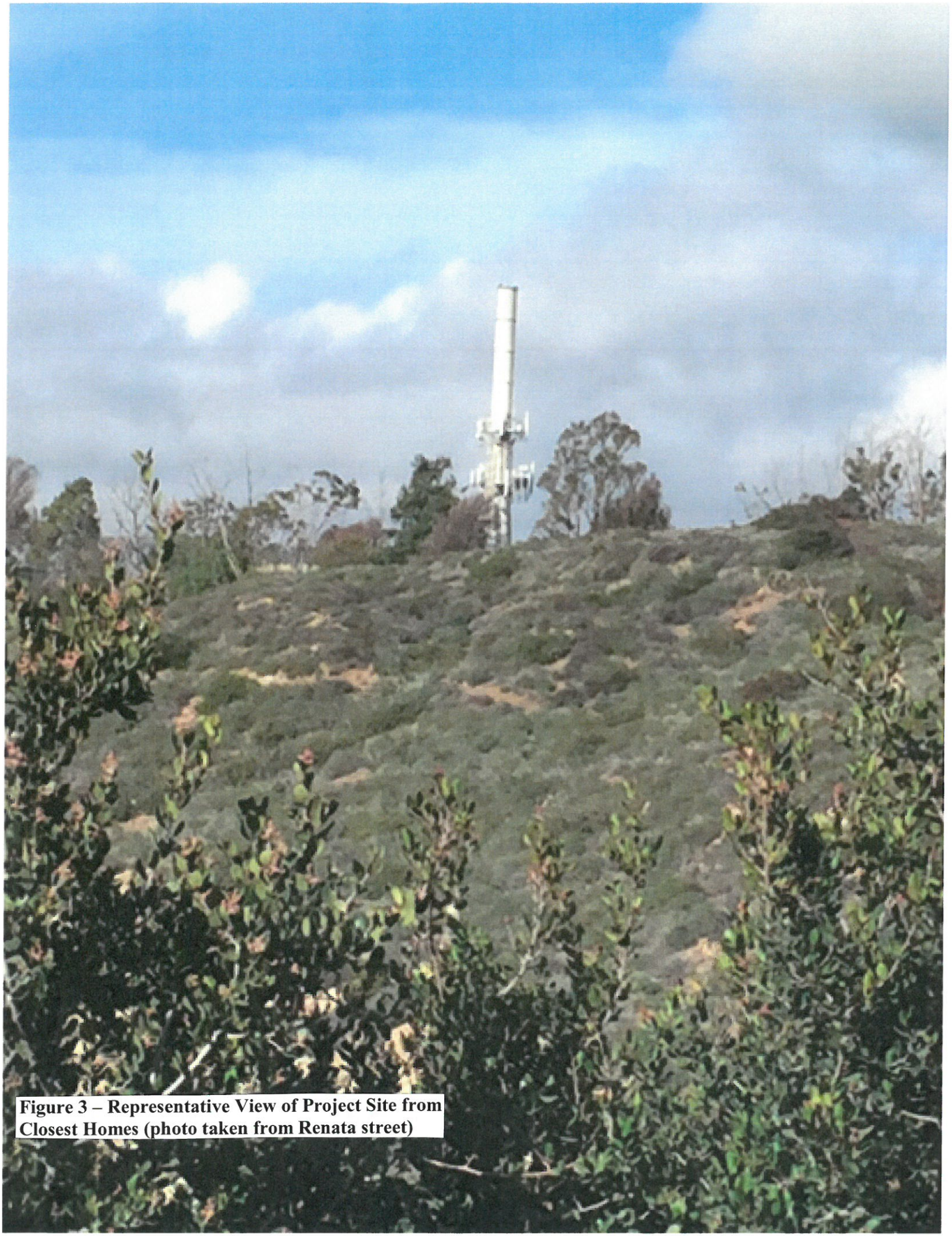


Figure 3 – Representative View of Project Site from Closest Homes (photo taken from Renata street)

FIGURE 4

Figure 4 – Project Site

There are gaps between the trees, especially on the western side of the project site. Also, the trees on the eastern side appear more prominent since they are located on a 10-foot high berm. A paved access road to the facility, that is approximately 1,400 feet in length, that is shared with the Irvine Ranch Water District, connects the facility site to Newport Coast Drive, where there is a traffic signal. The perimeter wall and access road were constructed at the same time as the gas-to-energy facility in 1987. The perimeter trees were also planted at the same time.

The entire Coyote Canyon Landfill, including the project site, is located within the Central Subregion of the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Subregions of Orange County. The NCCP/HCP is a multi-species habitat conservation plan designed to protect sensitive plant and animal species by preserving habitat areas. The project site is located within the NCCP/HCP and is designated as an existing use by the NCCP/HCP.

Existing utilities that serve the landfill gas-to-energy facility include a ½ to 1-inch potable water line, a 6-inch reclaimed water line a 6-inch sewer line with water, reclaimed water and sewer service all provided by the Irvine Ranch Water District. There is a 4-inch natural gas line with service provided by the Southern California Gas Company and a 69kV electrical interconnect with service provided by Southern California Edison. Fire and emergency medical services are provided by the City of Newport Beach Fire Department and police services are provided by the City of Newport Beach Police Department.

1.5 PROJECT DESCRIPTION

The proposed project consists of three components, all of which will occur at the landfill gas-to-energy facility site. These components are the demolition of landfill gas-to-energy facility structures and the construction of temporary and permanent wireless telecommunication facilities.

Demolition of Landfill Gas-to-Energy Facility Structures

Before any gas-to-energy facility structures are demolished, Fortistar will obtain a demolition permit from the City of Newport Beach, which requires the preparation of a detailed demolition plan. The first component of the project that will occur will be the demolition of structures by Fortistar at the project site. The structures located on the project site are shown on **Figure 4**. Approximately 80 percent of the existing structures on the project site will be demolished, leaving exposed approximately 0.5 acres of soil at the conclusion of the demolition. The voids left by the removal of the structures will be backfilled with crushed concrete from the site and clean compacted soil. Some of the existing structures will remain, including three existing landfill gas flares and blowers that will continue to flare landfill gas (i.e., a fourth flare is also at the project site but is not operational and will therefore be demolished), structures needed to support the landfill gas collection system infrastructure, as well as existing electrical, water, sewer, natural gas and landfill gas lines. All of the structures that will be demolished and all of the structures that will remain are shown on **Figure 5**. In addition, the paved access road to the project site as well as the perimeter wall and the tall trees surrounding the perimeter wall will all remain.

One of the last structures that will be demolished is an existing 105-foot high exhaust stack, as shown on **Figure 3** and **Figure 4**. This structure is highly visible in the Newport Coast area and the removal of this structure will result in a significant aesthetic/view benefit to the adjacent community. The reason that this exhaust stack will be one of the last structures to be demolished is to give the carriers enough time to construct temporary wireless telecommunication facilities on the project site which will replace the four existing wireless telecommunication facilities that are currently attached to the exhaust stack. This component of the project is discussed below.

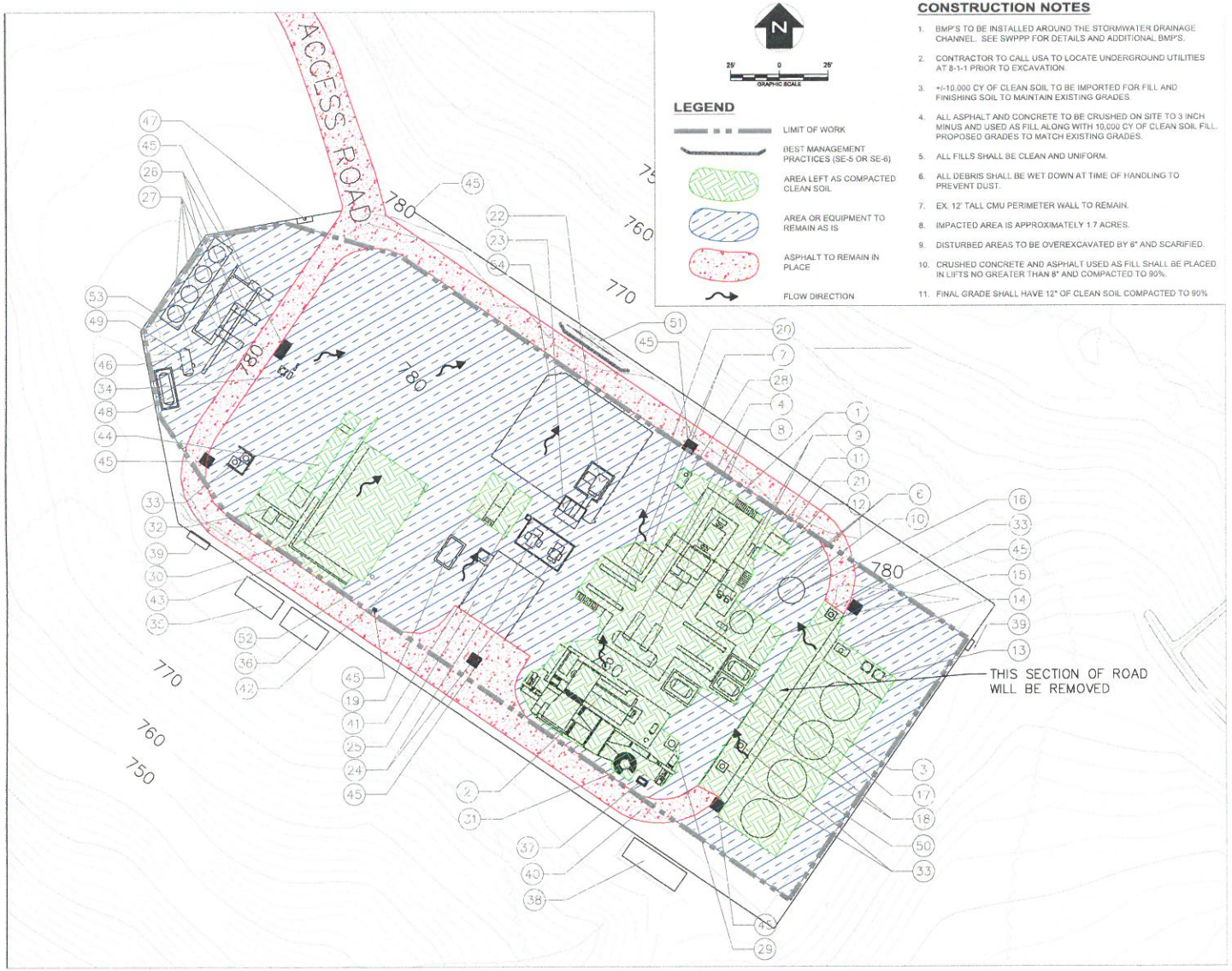
Demolition activities are anticipated to begin in October 2016, and conclude by December 31, 2016. Per Newport Beach Municipal Code Section 10.28.040 (Construction Activity – Noise Regulations), demolition activities will occur from 7:00 a.m. to 6:30 p.m., Monday through Friday; and Saturday from 8:00 a.m. to 6:00 p.m. No demolition work will be performed on Sundays or on federal holidays. Demolition activities will occur during daylight hours only.

Heavy equipment that will be utilized during the demolition effort include the following: 270-ton crane for the removal of the turbine and generator; 170-ton crane with 150 feet of boom for the removal of the 105-foot high exhaust stack; Komatsu 650 excavator with an Allied G130 concrete hammer; 350 Link belt excavator with a G90 concrete hammer and a Labounty MDP 27 universal processor; 966 Cat rubber tired loader; skidsteer loaders; water trucks; 18-wheel semi-end dump trucks and a vibratory sheep's foot compactor. Two large excavators with universal processors (i.e., a grabbing attachment on the excavators used for precise demolition work) will be used for tearing apart the existing structures. Jackhammering will be required to tear apart the concrete pad at the site and concrete breakers will then be used for crushing the demolished concrete. The demolished concrete will then be removed off-site and taken to a recycling facility. The voids left by the removal of the concrete pad will be backfilled with clean compacted soil to 90 percent of maximum density and quality assured.

There are certain structures at the gas-to-energy facility that will be sold by the demolition contractor to other gas-to-energy facility operators or for other similar facilities. These structures include the gas turbines, boilers and other structures. These structures will be removed from the site and transported to their end use destinations. Other structures will be dismantled using the two large excavators with the dismantled materials sorted by material type. Materials will then be transported off-site for recycling (i.e., metals and concrete).

For the demolition of the 105-foot high exhaust stack, a 170-ton crane with 150 feet of boom will be used to lift off sections of the stack to be lowered to the ground where the universal processors can size the material for trucking and proper off-site disposal. The stack will have some preliminary cuts performed by men on man-lifts, the crane moved in and attached prior to finalizing the cuts, the section lifted off and lowered to the ground and the process will continue until the stack is accessible from ground level. It is anticipated that it will take no more than two days to remove this exhaust stack and the crane will not remain in the air for more than a few hours at a time.

FIGURE 5



PLAN FEATURES	KEEP/REMOVE
1.) TURBINE GENERATOR	REMOVE
2.) BOILER	REMOVE
3.) COOLING TOWER	REMOVE
4.) CONDENSER	REMOVE
5.) DEAERATOR	REMOVE
6.) LOW PRESSURE HEATERS	REMOVE
7.) HIGH PRESSURE HEATERS	REMOVE
8.) FEEDWATER PUMPS	REMOVE
9.) CONDENSATE PUMPS	REMOVE
10.) CONDENSATE STORAGE TANK	REMOVE
11.) COOLING WATER PUMPS	REMOVE
12.) CONDENSATE TRANSFER PUMP	REMOVE
13.) CIRCULATING WATER PUMP	REMOVE
14.) FIRE PUMP SKID	REMOVE
15.) DEMINERALIZER	REMOVE
16.) WASTE NEUTRALIZATION TANK	KEEP
17.) CAUSTIC TANK	KEEP
18.) ACID TANK	REMOVE
19.) EMERGENCY GENERATOR	KEEP
20.) LUBE OIL EQUIPMENT	REMOVE
21.) AIR COMPRESSOR SKID	KEEP
22.) MAIN TRANSFORMER	KEEP
23.) GENERATOR BREAKER	KEEP
24.) TRANSFORMERS	KEEP
25.) CONTROL BUILDING	KEEP
26.) LFG BLOWERS	KEEP
27.) FLARES	KEEP
28.) OIL/WATER SEPARATOR	REMOVE
29.) STEAM SILENCER	REMOVE
30.) OFFICE BUILDING	REMOVE
31.) EXHAUST STACK	REMOVE
32.) AMBIENT VAPORIZER PIT	REMOVE
33.) ELECTRICAL MANHOLES	KEEP
34.) ELECTRICAL PANEL	KEEP
35.) VERIZON CONTROL PANEL	KEEP
36.) AT&T CONTROL PANEL	KEEP
37.) T-MOBLIE CONTROL PANEL	KEEP
38.) SPRINT CONTROL PANEL	KEEP
39.) EXIST. CELLULAR INFRASTRUCTURE	KEEP
40.) EXIST. ROAD	KEEP
41.) STORE ROOM	REMOVE
42.) SHOP BUILDING	REMOVE
43.) FIREWALL	REMOVE
44.) LNG TRAILER STALL	REMOVE
45.) FIRE HYDRANT	KEEP
46.) NATURAL GAS CONNECTION	KEEP
47.) PROPANE TANK	KEEP
48.) CONDENSATE TANK	KEEP
49.) AIR COMPRESSOR	REMOVE
50.) LIMIT OF WORK	
51.) CONCRETE SWALE AND OUTLET WITH BMPS. SEE SWPPP.	KEEP
52.) EXISTING SANITARY SEWER AND WATER SERVICE TO BE CAPPED	KEEP
53.) LFG SUPPLY TO POWER PLANT	BLIND OFF
54.) OPERATIONS BUILDING	KEEP

REV. NO.	DATE	DESCRIPTION

FORTISTAR Methane Group
Coyote Canyon Energy I, LLC
20662 Newport Coast Drive • Newport Coast, California 92657
Tel. (949) 721-4151 • Fax. (949) 721-5826

CB&I Environmental & Infrastructure, Inc.

OC WASTE & RECYCLING
COYOTE CANYON LANDFILL

COYOTE CANYON ENERGY, LLC
SWPPP BEST MANAGEMENT PRACTICES

PROJECT NO.:	631216223	DATE:	JUNE 2016
DESIGNED BY:	DHT		
DRAWN BY:	AR		
CHECKED BY:	DHT		
APPROVED BY:	MA		

Figure 5 – Project Site Structures to be Demolished And Structures that will Remain

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Approximately 10,000 cubic yards of clean soil will be imported during demolition and will be used along with the crushed concrete for backfill into the voids left by the removal of the structures. Since each soil truck can carry approximately 10 cubic yards of soil, approximately 1,000 two-way trips will be distributed over a three month period. Assuming 25 work days per month and a three month demolition schedule, the demolition component would generate approximately 14 two-way imported soil trips per day. For the estimated 14,360 square feet of structures that will be demolished, it is estimated that this will generate approximately 4 two-way truck trips per day over the three month demolition schedule. All demolition vehicle trips will be staggered over the entire working day.

The City of Newport Beach requires as part of its demolition permit process that at least 50 percent of all demolished materials be recycled for demolition projects located in the City. For the proposed project, almost all of the demolished materials will be recycled, with the exception of the administrative building trailer and the cooling towers.

Metals will be transported to Corridor Recycling in the City of Long Beach, or similar facility and the demolished concrete will be transported to the Ewles Materials recycling facility in the City of Irvine or similar facility. Access from the project site to Corridor Recycling (located at 22500 South Alameda Street, Long Beach) will be Newport Coast Drive, SR-73, 405 Freeway and South Alameda Street. Access from the project site to the Ewles Materials recycling facility (located at 16081 Construction Circle West, Irvine) will be Newport Coast Drive, SR-73, 55 Freeway, 405 Freeway, Jamboree Road, Barranca Parkway and Construction Circle West. Solid waste materials, which will include insulation, aluminum, gypsum, sheet metal and wood waste will be disposed at the Frank R. Bowerman Landfill in Irvine, which is owned and operated by the County. Access from the project site to the Frank R. Bowerman Landfill (located at 11002 Bee Canyon Access Road, Irvine) will be Newport Coast Drive, SR-73, SR-133, 5 Freeway, Sand Canyon Avenue and Bee Canyon Access Road.

It is estimated that there will be no more than 75 two-way vehicle trips per day for all demolition of structures and wireless telecommunication facilities construction activities, which include all two-way trips from vehicles transporting demolished materials from the site, heavy construction equipment transported to the site, material delivery trips and construction worker commuting trips.

Construction of Temporary Wireless Telecommunication Facilities

Currently, attached to the existing 105-foot high exhaust stack are four existing antenna arrays that provide cellular coverage to the Newport Coast area. The four carriers that own these antenna arrays are Sprint, AT&T, Verizon Wireless and T-Mobile. Prior to the demolition of the 105-foot high exhaust stack, all four carriers will need to construct two collocated temporary wireless telecommunication facilities at the project site in order to provide for the continuation of existing cellular service without interruption. Once the two collocated temporary wireless telecommunication facilities have been constructed and are operational, the existing antenna arrays attached to the 105-foot high exhaust stack will be removed, prior to the demolition of the exhaust stack.

There will be two collocated temporary wireless telecommunication facilities that will both be 65 feet in height to the tallest point. Sprint and AT&T will have one temporary wireless telecommunication facility and Verizon Wireless and T-Mobile will have the other temporary wireless telecommunication facility. Both facilities will have two antenna arrays attached each. For the Sprint and AT&T facility, the top of the Sprint antenna array will be at 65 feet and the top of the AT&T antenna array will be at 56 feet. For the Verizon and T-Mobile facility, the top of the T-Mobile antenna array will be at 65 feet and the top of the Verizon antenna array will be at 54 feet. The location of the two proposed facilities on the project site are shown on **Figure 6**.

Currently, Sprint, AT&T and Verizon Wireless have existing power units located on the project site that provide power to their existing antenna arrays and will continue to provide power for both the proposed temporary and permanent facilities at the project site. T-Mobile's current power supply is located near the base of the 105-foot high exhaust stack and will need to be removed prior to the demolition of this exhaust stack. T-Mobile will install a new power supply that will support both its proposed temporary and permanent facilities that will be shared with Verizon. In addition, Verizon Wireless will be modifying its existing site on the perimeter wall that includes removing and replacing two panel antennas and the installation of two remote radio heads behind existing antennas. Sprint will be modifying one of its exterior sectors as well (also attached to the perimeter wall), which includes replacing one panel antenna, replacing one remote radio head, adding two remote radio heads and adding one combiner. A remote radio head is an interface between the fiber cables and the antennas. The combiner combines different frequencies into a single antenna.

The two facilities will have different designs, with the Sprint and AT&T temporary wireless telecommunication facility being a "flower pot" type (i.e., a concrete base that sits on top of the ground), similar to the facility shown on **Figure 7**, and that of the Verizon – T-Mobile being a "cell blocks" facility, similar to the facility shown on **Figure 8**. The construction of the temporary wireless telecommunication facilities will take approximately two months before they are operational and can begin providing cellular coverage. The temporary facilities will only be operational at the project site until the permanent facilities are constructed and are operational, which will occur in the fall of 2017, after the completion of the migratory bird nesting season, which is from February 15 to August 31. Once the permanent facilities are operational, the temporary facilities will be removed from the project site.

The construction of the temporary wireless telecommunication facilities will occur during Fortistar's demolition activities. OC Waste & Recycling, Fortistar and the four carriers will work in close coordination to ensure that there are no conflicts between the demolition of the gas-to-energy facility structures and the construction of the temporary wireless telecommunication facilities. It is estimated that the maximum number of truck trips for both the demolition activities and the construction of the wireless telecommunication facilities will be 75 two-way vehicle trips at the site per day. These trips will be staggered over the entire working day. Ensuring a safe working area will also be an important consideration for this concurrent demolition and construction effort.

Construction of the Sprint and AT&T temporary wireless telecommunication facilities will include equipment staging, between the flare control cabinet and the blast wall, for

FIGURE 6

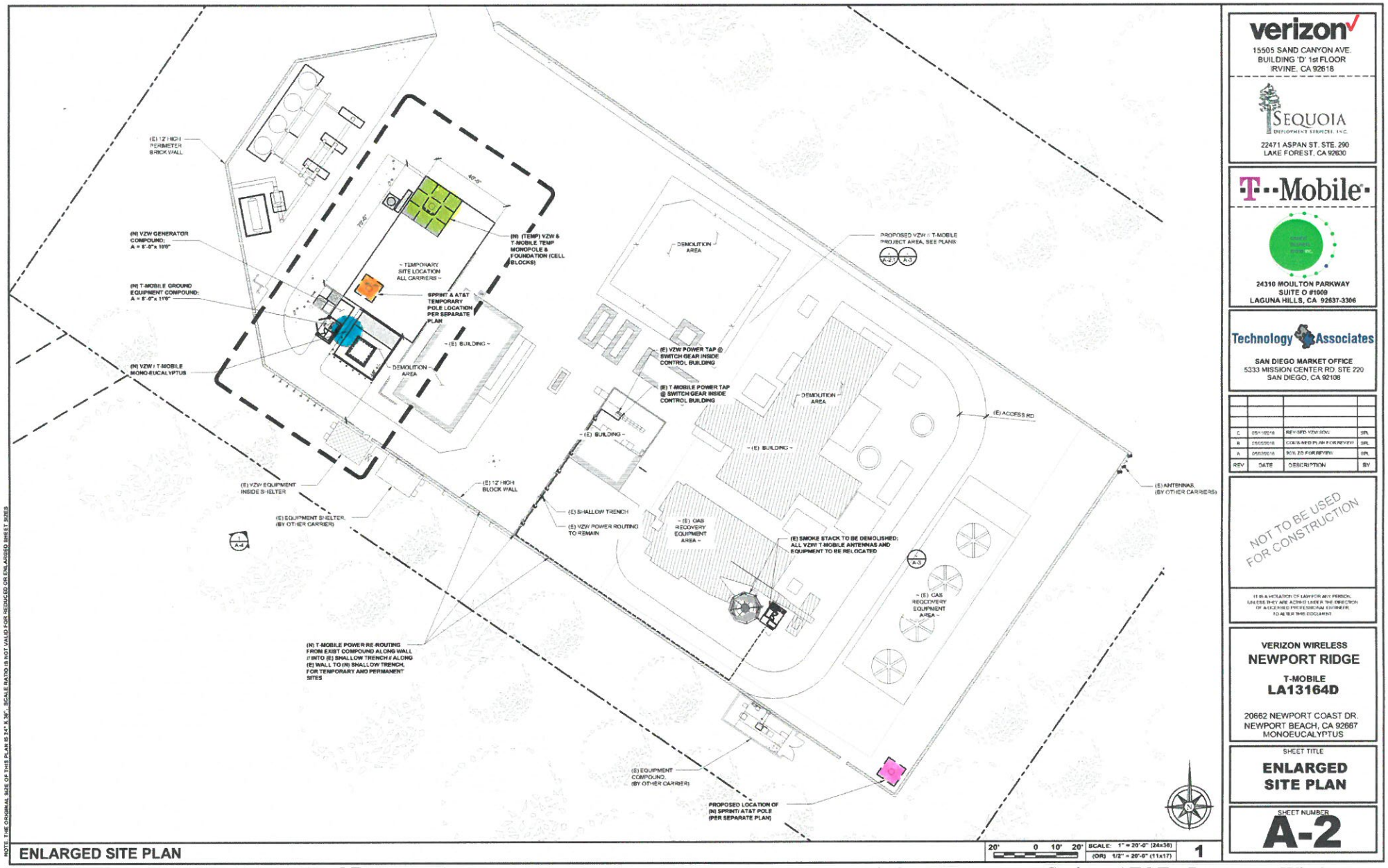

Figure 6 – Location of Temporary and Permanent Wireless Telecommunication Facilities at Project Site

Sprint – AT&T – Temporary Wireless Telecommunication Facility

Sprint – AT&T – Permanent Wireless Telecommunication Facility

Verizon – T-Mobile – Temporary Wireless Telecommunication Facility

Verizon – T-Mobile – Permanent Wireless Telecommunication Facility

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approximately one week; delivery of the flower pot structure using a crane and semi-truck over three days; trenching and conduit installation from the perimeter wall to the flower pot structure using a drill rig and backhoe over three days; microwave dish installation and alignment with a boom truck (i.e., crane truck) over one day; and cables installation and antennas relocation to the flower pot including decommissioning of existing antennas and otherwise radio frequency material from the 105-foot high exhaust stack, which will require the use of a boom truck over a three day period.

Construction of the temporary wireless telecommunication facilities for Verizon Wireless and T-Mobile will include equipment staging, between the flare control cabinet and the blast wall, for approximately two weeks. The pole/cell blocks structure will be delivered and unloaded at the site using a crane, petty-bone forklift and semi-trucks/other vehicles. Over a one-week period, the excavation for the conduits and ground-ring will be performed using a drill rig and backhoe as well as the installation of the cell blocks and pole and the completion of the lines, antennas and microwave. The testing of the lines will be performed with a boom truck and a crew. One week will also be needed for the decommissioning of the existing T-Mobile site support equipment and the decommissioning of the T-Mobile equipment and Verizon Wireless equipment on the exhaust stack.

Construction and Operation of Permanent Collocated Wireless Telecommunication Facilities

Once the two temporary wireless telecommunication facilities are operational, and after all demolition activities are complete, the four carriers will begin work on the construction of the permanent collocated wireless telecommunication facilities, in the fall of 2017, after the completion of the migratory bird nesting season which is from February 15 to August 31. There will be two permanent collocated facilities that will both be 65 feet in height to the tallest point. Sprint and AT&T will have one permanent collocated facility and Verizon Wireless and T-Mobile will have the other permanent collocated facility. Both facilities will have two antenna arrays attached each. For the Sprint and AT&T facility, the top of the Sprint antenna array will be at 61 feet, 8 inches and the top of the AT&T antenna array will be at 52 feet, four inches. For the Verizon and T-Mobile facility, the top of the T-Mobile antenna array will be at 65 feet and the top of the Verizon antenna array will be at 54 feet. The location of the two proposed permanent facilities on the project site are shown on **Figure 6**. The two permanent wireless communication facilities will be designed to blend in with the adjacent tall trees that currently surround the perimeter wall that surrounds the project site. A representative photo of this type of permanent wireless telecommunication facility is shown on **Figure 9**. It is anticipated that the permanent facilities will take approximately three months to construct and are anticipated to be operational in December 2017, at which time the temporary facilities will be removed from the project site.

Construction of the Sprint and AT&T permanent collocated wireless telecommunication facility will include equipment staging on-site in the area where the cooling tower is located, which will be one of the first structures to be demolished, for approximately two months; ground ring trenching and conduits over a three day period using a drill rig and backhoe; drilling of the foundation hole (estimated at 20-30 feet in depth) using a drill rig over one day; installation of the foundation cage using a crane and inspection using a boom truck over one week; pouring of

the foundation concrete with cement trucks and inspection over one week; curing time and steel tower delivery over two weeks; steel tower installation using a crane over one week, and use of a boom truck to complete lines and antennas on the tower with testing of equipment; antenna relocations to the new tower including dish alignment using a boom truck over one week; and installation of the faux branches and inspection.

Construction of the permanent collocated wireless telecommunication facility for Verizon Wireless and T-Mobile will include equipment staging on-site in the area where the office trailer is located, which will be one of the first structures to be demolished, for approximately three months; ground ring trenching and conduits over a three day period using a drill rig and backhoe; drilling of the foundation hole (estimated at 20-30 feet in depth) using a drill rig over one day; installation of the foundation cage using a crane and inspection using a boom truck over one week; pouring of the foundation concrete with cement trucks and inspection over one week; curing time and steel tower delivery over three weeks; steel tower installation using a crane over one week, and use of a boom truck to complete lines and antennas on the tower with testing of equipment over one week; antenna relocations to the new tower including dish alignment using a boom truck over one week; and installation of the faux branches and inspection.

1.6 RESPONSIBLE AGENCIES

The City of Newport Beach is the Lead Agency under CEQA for this project. The County of Orange is the Responsible Agency for the project, since the County owns the property.

The four cell carriers will be required to submit detailed plans for both the temporary (Class 5 – Temporary) and permanent (Class 4 – Freestanding Structure) collocated wireless telecommunications facilities. Sprint, AT&T, Verizon, T-Mobile and Fortistar (i.e., the Project Applicants) will prepare one combined conditional use permit application that will be submitted to the City of Newport Beach. The conditional use permit application and all supporting plans and documentation will then go before the City of Newport Beach Planning Commission for its consideration. If the Planning Commission approves the project, all four carriers will be issued individual building permits.

Fortistar must obtain a Demolition Permit from the City of Newport Beach. In addition, Fortistar must obtain a Notice of Intent (NOI) for Construction Activities under the National Pollutant Discharge Elimination Systems Permit (NPDES), issued by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB).

1.7 SUMMARY OF FINDINGS

The State CEQA Guidelines require the preparation of an Initial Study (IS)/Mitigated Negative Declaration (MND) if the IS prepared for a project identifies potentially significant effects, but (1) revisions in the project plans or proposals made by or agreed to by the applicant before an IS/MND and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur and (2) there is no substantial evidence, in light of the whole record before the Lead Agency, that the project as revised may have a significant effect on the environment (State CEQA Guidelines, Section 15070[b]).

FIGURE 7

Figure 7 – Flower Pot Temporary Wireless Telecommunication Facility

FIGURE 8

Figure 8 – Cell Blocks Temporary Wireless Telecommunication Facility

FIGURE 9

Figure 9 – Faux Eucalyptus Tree Permanent Wireless Telecommunication Facility

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Based on the environmental checklist form prepared for the proposed Project and supporting environmental analysis (provided in Section 2.0 of this IS/MND), with implementation of applicable regulations and standard conditions, the Project would have no impact or less than significant impacts on the following environmental issue areas: aesthetics, agriculture and forestry resources, air quality, geology and soils, greenhouse gas emissions, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems.

The proposed Project's impacts on the following issue areas would be less than significant with the implementation of project-specific mitigation measures: biological resources, cultural resources, hazards and hazardous materials, and transportation and traffic. All impacts would be less than significant after mitigation.

According to the State CEQA Guidelines, it is appropriate for the City to adopt an IS/MND for the proposed Project because, with the incorporation of recommended mitigation measures, the proposed Project's potentially significant environmental impacts would be eliminated or reduced to levels considered less than significant.

1.8 PROJECT REVIEW AND DECISION

This Initial Study (IS) has been prepared pursuant to Section 15063 of the California Environmental Quality Act (CEQA) Guidelines, as amended. Although this Initial Study has been prepared with consultant support, all analyses, conclusions, findings and determinations made herein represent the position of the City of Newport Beach acting as the Lead Agency for CEQA compliance. Notices of the availability of the IS and the proposed IS/MND for review and comment have been posted at the Project site and at the City of Newport Beach Community Development Department. In addition, notice of the public review period will occur via publication in a newspaper of general circulation in the Project area.

The environmental documentation is also available for review on the City's website: http://www.newportbeachca.gov/ceqadocuments and at the following locations:

- **City of Newport Beach Community Development Department**
  100 Civic Center Drive
  Bay B
  Newport Beach, California 92660
  (949) 644-3309
  Hours: 7:30 AM to 5:30 PM Monday through Thursday
  7:30 AM to 4:30 PM Friday

- **Newport Beach Central Library**
  1000 Avocado Avenue
  Newport Beach, California 92660
  (949) 717-3800
  Hours: 9:00 AM to 9:00 PM Monday through Thursday
  9:00 AM to 6:00 PM Friday and Saturday
  12:00 PM to 5:00 PM Sunday

- **Newport Beach Library, Balboa Branch**
  100 East Balboa Boulevard
  Newport Beach, California 92661
  (949) 644-3076
  Hours: 9:00 AM to 9:00 PM Monday and Wednesday
  9:00 AM to 6:00 PM Tuesday and Thursday to Saturday
  Closed Sundays

- **Newport Beach Library, Mariners Branch**
  1300 Irvine Avenue
  Newport Beach, California 92660
  (949) 717-3838
  Hours: 9:00 AM to 9:00 PM Monday through Thursday
  9:00 AM to 6:00 PM Friday and Saturday
  12:00 PM to 5:00 PM Sunday

- **Newport Beach Library, Corona del Mar Branch**
  420 Marigold Avenue
  Newport Beach, California 92625
  (949) 644-3075
  Hours: 9:00 AM to 9:00 PM Tuesday and Thursday
  9:00 AM to 6:00 PM Wednesday, Friday and Saturday
  Closed Sundays and Mondays

A 30-day public review period has been established for the IS/MND, in accordance with Section 15073 of the State CEQA Guidelines. In reviewing the IS/MND, affected public agencies and interested members of the public should focus on the adequacy of the document in identifying and analyzing the potential environmental impacts and the ways in which the potentially significant effects of the Project can be avoided or mitigated. Comments on the IS/MND and the analysis contained herein may be sent to:

Benjamin M. Zdeba, AICP
Associate Planner
City of Newport Beach
100 Civic Center Drive
Newport Beach, California 92660
bzdeba@newportbeachca.gov

Following receipt and evaluation of comments from agencies, organizations, and/or individuals, the City of Newport Beach will determine whether any substantial new environmental issues have been raised or substantial comments have been provided that would require revisions to the IS/MND document. If so, further documentation may be required. If not, the City may adopt the finalized IS/MND.

The proposed Project and the adequacy of this IS/MND will be considered by the Planning Commission at a public hearing anticipated to be held on September 22, 2016, in the City

Council Chambers, 100 Civic Center Drive, Newport Beach, CA 92660. If the Planning Commission approves the Project and certifies the IS/MND, they will adopt findings relative to the Project's environmental effects as disclosed in the IS/MND and a Notice of Determination (NOD) will be filed with the Orange County Clerk.

1.9 DOCUMENTS INCORPORATED BY REFERENCE

In preparation of this IS/MND, relevant documents have been cited and incorporated, in accordance with Sections 15148 and 15150 of the State CEQA Guidelines. The following reports and/or studies are applicable to the proposed Project and are hereby incorporated by reference.

- *City of Newport Beach General Plan*, City of Newport Beach, adopted July 25, 2006.
- *City of Newport Beach General Plan Final Environmental Impact Report (SCH [State Clearinghouse] No. 2006011119),* certified July 2006.
- *City of Newport Beach Municipal Code,* which includes the City of Newport Beach Zoning Code (Title 20).
- *Status Assessment of Cultural Resources within the Coyote Canyon Landfill, November 2014.*
- *Final Closure Plan for the Coyote Canyon Sanitary Landfill, June 1990.*
- *Phase I Environmental Assessment, 20662 Newport Coast Drive, Parcel 4, September 2006.*
- *Combined Semi-Annual Water Quality Management Monitoring Report (October 2015 – March 2016) and Constituents of Concern Testing Report (October 2011 – March 2016) and Annual Summary Report (April 2015 – March 2016), Coyote Canyon Landfill, April 2016.*

These reports/studies are available for review at the City of Newport Beach Community Development Department (refer to address and hours provided above). Some are also available on the City's website at http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations.

a) the significance criteria or threshold, if any, used to evaluate each question; and

b) the mitigation measure identified, if any, to reduce the impact to less than significance.

2.0 DISCUSSION OF ENVIRONMENTAL CHECKLIST QUESTIONS

This section of the Initial Study analyzes the potential for significant environmental impacts that may result from the demolition of structures and the construction of temporary and permanent wireless telecommunication facilities at the closed Coyote Canyon Landfill gas-to-energy facility site. The format for this analysis is based on the enclosed Environmental Checklist.

For the evaluation of potential impacts, the questions in the checklist are stated and an answer is provided reflecting the analysis conducted for each potential impact. To each question, there are four possible responses:

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

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

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

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

I. AESTHETICS.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista?				**X**
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				**X**
c) Substantially degrade the existing visual character or quality of the site and its surroundings?		**X**		
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			**X**	

Impact Analysis

Would the project:

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

Finding: No Impact

The project site is not located within a scenic vista. The City of Newport Beach designates scenic coastal vistas, which includes Newport Coast from Pelican Hill Road North to Coast Highway[3], but that is well south of the project site.

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

Finding: No Impact

The project site does not include scenic resources, including, but not limited to trees, rock outcroppings or historic buildings within a state scenic highway. The project site does not have any historic buildings. In addition, the project site is completely paved and does not contain any on-site trees or rock outcroppings.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

Finding: Less than Significant with Mitigation Incorporated

Visual resources are an important component of the quality of life of any geographic area. As users experience a place, their primary sensory interaction with that place is visual in nature, and a wide variety of shapes, colors, and textures, composed of topography, structures, roadways, and vegetation, forms the views of and from the City. The City of Newport Beach is sited on a coastal plain and is bounded on three sides by developed urban lands of Huntington Beach, Costa Mesa, and Irvine. The rolling green hills of Crystal Cove State Park create views to the east and form the City boundary at the east, while the Pacific Ocean fills the views to the southwest. Development in Newport Beach has been designed to capture views of the ocean, capitalizing on the ridgelines and hillsides as vantage points. The Upper and Lower Newport Bay, draining an area of 118 square miles via the San Diego Creek and Santa Ana Delhi Channel, bisects the City, and creates a dominant physical land feature that includes estuaries, beaches, the harbor, coastal bluffs and meandering waterways unique to Newport Beach. From the higher elevations in the City, views to the north include the San Joaquin Hills and, in the distance, the Santa Ana Mountains. This combination of hills, canyons, bluffs and water features create a visually dynamic landscape.[4]

[3] *City of Newport Beach General Plan Update EIR*, p. 4.1-9, July 2006.
[4] Ibid., p. 4.1-1.

Slopes rising up from coastal plains provide a dramatic contrast to the generally flat topography at the coastline and visually dominate the majority of the relatively low-scale urban development at the beachfront. Canyons and gullies formed by water coursing from the mountains to the ocean similarly provide stunning contrast to the coastal tidelands and beaches. The majority of the undeveloped headlands lie in the eastern portion of the City in the area known as Newport Coast/Ridge.[5] The protected canyons, hills, and bluffs of the eastern portion of the City are also recognized for their scenic quality. Topographic landforms of the Newport Coast and Newport Ridge contribute significantly to the aesthetic quality that residents value.[6]

The project site is zoned OS (Open Space) and is designated OS (Open Space) in the General Plan Land Use Element. The General Plan protects open spaces through land use and natural resources policies, and thus, the existing aesthetic qualities of the open space areas of the City are maintained. For example, General Plan Land Use Policy LU 1.3 protects the natural setting that contributes to the character and identity of Newport Beach and the sense of place it provides for its residents and visitors. This policy aims to preserve open space resources, beaches, harbor, parks, bluffs, preserves and estuaries as visual, recreational and habitat resources. Policy LU 1.6 requires public views, including scenic and visual resources such as open space, mountains, canyons, ridges, the ocean, and the harbor, be preserved and where possible, enhanced from public vantage points.[7] In addition, Natural Resources Goal NR 21 is to minimize visual impacts of signs and utilities, and Policy NR 21.1 states that signs, utilities and antennas shall be sited and designed to minimize visual impacts.[8]

The project site is situated on a ridge at an elevation of approximately 780 feet above mean sea level. The site is relatively flat, but there is a drop in elevation around the site on three sides. On the eastern side of the site, elevations rise to the next hill. The general topographic gradient for the area appears to be falling to the northwest, although there are numerous local variations due to the hill and canyon topography in the area. At the project site, the topographical gradient is slightly falling to the north (GRS, 1993).

The project site is completely paved and is surrounded by a 12-foot high perimeter wall, which has a front gate that is locked when facility personnel are not on-site. All of the landfill gas-to-energy structures are located inside the perimeter wall. The wall is surrounded by tall trees that are an estimated 20 to 60 feet in height, as shown on **Figure 4**. These trees are non-native, ornamental trees. The perimeter wall and tall trees were installed in 1987 at the same time that the gas-to-energy facility was constructed to visually screen the landfill gas-to-energy facility structures from nearby residential areas in both Newport Beach and Irvine. There are gaps between the trees, especially on the western side of the project site. Also, the trees on the eastern side appear more prominent since they are located on a 10-foot high berm.

The closed Coyote Canyon Landfill consists of the main canyon landfill (located west of Newport Coast Drive and north of San Joaquin Hills Road), and the east and south canyon landfill areas (located east of Newport Coast Drive), as well as the landfill gas-to-energy facility

[5] Ibid., p. 4.1-10.
[6] Ibid., p. 4.1-12.
[7] Ibid., p. 4.1-20.
[8] Ibid., p. 4.1-37.

site (located between the east and south canyon landfilling areas). The location of the landfill gas-to-energy facility site, which is the project site, is shown on **Figure 1**. All of the landfill areas including the project site are shown on **Figure 2**. Land uses that are immediately adjacent to the project site include the landfill areas described above, an Irvine Ranch Water District water pumping station and designated open space. In addition, Sage Hill High School is located immediately north of the east canyon landfill area.

The closest homes to the project site, that have direct views of the project site looking to the north, are located along the northerly end of Arbella, Marisol, Renata, and Portica streets, approximately 1,283 feet south of the project site, as shown on **Figure 2**. A representative view of the project site from these closest homes is shown on **Figure 3**, taken from Renata. In addition, Sage Hill High School is approximately 1,500 feet north of the project site and Newport Coast Elementary School is approximately 1,875 feet southwest of the project site. In addition, the Newport Coast Community Center is approximately 1,575 feet southwest of the project site, as shown on **Figure 2**. Other local land uses near the project site include the Newport Coast Shopping Center located southwest of the Newport Coast Community Center and the Newport Coast Community Park located west of the Newport Coast Community Center. In addition, the San Joaquin Hills Transportation Corridor (SR-73) is located immediately north of Sage Hills High School. North of SR-73, there are residential areas in the City of Irvine (i.e., Turtle Ridge) that have views of the project site, looking southward. The project site is visible from all of these adjacent land uses due to the fact that the project site is located on a ridge with a 105-foot high exhaust stack.

A Tree Health Assessment Report was prepared for the non-native trees surrounding the perimeter wall at the project site. These non-native trees, as shown on **Figure 4**, were installed in 1987 during the construction of the gas-to-energy facility in order to provide visual screening of the gas-to-energy facility from views in Newport Coast and other land uses located near the project site. The Tree Health Assessment Report, which is included as **Appendix A**, inventoried and evaluated 355 trees along the perimeter of the gas-to-energy facility site. The inventoried trees comprise four genera, with 193 trees identified as Myoporum (*Myoporum laetum*), 141 trees identified as eucalyptus trees (*Eucalyptus* spp.; Red River gum [*E. camaldulenis*], lemon scented gum [*E. citriodora*], bushy yate [*E. conferruminata*], silver dollar gum [*E. polyanthemos*], and red ironbark [*E. sideroxylon*]), 18 trees identified as Peruvian pepper (*Schinus molle*), and 3 trees identified as oak (*Quercus* sp). The three oak trees are the only native trees.

The Tree Health Assessment Report concluded that 67 percent of all of trees surrounding the project site are either dead or are dying and are therefore proposed for removal. In addition, since the project site is located in a Very High Fire Hazard Severity Zone, almost all of the remaining trees are proposed for removal, so that they can be replaced with native trees that present a significantly reduced fire risk. Twenty-four (24) healthy trees will be retained that provide important visual screening of the project site. A total of 331 trees will be removed.

A Tree Replacement and Revegetation Plan has been included as **Appendix B**. The Tree Replacement and Revegetation Plan proposes to remove the existing non-native trees described above and replace them with native trees that will include 12 white alder and western sycamore

trees and 63 coast live oak trees. This will provide effective long-term visual screening of the project site while still maintaining fire safety requirements by maintaining sufficient spacing between tree canopies. The native trees will provide a much lower fire risk when compared to the existing non-native trees. The new trees will also have a dedicated above-ground irrigation line to ensure that the new trees receive sufficient irrigation (i.e., the existing trees do not have a functioning irrigation system). In addition, OC Waste & Recycling will ensure that a qualified habitat maintenance contractor will provide long-term habitat maintenance and monitoring for the new trees.

Viewshed simulations of the proposed temporary and permanent wireless telecommunication facilities were performed and are included as **Appendix C**. As discussed in Section 1.5 Project Description, once the temporary wireless telecommunication facilities are operational, the 105-foot high exhaust tower will be demolished and removed from the project site. However, in order to establish an aesthetics/viewshed baseline for comparison purposes, the viewshed simulations were performed showing the temporary and permanent wireless telecommunication facilities, both with and without the 105-foot high exhaust tower. The temporary wireless telecommunication facilities will be removed from the project site as soon as the permanent wireless telecommunication facilities are operational.

The viewshed simulations included as **Appendix C** were taken from five locations. These locations include the following: (1) looking southeast from Newport Coast Drive (just south of Sage Hill High School), (2) looking northwest from Ridge Park Road and Vista Ridge Road, (3) looking north from Renata, (4) looking northeast from Newport Coast Drive (just northeast of San Joaquin Hills Road) and (5) looking southwest from SR-73. The viewshed simulations show the project site at points in time during the future, which include: (1) showing the project site when all of the non-native trees are removed, (2) showing the project site after the native sycamores, alders and oaks have been growing for five years and (3) when the native sycamores, alders and oaks have reached full maturity. It is anticipated that OC Waste & Recycling will implement the Tree Replacement and Revegetation Plan beginning in September 2017.

As shown by these viewshed simulations, the proposed 65-foot high temporary and 65-foot high permanent wireless telecommunication facilities at the project site will be highly visible from all of the locations that were selected for the viewshed simulations. The greatest visual impact will occur between the time when all of the non-native trees are removed and before the new native trees have had an opportunity to grow to a sufficient height to provide effective visual screening. However, it is important to note that this impact will be temporary and once the new native trees begin to mature, the new trees will create an aesthetic enhancement when compared to the existing conditions at the project site, which include the following: (1) a 105-foot high white exhaust stack that currently dominates the visual environment in the surrounding community; (2) dead and dying non-native trees that provide only partial screening of the project site, with several gaps in the screening especially along the western and southern sides of the project site; and (3) the non-native trees contrast sharply with the surrounding native habitat. With the proposed project, the 105-foot high white exhaust stack will be removed and the non-native trees will be removed and replaced with the native white alders, western sycamores and coast live oak trees discussed above that will provide an aesthetic enhancement over time, when compared to existing conditions at the project site. Also, the native trees will blend in much easier with the

surrounding native habitat, when compared to the existing trees, providing a more natural appearance. In addition, the permanent wireless telecommunication facilities will be designed to look like trees and will therefore blend in with the new native trees, as the native trees begin to grow and mature. The Tree Replacement and Revegetation Plan is included as a mitigation measure for the proposed project. With the implementation of this mitigation measure, the proposed project's potentially significant impacts to aesthetics/views will be reduced to a less than significant level.

Mitigation Measures

- ***(MM-1)*** In order to reduce long-term aesthetics/views impacts to a less than significant level, OC Waste & Recycling will implement a Tree Replacement and Revegetation Plan for the proposed project which will remove the majority of the non-native trees that currently surround the project site and replace them with native white alders, western sycamores and coast live oak trees. The new trees will also have a dedicated above-ground irrigation line to ensure that the new trees receive sufficient irrigation. In addition, OC Waste & Recycling will ensure that a qualified habitat maintenance contractor will provide long-term habitat maintenance and monitoring for the new trees.

- ***(MM-2)*** The Final Tree Replacement and Revegetation Plan will be modified by the City as necessary to add additional white alders and western sycamore trees, that grow more quickly than coast live oak trees, so that the Revegetation Plan provides no major gaps for the long-term visual screening of the project site.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Finding: Less than Significant Impact

The demolition of existing gas-to-energy facility structures will not result in any significant impacts to aesthetics/views. The demolition of these structures will be short term lasting approximately three months. A large crane will be used for the removal of the 105-foot high exhaust stack on the site, but the use of the crane is anticipated to last for two days. Both the temporary and permanent wireless telecommunication facilities will be designed so that any reflective surfaces will not result in any significant light and glare impacts to nearby homes, other adjacent land uses, or to drivers on Newport Coast Drive, San Joaquin Hills Road, SR-73 or any other roadways and streets in the local area. In addition, the temporary and permanent wireless telecommunication facilities will not result in the need for any artificial lighting. Demolition of the existing gas-to-energy facility structures and construction of the temporary and permanent wireless telecommunication facilities will only occur during daylight hours only; no night lighting will be utilized. As a result, the proposed project will not result in any significant impacts from substantial light or glare.

II. AGRICULTURE & FORESTRY RESOURCES.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
AGRICULTURE AND FOREST RESOURCES – Would the project:				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland.				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				**X**
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?				**X**
d) Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				**X**

Impact Analysis

Would the project:

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

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

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

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

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

Finding: No Impact

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

III. AIR QUALITY.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
AIR QUALITY – Would the project:				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
a) Conflict with or obstruct implementation of the applicable air quality plan?			**X**	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			**X**	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			**X**	
d) Expose sensitive receptors to substantial pollutant concentrations?			**X**	
e) Create objectionable odors affecting a substantial number of people?			**X**	

Impact Analysis

Would the project:

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

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

d. Expose sensitive receptors to substantial pollutant concentrations?

Finding: Less than Significant Impact

The project air quality assessment is included as part of **Appendix D**. A summary of the project air quality assessment is included below.

The project site is located within the South Coast Air Basin (Basin). The South Coast Air Quality Management District (SCAQMD) regulates air quality throughout the Basin.

The federal Clean Air Act (CAA) and California Clean Air Act (CCAA) require preparation of plans to maintain air emissions within healthy levels. SCAQMD has responded to this requirement by preparing a series of air quality management plans (AQMP), the most recent of which was adopted by the governing board in December 2012. The 2012 AQMP incorporates the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. The 2012 AQMP includes the new and changing federal requirements, implementation of new technology measures, and continued development of economically sound, flexible compliance approaches.

The AQMP projects attainment of federal and State air quality requirements and bases these projections on several assumptions. The AQMP assumes that general development projects will be constructed in accordance with the Southern California Association of Governments (SCAG) population growth projections and that general development projects will implement strategies (mitigation measures) to reduce emissions generated during construction and operation. Projects that are consistent with growth projections and that implement all feasible mitigation measures generally are consistent with the AQMP.

Project total emissions of criteria pollutants (CO, ROC, NOx, SOx, PM_{10}, and $PM_{2.5}$) are unchanged from the existing land use. The project would not generate substantial new emissions and would not affect implementation of the AQMP. No mitigation is required.

Long-term air emission impacts are those associated with stationary sources and mobile sources involving any project-related change. The project consists of the demolition of an existing tower and gas-to-energy collection system and cell tower replacement at the Coyote Canyon Landfill. Once the demolition and construction operations are completed, there will be no new operational emissions from the project.

Construction Impacts. Emissions of pollutants would occur during construction of the proposed project from soil disturbance and equipment exhaust. Major sources of emissions during demolition and construction include: (1) exhaust emissions from construction equipment and vehicles; and (2) fugitive dust generated by demolition activities, construction vehicles, and equipment traveling over exposed surfaces.

Peak daily emissions associated with the on-site construction equipment, on-road haul trucks and vendor trips, and fugitive dust emissions during each of the construction tasks were calculated

using California Emission Estimator Model (CalEEMod) Version 2013.2.2. The total peak-day construction emissions are summarized in **Table 1** and detailed in **Appendix D**. The emissions listed in **Table 1** represent the maximum daily emissions generated during each phase of construction.

Table 1: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	VOCs	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	4.6	44	29	.05	1.4	2.4	.26	2.3
Temporary tower construction	2.5	24	17	.02	.17	1.5	.05	1.4
Permanent tower construction	2.8	28	19	.03	.03	1.8	.01	1.6
Peak Daily	**7.0**	**68**	**45**	**.08**	**5.5**		**4.0**	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA Associates, Inc. (May 2016).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Since on-site construction operations must comply with dust control and other measures prescribed by SCAQMD Rules 402 and 403, compliance with these rules is assumed in **Table 1**. **Table 1** shows that construction equipment/vehicle emissions during construction periods would not exceed any of the SCAQMD established daily emissions thresholds. Therefore, project-related long-term air quality impacts would be less than significant. No mitigation is required.

e. Create objectionable odors affecting a substantial number of people.

Finding: Less Than Significant Impact

The closed Coyote Canyon Landfill has an existing landfill gas collection system that is designed to safely collect and dispose of landfill gas generated by the decomposition of solid waste materials inside the landfill. The landfill gas collection system is essentially a large vacuum system that collects landfill gas generated inside the landfill, and then conveys the landfill gas to three existing flares on the project site, where the landfill gas is safety incinerated, in compliance with public health and safety regulations that are enforced by the South Coast Air Quality Management District, the California Department of Resources Recovery and Recycling (CalRecycle) and the County of Orange Environmental Health Department - acting in its role as the Local Enforcement Agency for CalRecycle. The three existing flares are located on the project site and will remain unaffected by the demolition of the gas-to-energy facility structures or the construction of the temporary and permanent wireless communication facilities. The flaring of landfill gas does not result in the creation of any migratory odors nor do the flares result in any human health impacts. In addition, demolition activities will not result in any impacts to the subsurface landfill gas collection system that connects to the three flares. The project will not result in any significant odor impacts.

IV. BIOLOGICAL RESOURCES.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		**X**		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?		**X**		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				**X**
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		**X**		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		**X**		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		**X**		

Impact Analysis

Would the project:

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

Finding: Less Than Significant with Mitigation Incorporated

The project site is completely paved and is surrounded by a 12-foot high perimeter wall, which has a front gate which is locked when facility personnel are not on-site. All of the landfill gas-to-energy structures are located inside the perimeter wall. The wall is surrounded by tall trees that are an estimated 20 to 60 feet in height. These trees are almost all non-native, ornamental trees that consist of various species of eucalyptus (*Eucalyptus* ssp.), myoporum (Myoporum laetum) and Peruvian pepper (*Schinus molle*). The perimeter wall and tall trees were installed to

screen the landfill gas-to-energy facility structures from nearby residential areas in both Newport Beach and Irvine. There are gaps between the trees, especially on the western side of the project site. Also, the trees on the eastern side appear more prominent since they are located on a 10-foot high berm. A paved access road to the facility, that is approximately 1,400 feet in length and shared with the Irvine Ranch Water District, connects the facility site to Newport Coast Drive where there is a traffic signal. The perimeter wall and access road were constructed at the same time as the gas-to-energy facility in 1987. The perimeter trees were also installed at the same time.

Diegan coastal sage scrub is located approximately 30 to 40 feet outside of the perimeter wall, on all sides of the project site and along the sides of the paved access road to the project site. Coastal sage scrub can be defined as low, drought-deciduous, and evergreen shrubs that occur generally below 3,000 feet in elevation on steep to moderate, south-facing, exposed slopes of the western mountains. Shrubs are more widely spaced than those typical of chaparral and do not have the characteristic rigidness or thick drought-resistant leaves. Coastal scrub communities are characterized by low shrubs and an absence of trees. Types of shrubs include either pure stands or mixtures of low, thick-leaved evergreens and coarse, deciduous species that drop their leaves in response to periodic drought conditions. Dominant species include California sagebrush (*Artemesia californica*), California buckwheat (*Erigonum fasciculatum*), coastal goldenbush (*Isocoma menziesii*), deerweed (*Lotus scoparius*), mesa bushmallow (*Malacothamnus fasciculatus*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and small-flowered needle grass (*Nassella lepida*). Diegan coastal sage scrub integrates with chaparral communities at higher elevations and Riversidian sage scrub in drier inland areas (Holland 1986).

Coastal sage scrub is considered a sensitive habitat because it supports a diverse fauna and has potential to support numerous threatened, endangered or rare species, and has been acknowledged as such by its inclusion in the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Subregion of Orange County (Orange County 1996). Among these are the coastal cactus wren (*Campylorhynchus brunneicapillus*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), orange-throated whiptail (*Cnemidophorus hyperthyrus*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), Bell's sage sparrow (*Amphispiza belli*), coastal California gnatcatcher (*Polioptila californica*) and the southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). Scrub habitats are also important to larger species such as mule deer (*Odocoileus hemionus*) and mountain lions (*Felis concolor*).[9]

Undeveloped areas supporting natural habitats that may be capable of supporting sensitive biological resources within the City of Newport Beach are referred to as Environmental Study Areas (ESAs). An ESA may support species and habitats that are sensitive and rare within the region or may function as a migration corridor for wildlife. There are 28 identified ESAs within the City. Many of these sites contain one or more sensitive plant communities, and many species of wildlife. Some of the ESAs also contain endangered plant species of plants and animals. Most of these ESAs are protected as parks, conservation areas, nature preserves, and open space areas. However, each of these ESAs are subjected to various threats from the surrounding urban

[9] *City of Newport Beach General Plan Update EIR*, p. 4.3-3, July 2006.

environment that include polluted water quality, traffic, noise, public access, development encroachment, erosion and sedimentation, dredging or filling, stormwater runoff, invasive species and feral animals.[10] The area surrounding the project site and access road are located in the Coyote Canyon ESA.[11] The project site and the access road to the project site are not located within the Coyote Canyon ESA since they are existing uses and are completely disturbed (i.e., paved). The viewshed trees surrounding the project site are located within the ESA. The project site is zoned OS (Open Space) and is designated OS (Open Space) in the General Plan Land Use Element. Citywide General Plan Natural Resources Policy NR 17.1 protects, conserves, and maintains designated open space areas that define the City's urban form, serve as habitat for many species, and provide recreational opportunities.[12] Policy NR 10.3 protects and prohibits development in nature preserves, conservation areas, and designated open space areas in order to minimize urban impacts upon resources in identified ESAs.[13] In addition, Policy NR 10.5 requires that the siting and design of new development, including landscaping and public access, protect sensitive or rare resources against any significant disruption of habitat values.[14]

Beginning in 1994, the Transportation Corridor Agencies (TCA) established 122 acres of coastal sage scrub at the closed Coyote Canyon Landfill, on the main, east and south canyon landfill areas. This coastal sage scrub restoration was done by TCA as mitigated for the construction of the San Joaquin Hills Transportation Corridor (SR-73). This coastal sage scrub restoration program has been highly successful and several nesting pairs of California gnatcatchers have been observed during surveys conducted by TCA. This coastal sage scrub restoration area provides an important linkage for the California gnatcatcher and other sensitive species between the San Joaquin Hills and Upper Newport Bay.

A biological resources assessment was performed on April 27, 2016, of the project site and the area immediately surrounding the project site to determine potential impacts to biological resources as a result of demolition of the landfill gas-to-energy plant and construction of the temporary and permanent wireless telecommunications facilities. A Tree Health Assessment Report was prepared in June 2016 for the non-native trees surrounding the perimeter wall at the project site. These non-native trees, as shown on **Figure 4**, were installed in 1987 during the construction of the gas-to-energy facility in order to provide visual screening of the gas-to-energy facility from views in Newport Coast and other land uses located near the project site. The Tree Health Assessment Report, which is included as **Appendix A**, inventoried and evaluated 355 trees along the perimeter of the gas-to-energy facility site. The inventoried trees comprise four genera, with 193 trees identified as Myoporum (*Myoporum laetum*), 141 trees identified as eucalyptus trees (*Eucalyptus* spp.; Red River gum [*E. camaldulenis*], lemon scented gum [*E. citriodora*], bushy yate [*E. conferruminata*], silver dollar gum [*E. polyanthemos*], and red ironbark [*E. sideroxylon*]), 18 trees identified as Peruvian pepper (*Schinus molle*), and 3 trees identified as oak (*Quercus* sp). The three oak trees are the only native trees.

[10] Ibid., p. 4.3-10.
[11] Ibid., p. 4.3-10 and Figure 4.3-2.
[12] Ibid. p. 4.1-36.
[13] Ibid., p. 4.3-31.
[14] Ibid.

The Tree Health Assessment Report concluded that 67 percent of all of trees surrounding the project site are either dead or are dying and are therefore proposed for removal. In addition, since the project site is located in a Very High Fire Hazard Severity Zone, almost all of the remaining trees are proposed for removal, so that they can be replaced with native trees that present a significantly reduced fire risk. Twenty-four (24) healthy trees will be retained that provide important visual screening of the project site. A total of 331 trees will be removed.

A Tree Replacement and Revegetation Plan has been included as **Appendix B**. The Tree Replacement and Revegetation Plan proposes to remove the existing non-native trees described above and replace them with native trees that will include 12 white alder and western sycamore trees and 63 coast live oak trees. This will provide effective long-term visual screening of the project site while still maintaining fire safety requirements that require sufficient spacing between tree canopies. The native trees will provide a much lower fire risk when compared to the existing non-native trees. The new trees will also have a dedicated above-ground irrigation line to ensure that the new trees receive sufficient irrigation (i.e., the existing trees do not have a functioning irrigation system). In addition, OC Waste & Recycling will ensure that a qualified habitat maintenance contractor will provide long-term habitat maintenance and monitoring for the new trees.

While the proposed demolition of former gas-to-energy facility structures and the construction of both temporary and permanent wireless telecommunication facilities will not result in any significant impacts to biological resources, since these activities will occur on paved areas, the project will result in the replacement of the non-native trees that surround the project site. These non-native trees do provide suitable nesting opportunities for migratory birds. In addition, coastal sage scrub is located approximately 30 to 40 feet outside the perimeter wall. Also, coastal sage scrub is located along both shoulders of the access road to the project site. Coastal sage scrub provides suitable habitat for the coastal California gnatcatcher, which is a federally threatened species and a California species of special concern. If not implemented properly, the proposed tree removal and replacement activities could result in significant impacts to coastal sage scrub. In addition, if not implemented properly, the proposed tree removal and replacement activities could result in significant impacts to migratory birds. Construction could directly or indirectly impact nesting birds if their nests are located within or near the work area. To reduce these potentially significant impacts to biological resources to a less than significant level, the following mitigation measures will be implemented:

Mitigation Measures

- ***(MM-3)*** To avoid potential impacts to active bird nests, including coastal California gnatcatchers or migratory birds, the proposed demolition of structures, the construction of temporary and permanent wireless telecommunication facilities, and implementation of the Tree Replacement and Revegetation Plan at the project site will comply with the NCCP Construction Minimization Measures. Specifically, these activities will occur outside the nesting bird season (i.e., February 15 to August 31).

- ***(MM-4)*** A qualified biologist will conduct a pre-construction survey of the proposed work areas within one week prior to the start of the work to verify that no special-status

species, such as coastal California gnatcatchers, or migratory birds, would be adversely affected by the proposed activities.

- ***(MM-5)*** For the proposed demolition activities and for the construction of the temporary and permanent wireless telecommunication facilities, all vehicles using the project site access road will remain on the asphalt access road. To prevent any impacts to coastal sage scrub, no staging areas, stockpiles, equipment storage, or vehicle turn outs will be permitted on the shoulder of the access road.

- ***(MM-6)*** As a part of the contract for tree removal activities, OC Waste & Recycling will ensure that the contractor provides methods to protect existing coastal sage scrub so that there will be no removal or disturbance to coastal sage scrub during tree removal activities.

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

Finding: Less Than Significant with Mitigation Incorporated

While the proposed project will not result in any significant impacts to riparian habitat, as the proposed project is located completely on paved concrete and asphalt, the project would have the potential to result in significant impacts to coastal sage scrub, which is a sensitive plant community. However, mitigation measures MM-2 through MM-5 from Section 2.IV.a will be implemented to reduce this impact to a less than significant level.

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

Finding: No Impact

The proposed project will not result in any impacts to Federally protected wetlands through direct removal, filling, hydrological interruption or other means. The proposed project will not result in any impacts to wetlands, Federal or State jurisdictional waters or any other riparian areas. The proposed project will occur on a site that is entirely disturbed. No grading of federal or state jurisdictional waters or wetlands will occur. No impacts will occur.

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

Finding: Less Than Significant with Mitigation Incorporated

While the proposed project will not result in any impacts to migratory fish or impede the use of wildlife movement corridors or native wildlife nursery sites, the project could result in significant impacts to migratory birds. However, mitigation measures MM-2 through MM-5 from Section 2.IV.a will be implemented to reduce this impact to a less than significant level.

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

Finding: Less Than Significant with Mitigation Incorporated

The proposed project would not result in any conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. There are no tree ordinances pertaining to the trees that will be removed and therefore no impacts will occur. However, activities associated with the implementation of the Tree Replacement and Revegetation Plan have the potential to result in significant impacts to sensitive or rare resources (i.e., coastal sage scrub, nesting birds, and wildlife species) under Citywide General Plan Natural Resources Policy NR 10.5. Mitigation measures MM-2 through MM-5 from Section 2.IV.a will be implemented to reduce these impacts to a less than significant level.

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

Finding: Less Than Significant with Mitigation Incorporated

The preparation of a comprehensive natural resources management conservation plan for the Central and Coastal Subregions of Orange County was completed in 1996. The Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Subregions of Orange County and the associated implementation agreement covers thirteen incorporated cities. In July 1996, the City of Newport Beach became a signatory agency in the NCCP/HCP. The purpose of the NCCP/HCP was to create a multi-species multi-habitat reserve system and implementation of a long-term management program that will protect primarily coastal sage scrub and the species that utilize this habitat. At the same time that it protects this habitat and species, the NCCP/HCP is also intended to allow for economical use of the lands that meet the people's needs.

The NCCP/HCP is intended to focus on multiple species and habitats and address conservation of these species on a regional context. The three main target species are the coastal California gnatcatcher, cactus wren and orange-throated whiptail. There are twenty-six other species that are also identified and afforded management protection under the NCCP/HCP. An additional ten species of plants and animals are either federally listed or threatened as if they were listed according to FESA Section 10(a) and are addressed within the NCCP/HCP.[15]
The project site is located in the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Subregion of Orange County. More specifically, the project site is located within the Coastal Subregion of the NCCP/HCP and the project site is

[15] Ibid., p. 4.3-20.

an existing use (i.e., landfill gas-to-energy facility) under the NCCP/HCP. The project area and habitat areas surrounding the perimeter wall of the project site are designated as Habitat Reserve within the NCCP/HCP. The proposed demolition of gas-to-energy facility structures and the construction of both the temporary and permanent wireless telecommunication facilities would not result in a taking or disturbance to coastal sage scrub or other native plant communities located outside of the perimeter wall; however, activities associated with the implementation of the Tree Replacement and Revegetation Plan have the potential to result in significant impacts to coastal sage scrub. However, mitigation measures MM-2 through MM-5 from Section 2.IV.a will be implemented to reduce these impacts to a less than significant level.

V. CULTURAL/SCIENTIFIC RESOURCES.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				**X**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		**X**		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		**X**		
d) Disturb any human remains, including those interred outside of formal cemeteries?				**X**

Impact Analysis

Would the project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Finding: No Impact

The proposed project would not result in any disturbance to historical resources, as defined in Section 15064.5 of the CEQA Guidelines, as there are no historical structures located on the project site. All of the existing gas-to-energy structures located on the project site that will be demolished are less than 30 years old and are not historic resources. No impacts to historic resources will occur.

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

Finding: Less than Significant with Mitigation Incorporated

The first generally accepted period of human occupation of Southern California began at about the end of the Pleistocene Epoch, about 10,000 to 12,000 years ago. Archaeological sites around Upper Newport Bay have yielded some of the evidence for the earliest human occupation of Orange County and date to about 9,500 years before present (BP). Over 50 sites have been documented, including Newport Coast and Banning Ranch. Many of these sites have yielded, or have been determined to have the potential to yield, substantial information regarding the prehistory of the City and the County, and have included human burials.

At least two and possibly three distinct cultural groups inhabited the area, and later period sites indicate that the area was heavily populated at the time of European contact. Ethnographically, the Planning Area falls within a region in which tribal boundaries are unclear: both the Gabrielino and the Luiseno/Juaneno lay ancestral claims. According to David Belardes of the Juaneno Band of Mission Indians, the territory of the Juaneno extended north to the Santa Ana River drainage; however, Gabrielino territory is thought by some to extend south of the Santa Ana River Drainage to Aliso Creek, and possibly even further south.[16]

The Luiseno/Juaneno were hunters/gatherers, organized into sedimentary and semi-sedentary, autonomous villages. A large village was typically 30 square miles, and contained several hunting, fishing and collecting areas in different ecological zones. Seasonal moves to exploit resources outside a village's territory occurred during several weeks of the year. The coastal Luiseno/Juaneno bands exploited a variety of plant food resources. Seeds and acorns accounted for up to 75 percent of the typical diet. Many fruits, berries, bulbs, and roots were used as medicines, beverage bases, and manufacturing materials as well as food. Terrestrial game accounted for an estimated five to ten percent of the coastal Luiseno/Juaneno diet; fish and marine mammals represented an additional 20 to 35 percent. Luiseno/Juaneno material culture associated with food procurement includes tools such as manos and metates, as well as mortals and pestles for processing acorns and seeds, and pulverizing pulpy materials and small game. They probably hunted first with spears, and then later with bows and arrows. The projectiles themselves would have had fire-hardened wood or chipped stone tips. Near-shore fishing and marine mammal hunting were accomplished with light balsa or dugout canoes.[17]

Archaeological resources were discovered at the Coyote Canyon Landfill when the landfill was still operational prior to 1990. Archaeological resources were discovered in the main canyon landfill as well as the both the east and south canyon landfills. No archaeological resources have been discovered at the project site. Most sites were destroyed either unintentionally during landfill use prior to 1990, deliberately during landfill use after testing showed the site was not significant, or deliberately during landfill use after the conclusion of data recovery excavation. A summary of the archaeological resources found at the Coyote Canyon Landfill site are discussed below.

All of these archaeological sites at the landfill contained quantities of marine shell and nearly all contained lithic debitage such as flakes. Most also contained flaked and ground stone tools such as projectile points and manos, fire-affected rock, and bone. Some of the sites contained beads, pendants and bone tools. One site was recorded to contain burned human bone. These sites have

[16] Ibid., p. 4.4-3.
[17] Ibid.

been described as residential bases and field camps. Both residential bases and field camps are habitation sites, distinguished primarily by site size, and quantity of diversity of material remains. Larger residential bases contain greater quantities of material and usually contain burned bone and items such as beads and pendants. Extremely large residential bases are known as villages. Smaller habitations with limited material, or habitation sites with a variety of material in smaller quantities, are known as field camps. Size is dependent to a great degree upon the number of occupants and duration of occupation. Sites occupied permanently by a large number of individuals are usually larger with more discarded material, while sites occupied temporarily by fewer individuals are usually small with less material. Residential bases and field camps are identified as large or small habitation sites. Sites with marine shell but few artifacts are classified as shell middens.

A site can also be distinguished by whether it is a rockshelter or open-air site. Rockshelters contain some protection from the elements through the formation of a cave, overhang, or enclosure created by the shape of boulders or outcropping bedrock. The San Joaquin Hills contain a number of small and large rockshelters created by sandstone outcrops, many of which were used prehistorically for shelter.[18]

General Plan Historical Resources Policy HR 2.1 requires that new development shall protect and preserve archaeological and paleontological resources from destruction, and avoid and minimize impacts to such resources in accordance with the requirements of CEQA. In addition, Policy HR 2.2 requires that the project applicant retain a qualified archaeologist/paleontologist to monitor all grading and/or excavation where there is a potential to affect cultural, archaeological or paleontological resources. If these resources are found, the project applicant shall implement the recommendations of the archaeologist/paleontologist, subject to the approval of the City of Newport Beach Planning Division.[19]

The project site is completely disturbed from the original construction of the gas-to-energy facility in 1987. The project site is also completely paved with concrete and asphalt. While it is therefore unlikely that any significant archaeological resources exist at the project site, a mitigation measure has been added below. With the implementation of this mitigation measure, potential impacts to archaeological resources will be reduced to a less than significant level.

In compliance with the California Environmental Quality Act, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014, the City of Newport Beach conducted an AB 52 consultation process with those Native American tribes that have previously requested notification for projects in the City of Newport Beach where the City is the lead agency under CEQA and an EIR or Negative Declaration is prepared. On July 5, 2016, the City sent a request for consultation letters to the Juaneno Band of Mission Indians – Acjachemen Nation and the Gabrieleno Band of Mission Indians – Kizh Nation. On July 11, 2016, a response letter was received from Mr. Andrew Salas of the Gabrieleno Band of Mission Indians – Kizh Nation requesting formal consultation on the potential archaeological resources for the proposed project.

[18] *Status Assessment of Cultural Resources within the Coyote Canyon Landfill*, LSA Associates, p. 7, November 2014.
[19] Ibid., p. 4.4-21.

The City will continue to work with the Gabrieleno Band of Mission Indians – Kizh Nation to ensure concerns are addressed.

Mitigation Measures

- ***(MM-7)*** The project applicant shall retain an archaeological and paleontological resource monitor to monitor the project's subsurface areas during land disturbance from demolition and construction activities. If any archaeological or paleontological resources are discovered, the archaeological/paleontological monitor will have the authority to stop work, assess the resources found, and implement a plan for the removal of the archaeological/paleontological resources if deemed significant.

- ***(MM-8)*** During construction activities, the project applicant shall allow representatives of cultural organizations, including Native American tribes (i.e., Gabrieleno Band of Mission Indians – Kizh Nation), to access the project site on a volunteer basis to monitor grading and excavation activities.

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

Finding: Less than Significant with Mitigation Incorporated

Fossils in the central Santa Ana Mountain represent the oldest formations in the County at 145 to 175 million years old and contain aquatic fossil types, such as radiolarians (single-celled plankton), ammonites (extinct members of the class including nautili, squid, and octopi), and bivalves (such as oysters and clams). The predominance of these fossil types indicates that Orange County, for much of its geological history, was underwater.

During the Miocene Epoch (26 million years ago to 7 million years ago), tectonic forces produced uplifts that resulted in the formation of mountains and initiated movement on the nascent San Andreas Fault system, forming numerous coastal marine basins, including the Los Angeles Basin, of which Orange County is a part. As the sea retreated, the County became a shallow bay surrounded by jungle and savannah areas, as indicated by the mix of aquatic and terrestrial fossils found in rocks of Miocene age. Miocene-age rock units that underlie the area, particularly in the Newport Coast area, are considered to be of high-order paleontological significance (6 to 9 on a scale of 1 to 10).[20]

Further tectonic activity began to uplift the land during the Pliocene Epoch (7 million years ago to 2.5 million years ago), and the sea slowly receded from the coast, resulting in the formation of a succession of shoreline deposits that formed a marine terrace. Sandstone deposited in the Newport Beach area during the Pliocene Epoch contains a variety of marine mammals, sea birds and mollusks.

During the Pleistocene Epoch (2.5 million years ago to 15,000 years ago), the seas continued to retreat as tectonic uplift continued. Although the Pleistocene Epoch is known as the "Ice Age",

[20] Ibid.

glacial ice never reached southern California, and paleontological evidence indicates that a heavily vegetated, marshy area extended inland beyond the shoreline. However, a variety of vertebrate animals typically associated with the Ice Age inhabited the area: local paleontological sites, particularly near the Castaways, have yielded fossils of Ice Age horses, elephants, bison, antelopes, and dire wolves. Also, a number of localities in the portions of the Vaqueros formation that underlie the Newport Coast area have yielded a variety of invertebrate and vertebrate fossils, and are considered to be of high-order paleontological significance (9 on a scale of 1 to 10). Other geological formations that have also yielded significant fossils include the Topanga and Monterey Formations.[21]

General Plan Historical Resources Policy HR 2.1 requires that new development shall protect and preserve archaeological and paleontological resources from destruction, and avoid and minimize impacts to such resources in accordance with the requirements of CEQA. In addition, Policy HR 2.2 requires that the project applicant retain a qualified archaeologist/paleontologist to monitor all grading and/or excavation where there is a potential to affect cultural, archaeological or paleontological resources. If these resources are found, the project applicant shall implement the recommendations of the archaeologist/paleontologist, subject to the approval of the City of Newport Beach Planning Department.[22]

The project site is completely disturbed from the original construction of the gas-to-energy facility in 1987. The project site is also completely paved with concrete and asphalt. While the surface of the project site has been disturbed, the construction of the proposed permanent wireless telecommunication facilities will require the digging of caissons for the tower foundations at a depth of up to 30 feet. Paleontological resources could be encountered during these construction activities. Therefore, a mitigation measure has been added under Section 2.V.c., above. With the implementation of this mitigation measure, potential impacts to paleontological resources will be reduced to a less than significant level.

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

Finding: No Impact

The proposed project would not result in any disturbance to human remains. The project site is completely disturbed from the original construction of the gas-to-energy facility in 1987. The project site is also completely paved with concrete and asphalt. No impacts will occur.

VI. GEOLOGY AND SOILS.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse				

[21] Ibid., p. 4.4-4.
[22] Ibid., p. 4.4-21.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?			X	
ii) Strong seismic groundshaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Impact Analysis

Would the project:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

Finding: Less Than Significant Impact

The Coyote Canyon Landfill is located along the northwesterly flank of the San Joaquin Hills within the Peninsular Ranges Geomorphic Province of Southern California. The topography of the Province is characterized by elongated northwest trending mountain ranges separated by relatively broad, straight sided sediment-floored valleys, many of which are fault controlled. The general topographic expression is also present below sea level, in what is termed the "continental

borderland". The San Joaquin Hills, consisting of a broad gently rolling upland, cut by moderately steep-sided canyons, forms the main topographic relief in the north-coastal section of the Peninsular Ranges province.

The Coyote Canyon Landfill site, which includes the gas-to-energy facility site, consists of gently rolling hills incised by moderately steep canyons which trend generally north to northwest. Prior to landfilling operations, Coyote Canyon formed the main drainage in the area. Topographic relief adjacent to the landfill varies from approximately 700 feet above sea level on ridges to the south, east and west to approximately 400 feet above sea level at the northern end of the landfill.

Bedrock units within the Peninsular Ranges province vary from Mesozoic/Paleozoic metamorphic and plutonic rocks to Tertiary sedimentary rocks of both marine and non-marine origin. A large percentage of the bedrock units, particularly in the coastal region of the province, are capped by Pleistocene marine terrace deposits and late Pleistocene river terrace deposits. Holocene alluvium exists within the larger valleys between mountain ranges and also floors most stream channels. Geologic units within the province have been uplifted, tilted seaward, and sliced longitudinally into subparallel blocks for young, steeply dipping north to northwest – trending fault zones.

Bedrock units underlying the Coyote Canyon Landfill site consist of interbedded siltstones, shales, and sandstones of the marine Middle Miocene Topanga Formation. The Topanga Formation has been subdivided into three members in the vicinity of the landfill. These members in ascending order are the Bommer Member (Ttb), the Los Trancos Member (Ttl) and the Paularino Member (Ttp). Of these three members, only the Bommer and Los Trancos Members are present within the Coyote Canyon Landfill site. Sedimentary rocks of the Bommer Member are characterized by thick-bedded, resistant, coarse-grained sandstones with minor thin interbeds of siltstone. The sandstone is moderately to well cemented and forms prominent resistant outcrops on the ridges to the east of the landfill. Sedimentary rocks of the Los Trancos Member are characterized by interbedded siltstone and fine-grained sandstone. Siltstones in the unit are generally greenish-gray to dusky brown, sandy to clayey, massive to well-bedded and moderately to well indurated. The color of the siltstone is variable and largely controlled by the degree of the oxidation, being greenish-gray to brown where oxidized, and dark gray to black in its unoxidized state. Generally, the unoxidized siltstones are well indurated and exhibit a massive or blocky structure, though locally, they do exhibit platy (fissile) partings on weathered surfaces. With the Los Trancos Member, interbeds of tan to orange-brown to greenish-gray, moderately indurated to well-cemented, fine to medium silty sandstone are locally abundant. Sandstones are generally thin-bedded but are locally thick-bedded and concretionary.[23]

Intrusive volcanic rocks interpreted as diabase sills and dikes (Tan 1976) are exposed to the west and east of the landfill site and northwest of the San Joaquin Reservoir. The diabase is deeply weathered and exhibits the texture of friable sandstone. In addition to the more aerially extensive exposures of diabase, fault zones to the east and southeast of the landfill have been

[23] *Final Closure Plan for the Coyote Canyon Sanitary Landfill*, prepared by Fluor Daniel, Bryan A. Stirrat & Associates and Moore & Taber, pp. 2-1 – 2-3, June 1990.

intruded by dikes. The absence of vertical or horizontal displacement of the diabase along these fault zones indicates no post-intrusion movement (Tan 1976).
Terrace sand deposits, unconformably overlying the inclined beds of the Topanga Formation, are located on the tops of several prominent ridges adjacent to the landfill. These terrace deposits consist of light brown to light orange-brown fine to coarse-grained silty sand and sand, with abundant subrounded to rounded gravel.

Formational materials, and to a lesser degree other surficial deposits, have weathered in place to form a soil mantle, which is locally several feet thick. Limited transport of these materials has formed thicker colluvium accumulations near the bottom of slopes. The composition and thickness of these residual and colluvial soils varies as a consequence of the parent rock and thicker, more clayey soils produced from siltstones and shales. Development of colluvium and native soil on sandstone is limited. Native soils and colluvium generally consist of sandy silt and sandy clay, with locally abundant siltstone fragments.

Alluvial deposits are located at the bottoms of major canyons and locally underlie residual and colluvial soils on the slopes of the canyon walls. Alluvial deposits typically consist of light to dark brown sandy silt and silty sand, to dark reddish-brown silty clay. The composition and grain size of the alluvium varies as a consequence of the mode of transport and proximity to major sandstone and/or terrace outcrops. Coarse-grained materials are generally limited to the active canyon bottoms, while the finer grained materials are more typical of the alluvium as a whole.[24] In general, the project site contains a thin layer of gravel fill underlain by sand.

The project site is located four miles east of the active Newport-Inglewood Fault Zone. Other active or potentially active faults of seismic concern in the region include the Palos Verdes, Whittier-Elsinore, Chino-Elsinore and the San Andreas Fault Zones. Inactive or potentially active secondary faults in the vicinity of the project site include the Pelican Hill Fault system located 0.75 mile west-southwest, the Shady Canyon Fault located 2.0 miles east, the Laguna Canyon Fault located 3.0 miles southeast and the Cristianitos Fault located 15.0 miles southeast. Based on recorded earthquake magnitudes and locations, the Coyote Canyon Landfill site appears to have experienced normal seismic exposure during historic times.

Surface and subsurface bedding plane attitudes within the Topanga Formation adjacent to the landfill typically strike between 30 degrees west of north and 90 degrees east of north with dips varying from 14 to 35 degrees to the west and northwest. Locally, more severe warping or folding near faults has produced local irregularities in this generally consistent bedding structure. Faults in the area of the Coyote Canyon Landfill site can be separated into two different types: faults associated with the Pelican Hill system, and faults intruded by diabase sills and dikes. The northwest trending faults, mapped in the southern portion of the project area, can be inferred to have a stress relationship with the Pelican Hill Fault, which is considered potentially active, owing to displaced Quarternary alluvium along its trace. In addition, several northwest-trending fault zones have been mapped to the east and southeast of the landfill. Some of these fault zones have been intruded by diabase sills and dikes. Although offset or displacement along these fault zones is evident between Topanga Formation members, no offset or displacement of the younger

[24] Ibid., pp. 2-6 – 2-7.

diabase is evident. This absence of post-intrusion displacement indicates that these faults are inactive (Tan 1976).

The proposed project would result in less than significant impacts from strong seismic ground shaking or seismic-related ground failure, including liquefaction. Although the project site is located in general proximity to several active and potentially active faults, the site is not, however, located within a currently established Alquist-Priolo Special Studies Zone. Neither field observations, nor literature search, disclosed an active fault trace through either the landfill or project site. It is therefore considered unlikely that any ground or fault rupture will occur at the project site. In addition, soils at the project site have low liquefaction potential.[25]

iv) Landslides?

Finding: Less Than Significant Impact

The project site is situated on a ridge at an elevation of approximately 780 feet above mean sea level. The site is relatively flat, but there is a drop in elevation around the site on three sides. On the eastern side of the site, elevations rise to the next hill. The general topographic gradient for the area appears to be falling to the northwest, although there are numerous local variations due to the hill and canyon topography in the area. At the project site, the topographical gradient is slightly falling to the north (GRS, 1993). No significant earthquake-induced landslides are anticipated at the project site during a maximum credible earthquake event.[26] In addition, observations by OC Waste & Recycling civil engineering staff indicate that no landslides have occurred on the project site or the project site access road, since the construction of the current gas-to-energy facility structures and access road in 1987.[27]

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

Finding: Less Than Significant Impact

For a discussion of the potential for soil erosion or the loss of topsoil, see 2.IX.c., below.

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

Finding: Less Than Significant Impact

See 2.VIa – i-iii, above. The project site is not located on a geologic unit that is unstable, or that would become unstable as a result of the proposed project. In addition, the project would not result in any on or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

[25] Ibid., pp. 2-8 – 2-17.
[26] Ibid., p. 2-17.
[27] Communication with Greg Garber, OC Waste & Recycling Civil Engineer, May 9, 2016.

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

Finding: Less Than Significant Impact

See 2.VIa-i-iii, above. The project site does not contain expansive soils.

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

Finding: No Impact

The project site is connected to the local sewer system and is served by a 6 inch sewer line. No septic tanks exist on the project site and therefore no impacts will occur.

VII. GREENHOUSE GAS EMISSIONS.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			**X**	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			**X**	

Impact Analysis

Would the project:

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

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

Finding: Less Than Significant Impact

The project greenhouse gas emissions assessment is included as part of **Appendix D**. A summary of the project greenhouse gas emissions assessment is included below.

Climate change, or global warming, (note the terms are used interchangeably for purposes of this analysis) is a worldwide environmental phenomenon. The recommended approach for GHG analysis included in the State of California Governor's Office of Planning and Research (OPR) June 2008 Technical Advisory is to: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on climate change, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact to below a level of significance (OPR 2008). The June 2008 Technical Advisory provides some additional direction regarding planning documents as follows:

"CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation…. For local government lead agencies, adoption of general plan policies and certification of general plan EIRs that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews" (June 2008 Technical Advisory, pages 7-8).

Preliminary guidance from the OPR (OPR 2008) and recent letters from the Attorney General[28] critical of CEQA documents that have taken different approaches indicate that Lead Agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities.

The *State CEQA Guidelines* leave the determination of significance to the reasonable discretion of the lead agency and encourage lead agencies to develop and publish thresholds of significance for use in determining the significance of environmental effects in CEQA documents. Neither the SCAQMD nor the City has yet established specific quantitative significance thresholds for GHG emissions for constuction-only projects. Until more guidance is provided from federal or State agencies, the more conservative SCAQMD screening significance criteria level of 3,000 MT of CO_2e per year will be used for the proposed project. However, given the frequency of changes in regulations over GHG emissions, this standard should be recognized as interim and will likely change over time as further guidance is provided by federal or State regulatory agencies.

Construction GHG 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 use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. **Table 2** lists the annual GHG emissions from project construction.

Per SCAQMD guidance, due to the long-term nature of the GHGs in the atmosphere, instead of determining significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the project).

[28] State of California Department of Justice, Office of the Attorney General. Comment Letters filed under the California Environmental Quality Act. Website: http://oag.ca.gov/environment/ceqa/letters, accessed May 2016.

Operational GHG Emissions. The project consists of the demolition of an existing tower and gas-to-energy collection system and cell tower replacement at the Coyote Canyon Landfill. Once the demolition and construction operations are completed, there will be no new operational emissions from the project. Thus, the equivalent annual GHG emissions from the project would be less than 10 MT/yr of CO_2e.

Table 2: Construction Greenhouse Gas Emissions

Construction Phase		Total Regional Pollutant Emissions (MT/yr)			
		CO_2	CH_4	N_2O	CO_2e
2016	Demolition	183	.04	0	184
	Temporary Tower Construction	28	<0.01	0	28
2017	Permanent Tower Construction	83	.02	0	83
Total Construction Emissions		**293**	**.07**	**0**	**294**
Amortized over 30 years		**9.8**	**<0.01**	**0**	**9.8**

Source: Compiled by LSA Associates, Inc. (May 2016).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Therefore, equivalent annual GHG emissions would be below the screening threshold of 3,000 MT CO_2e per year for commercial projects, and GHG emissions would be considered to have a less than significant impact. The proposed project would not impede or interfere with achieving the State's emission reduction objectives in AB 32 (and Executive Order S-03-05). No mitigation is required.

VIII. HAZARDS & HAZARDOUS MATERIALS.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		**X**		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		**X**		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				**X**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				**X**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result				**X**

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
in a safety hazard for people residing or working in the project area?				
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				**X**
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				**X**
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?		**X**		

Impact Analysis

Would the project:

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

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

Finding: Less Than Significant with Mitigation Incorporated

The 4.14-acre project site consists of structures associated with a landfill gas-to-energy facility that was operated from 1988 to December 2015. The facility received landfill gas from the adjacent Coyote Canyon Landfill and converted it to electricity. The landfill gas was dewatered, compressed, entrained with oil, and used as an energy source to heat a boiler which generated steam to drive a turbine generator (GRS, 2004). The facility has five buildings as well as numerous other supporting structures on-site, which are shown on **Figure 4**. In addition to the five buildings on the project site, the major features of the facility include the following: a boiler and dilution fan structure, five pad-mounted transformers, a generator breaker, a cooling tower structure, landfill gas blowers, four flares for burning excess landfill gas, a storage area and an exhaust stack associated with the steam plant. In addition, there are several above ground storage tanks located on the project site.[29]

The gas-to-energy facility utilized a number of hazardous substances and petroleum products for the operation of the facility. Most of the substances fall into one of four categories: maintenance products, oils, acids, and gasses. Maintenance products used included sealants, cleaners, anti-foam and weed killer. Some of the oils used at the site include compressor oil, lubricants, and

[29] *Phase I Environmental Site Assessment, 20662 Newport Coast Drive, Parcel 4, Gas Recovery Systems, Newport Beach, Orange County, CA*, Geosyntec Consultants, p. 5, September 2006

various Mobil Oil and Shell Oil products. Sulfuric acid and hydrochloric acid were used on site as part of the power production operations. Compressed gases, including oxygen, acetylene, nitrogen, and helium were stored and used on site. A de minimis quantity of cleaning products was stored outdoors in an open area under the high pressure heaters.[30]

Most of the equipment on site is surrounded by a concrete secondary containment area. There are drains in these areas that lead to a below ground oil/water separator. This unit is a rectangular concrete tank approximately five feet wide, sixteen feet long and five feet deep. The top of the unit is approximately nine feet below ground surface. Three risers connect the oil/water separator to the surface. Two of the three risers are constructed with one foot tall square rings with a joint between each ring. The aqueous phase is discharged to the IRWD industrial wastewater system. The retained oil phase was periodically removed by pumping into a transport truck for off-site disposal by a qualified hazardous materials hauler.

The above ground storage tanks stored the following materials: a 12,000-gallon tank stored landfill gas condensate; a 2,000-gallon tank stored turbine oil; a 1,200-gallon tank stored caustic fluids; a 800-gallon tank stored sulfuric acid; a 2000-gallon tank stored heat transfer oil; a 405-gallon tank stored dispersant (water cooling tower treatment chemical); a 55-gallon tank stored biocide (water cooling tower treatment chemical); two 100-gallon tanks stored propane; and a 9,000-gallon tank stored deionized makeup water.[31] When the gas-to-energy facility ceased operations in December 2015, all of the liquids contained in these above ground tanks were collected by a licensed hazardous waste hauler and taken to a hazardous waste facility for proper disposal. The only exception is the above ground storage tank containing landfill gas condensate – this tank is needed as part of the landfill gas collection and flaring system.[32] As part of a hazardous materials assessment conducted in 2006, hazardous substances were observed in the containers and tanks on-site. In general, these containers, drums and above ground tanks appeared to be in good condition with secondary containment.[33]

Federal and State regulations govern the renovation and demolition of structures where materials containing lead and asbestos are present. These requirements include: SCAQMD Rules and Regulations pertaining to asbestos abatement (including Rule 1403), Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from Title 8 of the California Code of Regulations, Part 61, Subpart M of the Code of Federal Regulations (pertaining to asbestos), and lead exposure guidelines provided by the U.S. Department of Housing and Urban Development (HUD). Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the State Department of Health Services. In addition, Cal/OSHA has regulations concerning the use of hazardous materials, including requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, describing the hazards of chemicals, and documenting employee-training programs. All demolition that could result in the release of lead and/or asbestos must be

[30] Ibid., p. 17.
[31] Ibid., pp. 17-18.
[32] Communication from Suparna Chakladar, Fortistar Methane Group, May 24, 2016.
[33] Ibid., p. 27.

conducted according to Cal/OSHA standards.[34] For the demolition of structures at the gas-to-energy facility site, the storage building roof, shop building roof and administration building roof contain asbestos. The total amount of area that is estimated to contain asbestos that will require remediation is approximately 373 square feet, which is estimated to generate enough asbestos material to fill a 5-gallon bucket. A mitigation measure has been added to ensure that any significant impacts from asbestos materials will be mitigated to a less than significant level.

No significant impacts to the public or to the environment through the routine transport, use or disposal of hazardous materials will occur from the previous gas-to-energy facility operation or the previous storage of hazardous materials on-site for the gas-to-energy facility operation. In addition, the demolition of the gas-to-energy facility structures will not result in the release of any hazardous chemicals or the creation of any risk of upset conditions.

Mitigation Measures

- ***(MM-9)*** Fortistar will complete an asbestos abatement plan, pursuant to SCAQMD permit requirements. The asbestos abatement will be performed by a Cal/OSHA registered asbestos remediation company. After the asbestos is removed from the project site it will be disposed at an approved disposal facility.

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

Finding: No Impact

While the proposed project is located within one-quarter mile of Sage Hills High School, located approximately 1,896 feet north of the project site, the proposed project will not emit hazardous emissions or handle hazardous or acutely hazardous materials or waste. Hazardous materials that were used for the operation of the gas-to-energy facility have been removed from the project site. No impacts will occur.

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

Finding: No Impact

The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impact will occur.

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

[34] City of Newport Beach General Plan EIR Update, p. 4.6-20, July 2006.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Finding: No Impact

The project site is not located within an airport land use plan area, within two miles of a public airport or public use airport, nor is the project site within the vicinity of a private airstrip. No impact will occur.

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

Finding: No Impact

The proposed project will not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed project will not result in any significant impacts to emergency access. During demolition and construction activities, Fortistar will ensure that sufficient access for fire trucks and ambulances is provided at all times at the project site and along the project site access road. No impacts will occur.

h. Expose people or structures to a significant risk or loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands?

Finding: Less Than Significant with Mitigation Incorporated

A Tree Health Assessment Report was prepared for the non-native trees surrounding the perimeter wall at the project site. These non-native trees, as shown on **Figure 4**, were installed in 1987 during the construction of the gas-to-energy facility in order to provide visual screening of the gas-to-energy facility from views in Newport Coast and other land uses located near the project site. The Tree Health Assessment Report, which is included as **Appendix A**, inventoried and evaluated 355 trees along the perimeter of the gas-to-energy facility site. The inventoried trees comprise four genera, with 193 trees identified as Myoporum (*Myoporum laetum*), 141 trees identified as eucalyptus trees (*Eucalyptus* spp.; Red River gum [*E. camaldulenis*], lemon scented gum [*E. citriodora*], bushy yate [*E. conferruminata*], silver dollar gum [*E. polyanthemos*], and red ironbark [*E. sideroxylon*]), 18 trees identified as Peruvian pepper (*Schinus molle*), and 3 trees identified as oak (*Quercus* sp). The three oak trees are the only native trees.

The Tree Health Assessment Report concluded that 67 percent of all of trees surrounding the project site are either dead or are dying and are therefore proposed for removal. In addition, since the project site is located in a Very High Fire Hazard Severity Zone, almost all of the remaining trees are proposed for removal, so that they can be replaced with native trees that present a significantly reduced fire risk. Twenty-four (24) healthy trees will be retained that provide important visual screening of the project site. A total of 331 trees will be removed.

The trees will be replaced with a combination of native white alders, western sycamores and coast live oak trees, as discussed in **Appendix B** Tree Replacement and Revegetation Plan. This will provide effective long-term visual screening of the project site while still maintaining fire safety requirements that require sufficient spacing between tree canopies. These native trees will provide a much lower fire hazard risk, when compared to the existing trees. The new trees will have a dedicated above-ground irrigation line to ensure that the new trees receive sufficient irrigation. In addition, OC Waste & Recycling will ensure that a qualified habitat maintenance contractor will provide long-term habitat maintenance and monitoring for the new trees. A mitigation measure has been added below. With the incorporation of this mitigation measure, the potentially significant impact associated with fire hazards would be reduced to a less than significant level.

Mitigation Measures

- ***(MM-10)*** OC Waste & Recycling will remove the non-native trees that currently surround the project site in order to prevent a potential fire hazard. The existing trees will be replaced with native trees, with a dedicated irrigation system, which will significantly improve fire safety over existing conditions.

IX. HYDROLOGY & WATER QUALITY.

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

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				**X**
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				**X**
j) Expose people or structures to inundation by seiche, tsunami, or mudflow?				**X**

Impact Analysis

Would the project:

a. Violate water quality standards or waste discharge requirements?

Finding: Less Than Significant Impact

The proposed project will not result in the violation of any water quality standards or waste discharge requirements. For the demolition of the paved concrete at the project site, Fortistar will be required to apply for a General Construction Activities Permit under the National Pollutant Discharge Elimination Systems Permit (NPDES), issued by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). As part of the General Construction Activities Permit, Fortistar will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP), designed to control runoff, prevent erosion and protect water quality, as discussed in Section 2.IX e. and f., below. The SWPPP will also be submitted to the City of Newport Beach as part of the City's demolition permit application. The demolition activities will not result in any significant impacts to water quality standards.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses for which permits have been granted)?

Finding: No Impact

Based on the California Department of Water Resources [CDWR, 1967] and the California Regional Water Quality Control Board's most recent (February 2008) Water Quality Control Plan for the Santa Ana Basin, the groundwater immediately below the Coyote Canyon Landfill property (which includes the project site) has no established beneficial use due to the low groundwater yield and naturally-high salinity content. Regionally, the groundwater discharges several miles to the north of the site into the Pressure Area of the Tustin Plain in the Orange County Groundwater Basin, the beneficial uses of which include municipal and domestic supply, agricultural supply and industrial service and process supply.

Previous geologic investigations at the Coyote Canyon Landfill site indicate that the bedrock at the site belongs to the marine Topanga Formation and is predominantly composed of well-consolidated and interbedded shales, sandy siltstones, claystones, and sandstones with minor volcanic (diabase) intrusives [Slade, 1985; Converse, 1986 and 1987]. In the canyon drainage, unconsolidated Quarternary alluvial deposits, up to a maximum measured thickness of approximately 50 feet, overlie the well-consolidated bedrock. The unconsolidated alluvial soil deposits generally consist of silty to clayey sands, silts and clays with minor sand and gravel layers.

The groundwater at the Coyote Canyon Landfill site occurs in the top weathered portion of the older well-consolidated bedrock, and in the base of the younger unconsolidated alluvial soil deposits (where present in the canyon). Groundwater levels indicate hydraulic connection between the overlying unconsolidated alluvium and the underlying well-consolidated bedrock at the site, with no apparent confining layers [Converse, 1986]. The base of the alluvium (where present in the canyon) and the top weathered portion of the underlying marine bedrock represent the uppermost groundwater body below the site, which has no designated beneficial use based on its low yield and natural high salinity (brackish). While the overall aquifer system (containing both the base of unconsolidated alluvial deposits and the top weathered portion of the underlying well-consolidated bedrock) appears to be hydraulically connected, the hydraulic conductivity is relatively low, so hydraulic communication within the aquifer system is generally slow both horizontally and vertically.[35]

The proposed project will not result in any groundwater pumping or the use of any local groundwater wells that could substantially deplete groundwater resources or interfere with groundwater recharge. No impacts will occur.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site.

Finding: Less Than Significant Impact

The development of the proposed project would not result in the alteration of the course of a stream or river, nor would the project substantially alter the existing drainage pattern of the site or area. The project site is located on a relatively flat, disturbed area. Surface water runoff from the project site currently flows through a 12-inch pipe located in the low point of the northern wall and then down the access road, within concrete v-ditches, to a catch basin located within the access road at the intersection with Newport Coast Drive. This will not change with the proposed

[35] *Combined Semi-Annual Water Quality Monitoring Report (October 2015 – March 2016) for the Coyote Canyon Landfill Site*, prepared by Geosyntec Consultants, page 5, April 30, 2016.

project. While the existing concrete paving at the site will be demolished and backfilled with clean soil, Fortistar will implement measures designed to control erosion and siltation as discussed in Section IX e. and f., below. Drainage from the temporary and permanent wireless communication facilities will be conveyed into the project site existing perimeter drainage system, which then drains to the access road. The drainage pattern will not be altered by the demolition of existing gas-to-energy facility structures or the construction of the temporary and permanent wireless communication facilities at the project site. The proposed project will therefore not substantially increase the rate or amount of surface water runoff, nor would the project result in substantial erosion or siltation.

e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

f. Otherwise substantially degrade water quality?

Finding: Less Than Significant Impact

As stated above, surface water runoff from the project site currently drains along the access road, within concrete v-ditches, to a catch basin located within Newport Coast Drive. The proposed project will not result in any increases in surface water flows over existing conditions. No significant impacts to existing storm water drainage systems will occur.

To ensure that the proposed project will not substantially degrade water quality or provide substantial additional sources of polluted runoff to existing drainage, Fortistar will be required to implement a project specific SWPPP consisting of several Best Management Practices (BMPs). BMPs are used to control surface water runoff, erosion and siltation at the project site during the demolition of structures and the construction of the temporary and permanent wireless communication facilities. Typical BMPs are listed below:

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

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

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

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

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

- Additional measures will include preventative maintenance, proper materials handling, spill prevention and control and litter control.

With the implementation of the SWPPP, any impacts from surface water runoff, erosion and sedimentation will be less than significant.

g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Finding: No Impact

The proposed project does not include the development of any new housing. In addition, the proposed project site is not located within a 100-year flood boundary as established by the Federal Emergency Management Agency.[36] The proposed project will not expose people or structures to flooding risks. In addition, the project site is not located within a dam inundation area. No impacts will occur.

j. Inundation by seiche, tsunami, or mudflow?

Finding: No Impact

The proposed project would not create any impacts as a result of mudflows from landslide prone areas or seiches from large inland water bodies. In addition, the project site is located far enough away from the Pacific Ocean (over one mile) and is at a high enough elevation that it would not be impacted by a tsunami.[37] No impacts will occur.

X. LAND USE AND PLANNING.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?				**X**
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan,			**X**	

[36] www.fema.gov.

[37] *Final Closure Plan for the Coyote Canyon Sanitary Landfill*, prepared by Fluor Daniel, Bryan A. Stirrat & Associates and Moore & Taber, pp. 2-17 – 2-18, June 1990.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?		X		

Impact Analysis

Would the project:

a. Physically divide an established community?

Finding: No Impact

The proposed project consists of relocating four existing wireless telecommunications facilities on the existing 105-foot high exhaust stack and perimeter walls to two collocated 65' tall mono-eucalyptus towers and installing four temporary wireless telecommunications facilities to two collocated monopoles until the permanent sites can be constructed. The site is not developed with any residential properties nor are there any residential communities in the immediate vicinity of the site. The project site and surrounding properties have a zoning classification of Open Space and the land is undeveloped. Therefore, the project will not physically divide an established community and no mitigation is required.

The demolition of existing gas-to-energy facility structures and the construction of temporary and permanent wireless telecommunication facilities will not physically divide an established community. Demolition will be a short-term activity that will be three months in duration. The temporary and permanent wireless telecommunication facilities will replace the antenna arrays that are currently located on the project site, on the 105-foot high exhaust stack that will be demolished and removed from the site. The new wireless communication facilities will also be located on the project site so there will be no change in land use as related to the wireless telecommunication facilities.

b. Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Finding: Less than Significant Impact

The project site is zoned OS (Open Space) and is designated OS (Open Space) in the General Plan Land Use Element. The proposed wireless telecommunications facilities do not conflict with the City's Zoning Code or General Plan because the collocated wireless telecommunications facilities are existing established uses. The facilities must be relocated due to the demolition of the 105-foot high exhaust stack. In accordance with Section 20.49.040 of

the City's Wireless Telecommunications Facilities Ordinance regarding preferred locations for telecom facilities, the project includes co-location of a new facility at an existing facility so that the four (4) wireless telecommunications facilities will be reduced to two towers in order to mitigate the number of facilities on the site. Per Section 20.49.030, new freestanding structures are defined as Class 4 (Freestanding Structure) telecommunications facilities. Per Section 20.49.040, new freestanding structures require a Conditional Use Permit (CUP). The City of Newport Beach is the reviewing authority for CUPs and a public hearing will be required.

The proposed facilities are 65 feet tall in accordance with Section 20.49.040(C) as the Planning Commission may approve a CUP for a telecom facility that exceeds the height limit for the zoning district by a maximum of 15 feet, only after making the required findings in Section 20.49.060.H. The OS Zone has a maximum allowable height of 50 feet. The addition of 15 feet will allow for 65 foot high facilities subject to Planning Commission approval. The additional height is necessary for the carriers that are collocating to achieve their coverage objective.

The permanent wireless telecommunication facilities have been designed to resemble eucalyptus trees in order to blend in with the existing eucalyptus trees surrounding the project site. The faux eucalyptus trees will not result in any significant aesthetics/views impacts to the surrounding community, per the analysis included in Section 2.I.c. in this document. Therefore, the project will have a less then significant impact on the environment.

In conjunction with the requested Conditional Use Permit, a request for two collocated temporary wireless telecommunication facilities is being requested so that the carriers do not lose coverage when the exhaust stack is demolished. Two carriers each will each be located on two 65 foot high monopoles for a period of approximately one year. Per Section 20.49.030(G) of the Wireless Telecommunications Facilities Ordinance, Temporary Facilities are classified as Class 5 (Temporary) facilities and can be installed on a temporary basis pursuant to a Limited Term Permit. The temporary facilities are necessary as the timing of the Fortistar demolition of gas-to-energy facility structures will prevent the carriers from being able to construct their permanent facilities prior to the demolition of the exhaust stack, which is anticipated to occur in the first week of December 2016. The carriers will resume construction of their permanent facilities after nesting bird season which is from February 15 to August 31.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

Finding: Less Than Significant with Mitigation Incorporated

See 2.IV.f.

XI. MINERAL RESOURCES.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				**X**
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				**X**

Impact Analysis

Would the project:

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

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

Finding: No Impact

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

XII. NOISE.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			**X**	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			**X**	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				**X**
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			**X**	

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				**X**
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				**X**

Impact Analysis

Would the project result in:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Finding: Less than Significant Impact

The project noise assessment is included as part of **Appendix E**. A summary of the project noise assessment is included below.

The following provides an overview of the characteristics of sound and the regulatory framework that applies to noise within the vicinity of the Project site. The following are the criteria utilized to assess noise impacts.

General Plan. The California Government Code Section 65302(g) requires that a noise element be included in the General Plan of each county and city in the State. The Noise Element of the City of Newport Beach General Plan (2006) is intended to identify sources of noise and provide objectives and policies that ensure that noise from various sources does not create an unacceptable noise environment. Overall, the City's Noise Element describes the noise environment (including noise sources) in the City, addresses noise mitigation regulations, strategies, and programs, as well as delineating federal, State, and City jurisdiction relative to rail, automotive, aircraft, and nuisance noise.

Construction-related noise impacts are discussed in Goal N-5, Minimized Excessive Construction Related Noise. Under Goal N-5, Policy N 5.1, Limiting Hours of Activity, requires that the limits on hours of construction activities be enforced.

Municipal Code. Section 10.28.040, Construction Activity – Noise Regulations,[38] states the following:

[38] City of Newport Beach. Municipal Code, Noise Ordinance. Website: http://www.codepublishing.com/CA/NewportBeach/html/NewportBeach10/NewportBeach1028.html#10.28.040, accessed May 2016.

A. Weekdays and Saturdays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any weekday except between the hours of seven a.m. and six-thirty p.m., nor on any Saturday except between the hours of eight a.m. and six p.m.

B. Sundays and Holidays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any Sunday or any federal holiday.

Federal Transit Administration Criteria Due to the lack of vibration standards developed for local jurisdictions, vibration standards included in Transit Noise and Vibration Impact Assessment (FTA 2006) are used in this analysis for ground-borne vibration impacts, as shown in **Table 3**.

Table 3: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)	Approximate L_V (VdB)[1]
Reinforced-concrete, steel or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: *Transit Noise and Vibration Impact Assessment* (FTA 2006).
[1] RMS vibration velocity in decibels (VdB) re 1 micro-inch/second.
FTA = Federal Transit Administration RMS = root-mean-square
in/sec = inches per second VdB = vibration velocity decibels
PPV = peak particle velocity

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. **Table 4** lists the potential vibration damage criteria associated with construction activities, as suggested in the *Transit Noise and Vibration Impact Assessment* (FTA 2006). FTA guidelines show that a vibration level of up to 102 VdB (an equivalent to 0.5 inch per second [in/sec] in PPV) (FTA 2006) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a nonengineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 inch/sec in PPV). The PPV values for building damage thresholds referenced above are also shown in **Table 4**, taken from the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013), which included additional building definition and vibration building damage thresholds.

Table 4: Guideline Vibration Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[2]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Source: *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013).
[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.
[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Caltrans = California Department of Transportation
in/sec = inches per second
PPV = peak particle velocity

Table 5 illustrates the human response to various vibration levels, as described in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

Table 5: Human Response to Different Levels of Ground-Borne Noise and Vibration

Vibration Velocity Level	Noise Level		Human Response
	Low Freq[1]	Mid Freq[2]	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level unacceptable. Low-frequency noise acceptable for sleeping areas; mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise unacceptable for sleeping areas; mid-frequency noise unacceptable even for infrequent events with institutional land uses, such as schools and churches.

Source: *Transit Noise and Vibration Impact Assessment* (FTA 2006).
[1] Approximate noise level when vibration spectrum peak is near 30 Hz.
[2] Approximate noise level when vibration spectrum peak is near 60 Hz.
dBA = A-weighted decibels Hz = Hertz
Freq = Frequency VdB = vibration velocity decibels

Thresholds of Significance A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City's Noise Element of the General Plan and its Municipal Code as well as the FTA criteria for vibration impacts.

Short-Term Construction-Related Noise Impacts. Short-term construction-related noise impacts would be associated with the demolition of existing structures on site and the construction of temporary and permanent wireless telecommunication facilities for the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today, but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Truck pass-bys have the potential to cause an intermittent noise increase, generally assumed to be 75 dBA maximum instantaneous noise level (L_{max}) at 50 ft. As stated above in the project description, access from the project site to the off-site areas of disposal will be generally along major roadways including Newport Coast Drive, SR-73 Toll Road, SR-133 Toll Road, I-5, Sand Canyon Avenue, and Jamboree Road. Assuming a total of 75 truck trips per day based on a conservative estimate, the increase in volume will be minimal as compared to daily traffic volumes along the respective roadways and associated traffic noise level increases; therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during demolition and construction of the temporary and new facilities on site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. The following is a list of equipment expected to be used:

- 270-ton crane for the removal of the turbine and generator
- 170-ton crane with 150 ft of boom for the removal of the 105 ft tall exhaust stack
- Komatsu 650 excavator with an Allied G130 concrete hammer
- 350 Link belt excavator with a G90 concrete hammer and a Labounty MDP 27 universal processor
- 966 Cat rubber-tired loader
- Skidsteer loaders
- Water trucks
- 18-wheel semi-end dump trucks
- Vibratory sheep's foot compactor

Based on a description of the stages provided in the project description, the loudest phase of construction is expected to occur when jackhammering and pneumatic tools are used to tear apart the concrete pad at the site. Utilizing the reference noise levels provided in **Table 6** below, noise impacts during this phase of construction were calculated at the surrounding sensitive receptors. At a distance of 50 ft from activities, it is expected that noise levels may reach 89 dBA equivalent continuous sound level (Leq)

Table 6: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Concrete/Industrial Saw	20	90
Crane	16	85
Excavator	40	85

Forklift	40	85
Generator	50	82
Grader	40	85
Jackhammer	20	89
Loader	40	80
Paver	50	85
Roller	20	85
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84
Welder	40	73

Source: Federal Highway Administration, *Highway Construction Noise Handbook* (2006).
dBA = A-weighted decibel
ft = feet
L_{max} = maximum noise level

There are existing residences approximately 1,280 ft to the south of the project site and an existing high school (Sage Hill High School) located approximately 1,895 ft to the north of the project site as shown on **Figure 2**. Taking into account the distance from operations to the sensitive uses, noise level impacts are expected to be reduced by 28 dBA at the closest residences to the south and by 31 dBA at the high school to the north. The noise levels created from the loudest stage of construction are expected to reach 60.7 dBA L_{eq} and 57.3 dBA L_{eq} at the closest residences and school, respectively, which are comparable to the existing traffic noise levels from SR-73 as presented above. Compliance with the hours of operation required by the City's Municipal Code would result in noise impacts being less than significant. In addition to the required hours of operation, the following practices shall be implemented to reduce noise levels to the greatest extent feasible:

- During all construction operations, the project contractors should equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor should place all stationary construction equipment so that emitted noise is directed away from the relatively more sensitive receptors nearest the project site.
- The construction contractor should locate equipment staging in areas that will create the greatest distance between construction-related noise sources and relatively more noise-sensitive receptors nearest the project site during all project construction.

b. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Finding: Less than Significant Impact

The project vibration assessment is included as part of **Appendix E**. A summary of the project vibration assessment is included below.

Construction Vibration Building Damage Potential. Ground-borne noise and vibration from construction activity would be generally low at the surrounding noise sensitive uses. Excavators

and other heavy-tracked construction equipment generate approximately 87 VdB of ground-borne vibration when measured at 25 ft, based on the *Transit Noise and Vibration Impact Assessment* (FTA 2006) shown in **Table 7**.

Taking into account the distance from operations to the sensitive uses, vibration impacts are expected to be reduced by 51 VdB at the closest residences to the south and by 56 VdB at the high school to the north. The vibration levels created from the heavy construction equipment are expected to reach 36 VdB and 31 VdB at the closest residences and school, respectively. These levels of ground-borne vibration are far below the threshold of human perception, which is approximately 65 VdB, and the construction vibration damage criterion of 90 VdB; therefore impacts associated with vibration from construction activities are less than significant and do not require mitigation.

Table 7: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (inch/sec)	L_V (VdB)
Vibratory Roller	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

Sources: Federal Transit Administration (2006).
ft = feet PPV = peak particle velocity
inch/sec = inches per second VdB = vibration velocity decibels
L_V = velocity in decibels

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Finding: No Impact

As stated in Section 2.XII.a. above, construction activities are expected to occur over a defined period of time and will no longer occur once construction is complete, therefore, noise impacts associated with construction will have no long-term impact.

d. A substantial temporary increase or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Finding: Less than Significant Impact

As discussed in Section 2.XII.a., above, implementation of the proposed Project would include construction activities that would result in a temporary increase in ambient noise levels in the Project site vicinity above levels existing without the Project, but would no longer occur once construction is completed. Sensitive receptors in the Project vicinity are a minimum of 1,280 ft from proposed construction areas. Compliance with the hours specified in the City's Municipal

Code regarding construction activities, as well as implementation of noise reduction best management practices, would help reduce construction noise impacts on adjacent noise sensitive land uses and would reduce construction noise levels to a less than significant impact.

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

Finding: No Impact

While the Project is approximately 4.75 mi southeast of the Orange County-John Wayne Airport, the proposed Project does not contain any noise sensitive areas, therefore, noise impacts associated with aircraft operations will have no impact on the proposed project.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Finding: No Impact

The Project site is not in the vicinity of a private airstrip. No impacts related to private airstrips are anticipated, and no mitigation is required.

XIII. POPULATION AND HOUSING.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				**X**
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				**X**
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				**X**

Impact Analysis

Would the project:

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

Finding: No Impact

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

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

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Finding: No Impact

The proposed project will not result in the displacement of housing units, businesses, or people as a result of the project. No impacts will occur.

XIV. PUBLIC SERVICES.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?				**X**
ii) Police protection?				**X**
iii) Schools?				**X**
iv) Parks?				**X**
v) Other public facilities?				**X**

Impact Analysis

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

i) Fire protection?

ii) Police protection?

iii) Schools?

iv) Parks?

v) Other public facilities?

Finding: No Impact

The proposed project would not result in new residential, commercial or industrial developments that would increase the need for fire protection and police protection services, the building of new schools and parks or the need for either expanded or enhanced public facilities and services. The project site will continue to be served by the City of Newport Beach Fire Department for fire response and by the City of Newport Beach Police Department for police service. No impacts to public services will occur.

XV. RECREATION.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				**X**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				**X**

Impact Analysis

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

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

Finding: No Impact

The proposed project would not result in new residential, commercial or industrial developments that would increase the need for new recreational facilities or increase the use of existing recreational facilities. No impacts will occur.

XVI. TRANSPORTATION/TRAFFIC.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
TRANSPORTATION/TRAFFIC – Would the project:				
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		**X**		
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?		**X**		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				**X**
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		**X**		
e) Result in inadequate emergency access?				**X**
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance of safety of such facilities?				**X**

Impact Analysis

Would the project:

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b. Conflict with an applicable congestion management program, including, but not limited to level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

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

Finding: Less than Significant with Mitigation Incorporated

Access to the project site is provided by the San Joaquin Hills Transportation Corridor (i.e., SR-73) and Newport Coast Drive. The project site has an existing one lane access road that provides access from Newport Coast Drive to the project site.

Newport Coast Drive is a north/south roadway with a four-lane divided portion between Bonita Canyon Drive and SR-73, and a six-lane divided portion between SR-73 and Coast Highway. Newport Coast Drive carries traffic volumes from 11,000 to 21,000.[39] These are average daily traffic volumes.

The General Plan Traffic Study examined roadway segment capacities within and around the City of Newport Beach and analyzed the average daily traffic within the City and the volume/capacity (V/C) ratios assigned to these roadway segments based on existing traffic volumes and roadway capacities. The ratio of daily roadway segment volumes to daily planning level capacities provides a measure of the roadway segment level of service.[40] The City of Newport Beach General Plan EIR does not indicate that the segment of Newport Coast Drive located north of the intersection of Newport Coast Drive and San Joaquin Hills Road has an unacceptable V/C ratio or an unacceptable level of service.

Regional traffic interacting with Newport Beach generally accesses the City roadway system through the freeway ramps. Ramp intersections are maintained and controlled by Caltrans. Ramp capacity constraints can sometimes (during peak hours) slow access to the freeway system, potentially resulting in a back-up of freeway traffic onto the local roadway system. Conversely, traffic exiting the freeway system can sometimes cause congestion that affects the freeway mainline. The existing volumes on the SR-73 through Newport Beach indicate that the a.m. peak hour direction is northbound, while the p.m. peak hour direction is southbound. Under existing conditions, during the a.m. peak hour, both the SR-73 northbound off-ramp at Newport Coast Drive and the SR-73 on-ramp at Newport Coast Drive operate at an unacceptable level of service, at a level of service "E" and "F" respectively.[41] The proposed project could result in a significant impact to level of service conditions at the SR-73 on- and off-ramps at Newport Coast Drive if a significant portion of the short-term demolition truck trips and a significant portion of the wireless telecommunication facilities' construction traffic were to occur during the a.m. peak hour. This in turn could cause temporary traffic impacts at Sage Hill High School. However, mitigation measures has been included that will reduce this potentially significant environmental impact to a less than significant level.

[39] *City of Newport Beach General Plan Update EIR*, p. 4.13-5, July 2006.
[40] Ibid., p. 4.13-6.
[41] Ibid., p. 4-13-14.

Approximately 10,000 cubic yards of clean soil will be imported during demolition and will be used along with the crushed concrete for backfill into the voids left by the removal of the structures. Since each soil truck can carry approximately 10 cubic yards of soil, approximately 1,000 two-way trips will be distributed over a three month period. Assuming 25 work days per month and a three month demolition schedule, the demolition component would generate approximately 14 two-way imported soil trips per day. For the estimated 14,360 square feet of structures that will be demolished, it is estimated that this will generate approximately 4 two-way truck trips per day over the three month demolition schedule. All demolition vehicle trips will be staggered over the entire working day.

Metals will be transported to a recycling facility located in the City of Long Beach and the demolished concrete will be transported to the Ewles Materials recycling facility in the City of Irvine. Access from the project site to the Ewles Materials recycling facility (located at 16081 Construction Circle West, Irvine) will be Newport Coast Drive, 73 Toll Road, 55 Freeway, 405 Freeway, Jamboree Road, Barranca Parkway and Construction Circle West. Solid waste materials, which will include insulation, aluminum, gypsum, sheet metal and wood waste will be disposed at the Frank R. Bowerman Landfill in Irvine, which is owned and operated by the County. Access from the project site to the Frank R. Bowerman Landfill (located at 11002 Bee Canyon Access Road, Irvine) will be Newport Coast Drive, 73 Toll Road, 133 Toll Road, 5 Freeway, Sand Canyon Avenue and Bee Canyon Access Road.

It is estimated that there will be no more than 75 two-way vehicle trips per day for all demolition of structures and wireless telecommunication facilities construction activities, which include all two-way trips from vehicles transporting demolished materials from the site, heavy construction equipment transported to the site, material delivery trips and construction worker commuting trips.

For the proposed project, the majority of the vehicle traffic will occur during the demolition of gas-to-energy facility structures and for the construction of the temporary wireless telecommunication facilities, since both activities will occur at the same time. This is estimated to occur over a three month period from approximately October 6 to December 31, 2016. Construction of the permanent wireless telecommunication facilities will occur after the nesting bird season ends in 2017, after the end of the migratory bird nesting season (i.e., August 31). Construction of the permanent facilities will take three months and is anticipated to be completed by December 2017.

The project would not conflict with any applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, nor would the project result in any significant impacts to mass transit or alternative modes of transportation. In addition, the project would not conflict with any congestion management programs.

The demolition and construction projects are short-term in nature. With the implementation of the mitigation measures included below, which include the staggering of demolition and construction vehicle trips throughout the working day, and considering the limited number of demolition and construction vehicle trips per day (no more than 75 two-way trips per day), no

significant traffic impacts will occur with the implementation of the proposed project, after the incorporation of mitigation measures.

Demolition and construction vehicles turning right on a red light at the traffic signal at the intersection of the project site access road and Newport Coast Drive have the potential to create a traffic safety hazard, since vehicles travel at a high rate of speed on Newport Coast Drive. Demolition and construction vehicles will be prohibited from making right turns on the access road at the intersection, when there is a red light, onto Newport Coast Drive. A mitigation measure has been added so that this potential traffic safety hazard will be reduced to a less than significant level.

The project site is served by a one lane paved access road. During demolition and construction activities it will not be possible for trucks to go to and from the project site at the same time without causing traffic safety impacts. Therefore, a mitigation measure, which will include the use of spotters, has been added so that this potential traffic safety hazard will be reduced to a less than significant level.

Mitigation Measures

- ***(MM-11)*** Prior to the initiation of demolition activities at the project site, Fortistar, in consultation with the carriers, will prepare a traffic control plan for demolition and construction. The traffic control plan will include the staggering of truck trips throughout the day on Newport Coast Drive, so that the minimum practicable number of truck trips will occur during the a.m. peak period, to reduce impacts as much as possible to Sage Hill High School and both the SR-73 on and off-ramps at Newport Coast Drive.

- ***(MM-12)*** All demolition and construction vehicle drivers will be informed that turning right on the red light at the traffic signal at the intersection of the project site access road and Newport Coast Drive will be prohibited for the duration of demolition and construction activities. A sign will be posted at the entrance to the intersection to remind drivers that they are prohibited from making a right-turn at the red light onto Newport Coast Drive.

- ***(MM-13)*** For the duration of the demolition and construction activities, electronic signage will be placed near Sage Hill High School to inform drivers regarding the duration of the demolition and construction activities and to indicate that large trucks may be present for the duration of construction and demolition activities.

- ***(MM-14)*** Construction spotters with walkie-talkies will be assigned on both ends of the project site access road to guide trucks during project demolition and construction activities. Trucks will only be able to travel in one direction on the one lane paved access road at a time. Trucks that are waiting to go up the access road will wait across the street on the main canyon landfill property until the spotter informs them that it is safe to proceed up the access road to the project site.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?

Finding: No Impact

The project would not result in any change in air traffic patterns. The project, therefore, will have no impact on air traffic safety.

e. Result in inadequate emergency access?

Finding: No Impact

The proposed project will not result in any significant impacts to emergency access. During demolition and construction activities, Fortistar will ensure that sufficient access for fire trucks and ambulances is provided at all times at the project site and along the project site access road. No impacts will occur.

f. Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities?

Finding: No Impact

The project will not result in any conflicts with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities. No impacts will occur.

XVII. UTILITIES & SERVICE SYSTEMS.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				**X**
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				**X**
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				**X**
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				**X**

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				**X**
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				**X**
g) Comply with federal, state, and local statutes and regulations related to solid waste?				**X**

Impact Analysis

Would the project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

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

Finding: No Impact

Existing utilities that serve the landfill gas-to-energy facility include a ½ to 1-inch potable water line, a 6-inch reclaimed water line a 6-inch sewer line with water, reclaimed water and sewer service all provided by the Irvine Ranch Water District. There is a 4-inch natural gas line with service provided by the Southern California Gas Company and a 69kV electrical interconnect with service provided by Southern California Edison. Fire and emergency medical services are provided by the City of Newport Beach Fire Department and police services are provided by the City of Newport Beach Police Department. The proposed project will be served by the same service providers. No improvement to existing utility connections or lines will be required.

Surface water runoff from the project site currently flows through a 12-inch pipe located in the low point of the northern wall and then down the access road, within concrete v-ditches, to a catch basin located within the project site access road at the intersection with Newport Coast Drive. This will not change with the proposed project.

The proposed project will not result in the violation of any wastewater treatment requirements or require the construction of any new water or wastewater treatment facilities. The project will not result in the construction of any new storm water drainage facilities or expansion of existing facilities. Potable water, reclaimed water and sewer service will continue to be provided by the Irvine Ranch Water District. The proposed project will not result in an increased demand for potable water, reclaimed water or sewer service.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Finding: No Impact

The project will be served by the Frank R. Bowerman Landfill, located at 11002 Bee Canyon Access Road, Irvine. The landfill is owned and operated by the County of Orange and has available capacity through 2074. No impacts to solid waste landfill capacity will occur.

g. Comply with federal, state and local statutes and regulations related to solid waste?

Finding: No Impact

The City of Newport Beach requires as part of its demolition permit process that at least 50 percent of all demolished materials be recycled for demolition projects located in the City. For the proposed project, almost all of the demolished materials will be recycled, with the exception of the administrative building trailer and the cooling towers. No impacts will occur.

XVIII. MANDATORY FINDINGS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				**X**
b) Does the project have impacts that are individually limited, but cumulatively considerable? ('Cumulatively considerable' means that the incremental effects of a project are considerable when viewed in connection with the effects				**X**

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
of past projects, the effects of other current projects, and the effects of probable future projects)?				
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				**X**

Impact Analysis

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Finding: No Impact

The proposed project would not substantially reduce the habitat of a fish or wildlife population, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. In addition, the proposed project would not eliminate important examples of the major periods of California history or prehistory. The proposed project will occur on a site that has been previously disturbed and is completely paved.

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

Finding: No Impact

The proposed project would result in significant environmental impacts to biological resources, cultural resources, hazards & hazardous materials and transportation/traffic. However, all of these significant environmental impacts can be reduced to a less than significant level with the incorporation of mitigation measures that have been added to the project. In addition, all of these significant environmental impacts are project-specific in nature, are short-term and would not result in cumulative impacts.

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

Finding: No Impact

The proposed project will not result in any adverse effects on human beings, either directly or indirectly.

3.0 INVENTORY OF MITIGATON MEASURES

Aesthetics

(MM-1) In order to reduce long-term aesthetics/views impacts to a less than significant level, OC Waste & Recycling will implement a Tree Replacement and Revegetation Plan for the proposed project which will remove the majority of the non-native trees that currently surround the project site and replace them with native white alders, western sycamores and coast live oak trees. The new trees will also have a dedicated above-ground irrigation line to ensure that the new trees receive sufficient irrigation. In addition, OC Waste & Recycling will ensure that a qualified habitat maintenance contractor will provide long-term habitat maintenance and monitoring for the new trees.

(MM-2) The Final Tree Replacement and Revegetation Plan will be modified by the City as necessary to add additional white alders and western sycamore trees, that grow more quickly than coast live oak trees, so that the Revegetation Plan provides no major gaps for the long-term visual screening of the project site.

Biological Resources

(MM-3) To avoid potential impacts to active bird nests, including coastal California gnatcatchers or migratory birds, the proposed demolition of structures, the construction of temporary and permanent wireless telecommunication facilities, and implementation of the Tree Replacement and Revegetation Plan at the project site will comply with the NCCP Construction Minimization Measures. Specifically, these activities will occur outside the nesting bird season (i.e., February 15 to August 31).

(MM-4) A qualified biologist will conduct a pre-construction survey of the proposed work areas within one week prior to the start of the work to verify that no special-status species, such as coastal California gnatcatchers, or migratory birds, would be adversely affected by the proposed activities.

(MM-5) For the proposed demolition activities and for the construction of the temporary and permanent wireless telecommunication facilities, all vehicles using the project site access road will remain on the asphalt access road. To prevent any impacts to coastal sage scrub, no staging areas, stockpiles, equipment storage, or vehicle turn outs will be permitted on the shoulder of the access road.

(MM-6) As a part of the contract for tree removal activities, OC Waste & Recycling will ensure that the contractor provides methods to protect existing coastal sage scrub so that there will be no removal or disturbance to coastal sage scrub during tree removal activities.

Cultural Resources

(MM-7) The project applicant shall retain an archaeological and paleontological resource monitor to monitor the project's subsurface areas during land disturbance from demolition and construction activities. If any archaeological or paleontological resources are discovered, the archaeological/paleontological monitor will have the authority to stop work, assess the resources found, and implement a plan for the removal of the archaeological/paleontological resources if deemed significant.

(MM-8) During construction activities, the project applicant shall allow representatives of cultural organizations, including Native American tribes (i.e., Gabrieleno Band of Mission Indians – Kizh Nation), to access the project site on a volunteer basis to monitor grading and excavation activities.

Hazards & Hazardous Materials

(MM-9) Fortistar will complete an asbestos abatement plan, pursuant to SCAQMD permit requirements. The asbestos abatement will be performed by a Cal/OSHA registered asbestos remediation company. After the asbestos is removed from the project site it will be disposed at an approved disposal facility.

(MM-10) OC Waste & Recycling will remove the non-native trees that currently surround the project site in order to prevent a potential fire hazard. The existing trees will be replaced with native trees, with a dedicated irrigation system, which will significantly improve fire safety over existing conditions.

Transportation/Traffic

(MM-11) Prior to the initiation of demolition activities at the project site, Fortistar, in consultation with the carriers, will prepare a traffic control plan for demolition and construction. The traffic control plan will include the staggering of truck trips throughout the day on Newport Coast Drive, so that the minimum practicable number of truck trips will occur during the a.m. peak period, to reduce impacts as much as possible to Sage Hill High School and both the SR-73 on and off-ramps at Newport Coast Drive.

(MM-12) All demolition and construction vehicle drivers will be informed that turning right on the red light at the traffic signal at the intersection of the project site access road and Newport Coast Drive will be prohibited for the duration of demolition and construction activities. A sign will be posted at the entrance to the intersection to remind drivers that they are prohibited from making a right-turn at the red light onto Newport Coast Drive.

(MM-13) For the duration of the demolition and construction activities, electronic signage will be placed near Sage Hill High School to inform drivers regarding the duration of the demolition and construction activities and to indicate that large trucks may be present for the duration of construction and demolition activities.

(MM-14) Construction spotters with walkie-talkies will be assigned on both ends of the project site access road to guide trucks during project demolition and construction activities. Trucks will

only be able to travel in one direction on the one lane paved access road at a time. Trucks that are waiting to go up the access road will wait across the street on the main canyon landfill property until the spotter informs them that it is safe to proceed up the access road to the project site.

4.0 REPORT PREPARERS

- LSA – Air Quality, Greenhouse Gas Emissions and Noise
- OC Waste & Recycling – Remainder of Initial Study

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July 5, 2016

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Subject: Coyote Canyon Landfill Gas Plant Tree Health Assessment in the City of Newport Beach, County of Orange, California (LSA Project No. SWT1601)

Dear Mr. Arnau:

Per your request, LSA Associates, Inc. (LSA) conducted a tree health assessment of the nonnative trees surrounding the Coyote Canyon Landfill Gas Plant (LFG Plant) project site (site). This Tree Health Assessment Report documents the findings of the on-site tree inventory and assessment conducted by LSA for the purpose of identifying and evaluating all trees within the survey limits of the site. The project site is located across Newport Coast Drive from the main landfill at 20662 Newport Coast Drive in the City of Newport Beach, County of Orange, California.

INTRODUCTION

LSA inventoried and evaluated 355 trees along the perimeter of the gas-to-energy facility (facility) site. The inventoried trees comprised four genera, with 193 trees identified as Myoporum (*Myoporum laetum*),141 trees identified as eucalyptus species (*Eucalyptus* spp.; Red River gum [*E. camaldulensis*], lemon scented gum [*E. citriodora*], bushy yate [*E. conferruminata*], silver dollar gum [*E. polyanthemos*], and red ironbark [*E. sideroxylon*]), 18 trees identified as Peruvian pepper (*Schinus molle*), and 3 trees identified as oak (*Quercus* sp).

SURVEY AREA

The 4.14-acre facility site is located across the street from the main landfill at 20662 Newport Coast Drive, with the subject trees originally planted as visual screening for the facility (Figure 1; all figures attached).

METHODS

LSA surveyed and mapped all trees within the designated survey area with a diameter at breast height (DBH) of greater than 2 inches. The on-site tree inventory was conducted on June 21, 2016, and June 22, 2016, by Associate Biologist Leo Simone (International Society of Arboriculture [ISA] Certified Arborist/Certified Tree Risk Assessor No. WE-8491A) and Biologist Claudia Bauer. The tree inventory data and physical measurements were taken during the field visits. The entire survey

was conducted on foot, and all qualifying trees within the survey area boundary were inventoried, assigned numbers, and evaluated for the following attributes:

- Species (i.e., scientific and common name);
- DBH (4.5 feet [ft] above grade);
- Number of stems;
- Health observations and notes (e.g., health structure, mechanical damage, and infestation);
- Tree condition (a rating of 0–4, where 0 indicates a dead tree and 4 indicates good health and structure);
- Global positioning system location; and
- Dead trees were tagged with an aluminum tag with a unique identifier correlated to the mapped location of the tree.

Table A, Tree Rating System, describes how the trees were rated. The Tree Attribute Table (attached) identifies all trees by number. The trees' scientific names, common names, DBH, ratings, and survey comments are also included in the attached Tree Attribute Table.

Table A: Tree Rating System

Rating	Tree Condition	Description
0	Dead	Trees rated as a 0 have no significant sign of life.
1	Extreme Problems	Trees rated as a 1 have extreme problems with health and structure. These trees have issues that are not correctable and may be hazardous if there is a target (i.e., life or property).
2	Poor	Trees rated as a 2 have major problems with health and structure but the tree's condition can be improved by following the Arborist recommendations. After the recommended actions are completed, the tree's rating can be raised to a 3. These trees could pose a risk if there is a target and the recommended actions are not taken.
3	Fair	Trees rated as a 3 have minor problems with health and structure and pose no immediate danger to a target. Minor defects can be minimized by following the Arborist recommendations.
4	Good	Trees rated as a 4 have no apparent problems that can be seen by a Certified Arborist from visual ground inspection. Future hazards can be reduced or even averted by following Arborist recommendations to keep the tree in good structural and health conditions.

The project location is shown on Figure 1. Figure 2 shows the project survey area and inventoried tree locations displayed on an aerial photograph base map at a scale of 1 inch = 30 ft.

OBSERVATIONS AND DISCUSSION

LSA inventoried and evaluated 355 trees within the project area. The trees represent four genera: *Myoporum laetum* (Myoporum); *Eucalyptus* spp. (Eucalyptus), *Schinus molle* (Peruvian pepper tree), and *Quercus* sp. (Oak) (SelecTree 1995–2016). LSA identified 193 myoporum trees, 141 eucalyptus trees, 18 Peruvian pepper trees, and 3 oak trees.

Tree Ratings and Conditions

Of the 355 trees inventoried, 116 have a 0 rating (Dead), of which 76 are eucalyptus trees and the remaining 40 are myoporum trees. A total of 123 trees have a 1 rating (Extreme Problems), consisting of 91 myoporum trees, 29 eucalyptus trees, and 3 Peruvian pepper trees. A total of 93 trees have a 2 rating (Poor), consisting of 57 myoporum trees, 23 eucalyptus trees, 11 Peruvian pepper trees, and 2 oak trees. A total of 20 trees have a 3 rating (Fair), consisting of 10 eucalyptus trees, 5 myoporum trees, 4 Peruvian pepper trees, and 1 oak tree. Three of the inventoried trees have a 4 rating (Good); all of the trees rated 4 were eucalyptus trees.

Invasive Species Profile

Myoporum trees, Peruvian pepper trees, and many of the blue gum and red gum eucalyptus trees present on the project site are considered invasive by the California Invasive Plant Council (Cal-IPC). These species have longevity of 50 to 100 years and although they are somewhat drought tolerant, they are highly susceptible to various pests and diseases.[1] Myoporum trees, Peruvian pepper trees, and eucalyptus trees tend to have a medium-weak branch attachment and have a high potential for root damage.[2] Birds and mammals transport myoporum, Peruvian pepper, and eucalyptus tree seeds, and due to the aggressive growth of these trees they are able to displace native trees and form dense thickets. These species are known to be a serious problem in Southern California.

Pest Infestation

Most of the trees evaluated exhibit signs of pest infestation resulting from a combination of insect damage from chewing, boring, and sucking insects.

Chewing insects migrate to the tree's foliage to feed on the leaves and fruit. Caterpillars and beetles make up the largest proportion of chewing insects. Generally, trees can recover from an attack of these defoliators, although repeat infestation can weaken and eventually kill the tree by starving the tree of energy.

Boring insects are often the most harmful to trees and, if left untreated, cause death. Boring, or tunneling, insects cause damage by boring into the stem, roots, or twigs of a tree. Boring insects generally feed on the vascular tissues of the tree. Eventually, the upper leaves are deprived of nutrients and moisture and the tree dies. Signs of borer infestation include entry and exit holes in the bark, small mounds of sawdust at the base, and sections of the crown wilting and dying. It is important to regularly monitor a tree's trunk for signs of boring insects to enable early identification and quick treatment.

Sucking insects damage trees by sucking the liquid from leaves and twigs. Many sucking insects (e.g., scale insects) are relatively immobile, living on the outside of a branch and forming a hard protective outer coating while they feed on the plant juices in the twig. Signs of infestation include scaly formations on branches, dieback of leaves, and honeydew production. As with other insect

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1 SelecTree. "*Myoporum laetum* and *Schinus molle* Tree Record." 1995–2016. Website: http://selectree.calpoly.edu/tree-detail/schinus-molle, accessed May 12, 2016.

2 Ibid.

infestations, prevention is the best approach for maintaining healthy trees. Once sucking insects mature on the tree, they generally must be killed on contact to prevent reproduction and achieve effective control.

Codominant Trunk Leaders

The term "codominant" refers to stems, trunks, or leaders and describes the condition when there is more than one main stem that is about the same size in diameter (Gilman 2002). As the tree grows, the stems remain similar in size without any single stem becoming dominant. This is an important structural defect because it prohibits the strong and normal branch attachment between the branch and trunk. In fact, as the tree grows, the stems expand first against each other and then outward when there is no more space, creating a condition known as "included bark." Included bark leaves very little physical connection between the leaders, which increases the probability of failure. Therefore, the union shape between the leaders is important because V-shaped unions (less space) are more likely to fail than U-shaped unions (more space; Photo 1). Codominant stems can also occur within the canopy of trees. Codominant stems are noted by the phrase, "narrow angles of attachment." These attachments are also weak and can be with or without included bark.

Photo 1. The V- and U-shaped codominant stem unions, from left.

Pruning Cuts and Woundwood. Trees are influenced by and respond to their environment, weight loads, and the availability of essential resources by growing. Woundwood is a special type of growth that trees produce in respond to cambial damage (Dunster 2013). The tissue that is developed consists of lignified differentiated tissue developing from the mass of cells (callus; Photo 2). What makes this growth special is that it is chemically different and usually denser than normal growth, which allows the woundwood to reinforce the wounded area and prevent decay and pests. The rate of woundwood development is dependent on many factors relating to tree health and species characteristics.

Many of the trees in the project area had pruning cut(s) with little to no woundwood. Trees should be monitored for woundwood to determine if the trees have enough energy or resources to properly compartmentalize the wounds. Decay can advance relatively quickly if the tree does not have enough resources, reducing the health of the tree.

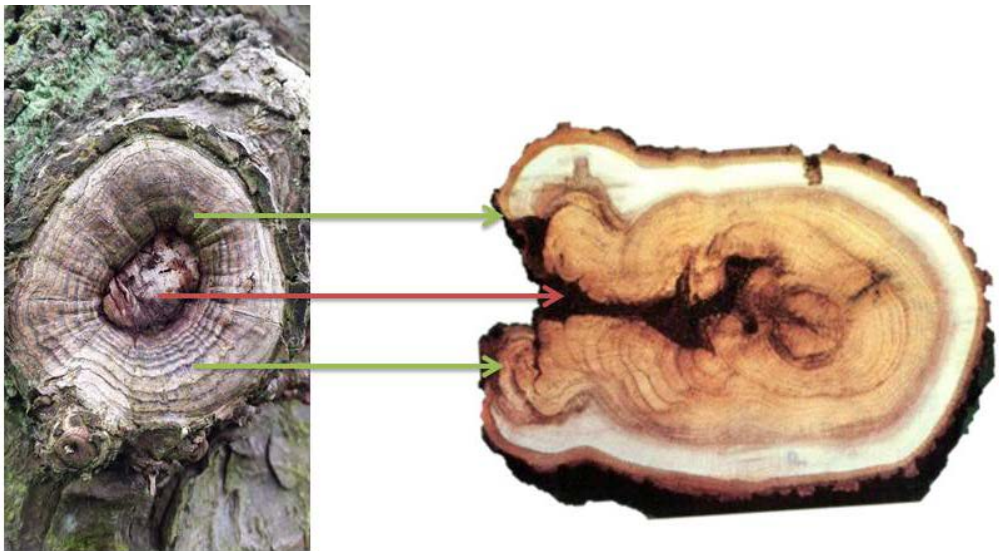

Photo 2. An example of a pruning cut with woundwood (left), and an example cross section of a trunk with reaction wood and decay in the center of the trunk (right).

Epicormic Growth. Epicormic growth is the development of lateral buds that typically lay dormant beneath the bark. These dormant buds typically emerge due to stress-related issues (e.g., mechanical damage, environmental change, crown thinning or dieback, heavy pruning, root death, or a change in the water table). Many of the trees in the project area exhibited signs of new or dead epicormic growth.

CONCLUSION AND RECOMMENDATIONS

The tree conditions were visually examined from the ground up; the Arborist is not able to determine the state of the roots during this type of survey. The following recommendations are to improve the health and structure of the trees that will be retained on site. If the trees will be preserved on site, LSA can provide further information for Tree Retention Measures for construction impact minimization, irrigation, structural pruning, and maintenance.

LSA recommends that the 116 trees inventoried with a 0 rating (Dead) and the 123 trees inventoried with a 1 rating (Extreme Problems) be removed to (1) reduce the pest infestation; (2) lessen fuel load in the event of a wildfire; and, (3) particularly with the large dead eucalyptus trees, reduce risk of trees or tree parts striking people, equipment, or infrastructure in the event of failure. The health of the Extreme Problem trees is unlikely to improve in any significant way; most of these trees have extensive pest infestation problems, poor structure, and extensive dead and diseased wood. Although many of the 93 trees inventoried with a 2 rating (Poor) have major problems with health and structure, the condition of these trees could be improved by following the recommendations provided

in the Tree Attribute Table (attached). After the recommended actions are completed, the tree's rating may be raised to a 3. The remaining 24 trees with a 3 or 4 rating would likely benefit from the following recommendations.

Pruning

Pruning treatments should be repeated every few years, as needed, to control weight distribution, with no more than 10 percent of foliage removed, if possible. This is extremely important for mature trees that lack the resources to develop new woundwood as effectively as younger trees. All pruning should be directed by an ISA Certified Arborist and performed by an ISA Certified Tree Worker in accordance with the Best Management Practices for Pruning by the ISA, and should adhere to the most recent editions of the American National Standards Institute for Tree Care Operations and Pruning A300. All tree work (i.e., pruning, removal, and planting) should be performed by a State Licensed Tree Contractor who can provide proof of commercial insurance coverage.

Irrigation

The current irrigation system appears to be nonoperational. The majority of the surveyed trees appear stressed from lack of water. Generally, trees should be deeply watered no more than once per week. However, a tree may need more or less watering depending on weather conditions (e.g., rainfall, wind, and temperature). The best way to judge water needs is by checking the soil around the tree. If the soil is completely dry, the tree should be watered. If the soil is wet, there are probably several days before the tree needs more water. Different tree species have very different watering needs and some trees grow very well in conditions that others cannot tolerate.

A general rule for watering trees is to apply 5 gallons of water per inch of trunk diameter. This is best applied at a slow rate. To encourage outward root growth, water should be applied at the drip line rather than next to the trunk. Watering next to the trunk can encourage circling roots, which can girdle and suffocate the tree. Deep watering and watering in the appropriate amount is important because it encourages deeper root growth. Roots generally grow within the top 18 inches of soil, but when shallowly watered (or in too little quantities) many roots will tend to grow in the top 6 inches. Deeper roots contribute to drought hardiness and anchorage strength.

Pest Control

Controlling movement up and down the stem with physical barriers can interrupt the lifecycles of many caterpillars. Insecticides can also be used to kill the insects. Healthier trees are less likely to become infested and can withstand the impact of an insect attack.

Keeping trees healthy is the best way to prevent infestation by boring insects. This includes proper pruning, watering, mulching, and fertilization. Pruning should be done in late fall or winter to avoid attracting insects to open wounds. Dead or fallen wood should be removed immediately. Once borers are present, control becomes extremely difficult, but steps should be taken to prevent further damage and to stop the borers from spreading to surrounding trees.

Horticultural oil can be used as a control for scale insects during the growing season or as a preventative treatment during the dormant winter season, preventing insects from overwintering. Insecticidal soap is a safe and effective control against many sucking insects and is recommended as a first response against insect attacks. In some cases, due to the size of the tree, spraying is not an option. In these cases, the insecticide is injected directly into the tree's trunk or applied by watering the treatment onto the tree's roots. The insecticide is then taken up through the tree's roots and dispersed throughout the tree. This is a good treatment when a tree has been repeatedly attacked by sucking insects over several years and a stronger treatment is required.

Mulching

Mulching is one of the most beneficial practices that can be done for the health of a tree, if applied properly. Organic mulch composed of plant byproducts (e.g., shredded bark, hardwood chips, and pine needles) has the beneficial results of (1) a source of slow-release nutrients, (2) improvement of soil structure by creating an organic layer, (3) maintaining moisture, (4) reduced competition from weeds and turf, (5) moderate temperature fluctuations, and (6) gives landscapes a well-groomed appearance.

The application of mulch should be 2 to 4 inches in depth. Mulch should not be placed directly against the trunk of the tree, as direct contact may lead to bacterial or fungal infections, rodent feeding, and insects. The broader the diameter of the mulch, the more effective the mulch. The diameter of recommended mulch depends on the caliper of the tree at 4.5 ft above the ground surface (DBH). For a tree with a DBH of 1 to 2 inches, a 6 ft diameter mulch circle is recommended. Excess mulch depth often has detrimental effects on tree health by restricting water and gas exchange with the roots, which can result in (1) root rot and death, (2) girdling roots, (3) limiting nitrogen availability (the most important nutrient to trees), and (4) can affect soil pH, which will limit the nutrients available for root uptake.

Federal Migratory Bird Treaty Act

Numerous large trees are present on site that may provide nesting habitat for raptors and other migratory birds protected under the federal Migratory Bird Treaty Act. Consequently, it would be prudent to perform any vegetation removal outside the avian nesting period, which typically extends between February and September, or to conduct nesting bird surveys prior to vegetation removal.

DISCLOSURE STATEMENT

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the Arborist or to seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Certain conditions are often hidden within trees or below the ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances or for a specific period of time. Likewise, remedial treatments cannot be guaranteed. Trees can be managed but they cannot be controlled. To

live near trees is to accept some degree of risk. The only way to remove all risk from trees is to remove all trees.

I have personally inspected the trees and/or property referred to in this report and have stated my findings accurately. The extent of the evaluation and appraisal is stated in this report. I have no current or prospective interest in the vegetation or the property that is the subject of this report and I have no personal interest or bias with respect to the parties involved. The analysis, opinions, and conclusions stated herein are my own and are based on current scientific procedures and facts. My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party or upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events. My analysis, opinions, and conclusion were developed and this report has been prepared according to commonly accepted arboricultural practices.

I further certify that I am a Certified Arborist and Certified Tree Risk Assessor by the ISA. If you have any questions or comments, please contact me at (949) 553-0666 or at leo.simone@lsa.net.

Sincerely,

LSA ASSOCIATES, INC.

Leo Simone
Associate Biologist
ISA Certified Arborist/Tree Risk Assessor

Attachments: References
Tree Attribute Table
Figures 1 and 2

REFERENCES

California Invasive Plant Council (Cal-IPC). CalWeedMapper. Website: http://calweedmapper.cal-ipc.org/maps/?species=140. Accessed May 12, 2016.

Cope, Amy B. 1992. Juniperus californica. In: Fire Effects Information System, Online. United States Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Website: http://www.fs.fed.us/database/feis. Accessed May 2016.

Dunster, Julian A., E. Thomas Smiley, Nelda Matheny, and Sharon Lilly. 2013. "Tree Risk Assessment Manual." Champaign, Illinois: International Society of Arboriculture.

Gilman, Edward. 2002. Urban and Community Forestry Factsheet No. 35, Codominant Stems. An illustrated guide to pruning. Second edition. Albany, NY: Delmar. Website: http://www.umass.edu/urbantree/factsheets/35codominantstems_rev1.html. Accessed May 2016.

International Society of Arboriculture. American National Standards Institute for Tree Care Operations and Pruning A300.

———. 2011. Palms. Updated 1998 and 2004. Website: http://www.treesaregood.com/treecare/resources/palms.pdf. Accessed May 2016.

———. 1995–2016. "Schinus molle Tree Record." Website: http://selectree.calpoly.edu/tree-detail/schinus-molle. Accessed May 12, 2016.

United States Department of Agriculture. Natural Resources Conservation Service. Plant Guide. Website: http://plants.usda.gov/plantguide/pdf/cs_wafi.pdf. Accessed May 12, 2016.

University of California. 2016. California Tree Failure Report Program. Failure Photos. January. Website: http://ucanr.edu/sites/treefail/Failure_Photos/. Accessed May 2016.

———. 2014. "Post a Question." California Tree Failure Report Program. Website: http://ucanr.edu/sites/treefail/Post_a_Question/?close=yes/. Accessed April 12, 2016.

———. 2010. California Tree Failure Report Program. Archives. March. Website: http://ucanr.edu/sites/treefail/Post_a_Question/Archives/, accessed May 2016.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
001	*Eucalyptus* sp.	Eucalyptus	5″	2	Control pest infestation; prune dead wood no more than 10% and live wood no greater than 2” in diameter; provide supplemental irrigation.
002	*Myoporum laetum*	Myoporum	Multitrunk 7″, 3″, 3″, 2″, 2″	2	Prune dead wood no more than 10% and live wood no greater than 2” in diameter; provide supplemental irrigation.
003	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
004	*Eucalyptus camaldulensis*	Red River gum	18″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
005	*Myoporum laetum*	Myoporum	Multitrunk 8″, 6″, 5″, 3″	2	Control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
006	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
007	*Eucalyptus camaldulensis*	Red River gum	14″	0	Dead; recommend removal; may be hazardous if there is a target.
008	*Eucalyptus* sp.	Eucalyptus	10″	0	Dead; recommend removal; may be hazardous if there is a target.
009	*Eucalyptus citriodora*	Lemon scented gum	Multitrunk 12″, 8″, 6″	3	Codominant trunks; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
010	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″, 3″	2	Control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
011	*Myoporum laetum*	Myoporum	Multitrunk 6″, 4″	2	Control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
012	*Myoporum laetum*	Myoporum	4″	1	Prostrate growth; tree has issues that are not correctable.
013	*Myoporum laetum*	Myoporum	Multitrunk 6″, 2″	2	Control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
014	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 2″, 2″, 2″	1	Excessive dead branches; poor structure; tree has issues that are not correctable.
015	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 3″	1	Prostrate growth; tree has issues that are not correctable.
016	*Eucalyptus polyanthemos*	Silver dollar gum	19″	0	Dead; may be hazardous if there is a target; recommend removal.
017	*Myoporum laetum*	Myoporum	Multitrunk 8″, 6″, 5″, 4″, 1″, 1″	1	Extensive dead limbs; tree has issues that are not correctable.
018	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; rot at base; recommend removal.
019	*Myoporum laetum*	Myoporum	Multitrunk 6″, 5″, 3″, 3″	1	Prostrate growth; poor structure; tree has issues that are not correctable.
020	*Myoporum laetum*	Myoporum	7.5″	2	Control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
021	*Myoporum laetum*	Myoporum	Multitrunk 5″, 3″, 3″	1	Pest infestation; poor structure; excessive dead wood; tree has issues that are not correctable.
022	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″, 3″, 3″	1	Pest infestation; poor structure; excessive dead wood; tree has issues that are not correctable.
023	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
024	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
025	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″, 4″, 3″, 3″, 3″, 2″	1	Pest infestation; poor structure; excessive dead wood; tree has issues that are not correctable.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
026	*Eucalyptus* sp.	Eucalyptus	10.5″	0	Dead; bark beetle damage; recommend removal; may be hazardous if there is a target.
027	*Myoporum laetum*	Myoporum	Multitrunk 8.5″	1	Dead branches; girdling roots; tree has issues that are not correctable.
028	*Myoporum laetum*	Myoporum	Multitrunk 8″, 7″, 4″, 3″, 2″	2	Prostrate growth; control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
029	*Myoporum laetum*	Myoporum	8″	2	Control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
030	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
031	*Eucalyptus* sp.	Eucalyptus	28″	1	Tree was topped; dead branches; has issues that are not correctable; may be hazardous if there is a target.
032	*Eucalyptus* sp.	Eucalyptus	4″	1	Sprout growth; has issues that are not correctable.
033	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
034	*Myoporum laetum*	Myoporum	Multitrunk 6″, 5″, 4″, 3″, 2″, 1″	1	Dead branches; pest infestation; has issues that are not correctable.
035	*Myoporum laetum*	Myoporum	Multitrunk 6″, 6″, 4″, 4″	2	Control pest infestation; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
036	*Myoporum laetum*	Myoporum	Multitrunk 6″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
037	*Myoporum laetum*	Myoporum	Multitrunk 3″, 3″, 1″, 1″	1	Excessive dead branches; has issues that are not correctable.
038	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″, 4″, 3″	1	Excessive dead branches; has issues that are not correctable.
039	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
040	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
041	*Myoporum laetum*	Myoporum		1	Offshoot from trunk base; has issues that are not correctable.
042	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
043	*Schinus molle*	Peruvian pepper	5.5″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
044	*Eucalyptus* sp.	Eucalyptus		0	Dead; may be hazardous if there is a target; recommend removal.
045	*Myoporum laetum*	Myoporum	Multitrunk 7″, 5″, 5″, 4″	1	Split at root base; prune; has issues that are not correctable.
046	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
047	*Myoporum laetum*	Myoporum	Multitrunk 10″, 7″	1	Dead branches; pest infestation; has issues that are not correctable.
048	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
049	*Eucalyptus* sp.	Eucalyptus	Multitrunk	0	Dead; massive tree; may be hazardous if there is a target; recommend removal.
050	*Eucalyptus* sp.	Eucalyptus		0	Dead; may be hazardous if there is a target; recommend removal.
051	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
052	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
053	*Schinus molle*	Peruvian pepper	Multitrunk 5″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
054	*Myoporum laetum*	Myoporum	Multitrunk 1″, 1″, 1″ , 1″	1	Dead branches; pest infestation; has issues that are not correctable.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
055	*Myoporum laetum*	Myoporum	Multitrunk 8″, 5″, 4″	1	Dead branches; pest infestation; has issues that are not correctable.
056	*Schinus molle*	Peruvian pepper	Multitrunk 9″, 8″, 5″, 4″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
057	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
058	*Myoporum laetum*	Myoporum	Multitrunk 8″, 4″, 4″, 3″, 3″, 2″	1	Half of the tree is dead; has issues that are not correctable.
059	*Eucalyptus polyanthemos*	Silver dollar gum	15.5″	3	Remove adjacent leaning tree; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
060	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
061	*Eucalyptus* sp.	Eucalyptus	12″	1	Leaning on adjacent tree No. 59; has issues that are not correctable; recommend removal.
062	*Eucalyptus polyanthemos*	Silver dollar gum	14″	1	Prostrate growth; leaning against dead tree; has issues that are not correctable; likely to fall; recommend removal.
063	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″	1	Half of the tree is dead; has issues that are not correctable.
064	*Eucalyptus* sp.	Eucalyptus		0	Dead; supporting tree No. 62; recommend removal.
065	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
066	*Myoporum laetum*	Myoporum	Multitrunk 5″, 3″, 1″	1	Excessive dead wood; pest infestation; has issues that are not correctable.
067	*Schinus molle*	Peruvian pepper	Multitrunk 10″, 8″, 4″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
068	*Schinus molle*	Peruvian pepper	Multitrunk 12″, 10″, 7″	2	Large prostrate limb; codominant trunk; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
069	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk 8″, 6″, 4″, 3″, 3″, 2″	1	Excessive dead wood; epicormic growth; has issues that are not correctable.
070	*Eucalyptus* sp.	Eucalyptus	22″	0	Dead; may be hazardous if there is a target; recommend removal.
071	*Eucalyptus* sp.	Eucalyptus	20″	0	Dead; may be hazardous if there is a target; recommend removal.
072	*Eucalyptus* sp.	Eucalyptus	20″	4	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
073	*Eucalyptus* sp.	Eucalyptus	Multitrunk	0	Dead; may be hazardous if there is a target; recommend removal.
074	*Eucalyptus* sp.	Eucalyptus	Multitrunk	0	Dead; may be hazardous if there is a target; recommend removal.
075	*Myoporum laetum*	Myoporum	Multitrunk 6″, 4″, 3″	1	Excessive dead wood; pest infestation; has issues that are not correctable.
076	*Schinus molle*	Peruvian pepper	Multitrunk 9″, 8″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
077	*Schinus molle*	Peruvian pepper	Multitrunk 7″, 6″, 4″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
078	*Myoporum laetum*	Myoporum	3″	1	Excessive dead wood; pest infestation; has issues that are not correctable.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
079	*Eucalyptus* sp.	Eucalyptus	Multitrunk 20″, 3″, 3″, 3″	1	The main tree is dead; live suckers may be hazardous if there is a target; recommend removal.
080	*Myoporum laetum*	Myoporum	5″	1	Excessive dead wood; pest infestation; has issues that are not correctable.
081	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk 12″, 6″	1	Extensive insect damage; has issues that are not correctable; may be hazardous if there is a target.
082	*Myoporum laetum*	Myoporum	6″	1	Excessive dead wood; pest infestation; has issues that are not correctable.
083	*Eucalyptus* sp. (planted sapling)	Eucalyptus	2″ or less	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
084	*Eucalyptus* sp. (planted sapling)	Eucalyptus	2″ or less	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
085	*Eucalyptus* sp. (planted sapling)	Eucalyptus	2″ or less	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
086	*Eucalyptus* sp. (planted sapling)	Eucalyptus	2″ or less	2	Remove stakes; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
087	*Eucalyptus* sp. (planted sapling)	Eucalyptus	2″ or less	2	Remove stakes; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
088	*Eucalyptus* sp. (planted sapling)	Eucalyptus	2″ or less	2	Remove stakes; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
089	*Myoporum laetum*	Myoporum	Multitrunk 8.5″, 7″, 5″	1	Tree is 90% dead; has issues that are not correctable.
090	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk 11.5″, 11.5″	0	Dead; may be hazardous if there is a target; recommend removal.
091	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″	1	Excessive dead branches; poor structure; tree has issues that are not correctable.
092	*Myoporum laetum*	Myoporum	5″	1	Extensive suckers; pest infestation; poor structure; tree has issues that are not correctable.
093	*Eucalyptus* sp.		7″	0	Dead; recommend removal.
094	*Myoporum laetum*	Myoporum	7″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
095	*Myoporum laetum*	Myoporum	Multitrunk	0	Dead; recommend removal.
096	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk 18″, 7″	0	Dead; may be hazardous if there is a target; recommend removal.
097	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
098	*Myoporum laetum*	Myoporum	Multitrunk 6″, 5″, 4″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
099	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″	1	Extensive suckers; pest infestation; poor structure; tree has issues that are not correctable.
100	*Eucalyptus polyanthemos*	Silver dollar gum	12″	0	Dead; may be hazardous if there is a target; recommend removal.
101	*Myoporum laetum*	Myoporum	Multitrunk 7.5″, 3″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
102	*Myoporum laetum*	Myoporum	Multitrunk 6″, 6″, 4″	1	Decay at base; excessive dead wood; tree has issues that are not correctable.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
103	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk 16. 5″, 6″	0	Dead; may be hazardous if there is a target; recommend removal.
104	*Schinus molle*	Peruvian pepper	9″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
105	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 3″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
106	*Eucalyptus citriodora*	Lemon scented gum	12″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
107	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″, 5″, 4″, 4″, 4″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
108	*Eucalyptus* sp.	Eucalyptus	5″	0	Dead; recommend removal.
109	*Myoporum laetum*	Myoporum	4″	0	Dead; recommend removal.
110	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk 15″, 14″, 12″	0	Dead; may be hazardous if there is a target; recommend removal.
111	*Schinus molle*	Peruvian pepper	Multitrunk 4″, 4″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
112	*Myoporum laetum*	Myoporum	Multitrunk 3″, 3″, 1″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
113	*Myoporum laetum*	Myoporum	6″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
114	*Eucalyptus citriodora*	Lemon scented gum	9″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
115	*Eucalyptus polyanthemos*	Silver dollar gum	9″	0	Dead; may be hazardous if there is a target; recommend removal.
116	*Myoporum laetum*	Myoporum	6.5″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
117	*Myoporum laetum*	Myoporum	Multitrunk 6.5″, 6″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
118	*Myoporum laetum*	Myoporum	Multitrunk 5.5″, 2″	2	Dieback at tips; rootbound; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
119	*Myoporum laetum*	Myoporum	Prostrate trunk	0	Dead; recommend removal.
120	*Myoporum laetum*	Myoporum	8″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
121	*Eucalyptus* sp.	Eucalyptus	13″	0	Dead; may be hazardous if there is a target; recommend removal.
122	*Myoporum laetum*	Myoporum	8″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
123	*Eucalyptus citriodora*	Lemon scented gum	Multitrunk 13″, 10″, 6″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
124	*Eucalyptus conferruminata*	Bushy yate	8″	1	Significant lean; presence of fungus; tree has issues that are not correctable; may be hazardous if there is a target.
125	*Myoporum laetum*	Myoporum	5″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.

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Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
126	*Myoporum laetum*	Myoporum	Multitrunk 10″, 6″, 5″, 4″, 4″, 4″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
127	*Eucalyptus conferruminata*	Bushy yate	8″	0	Dead; prostrate; fungus present; recommend removal.
128	*Eucalyptus conferruminata*	Bushy yate	Multitrunk 5″, 4″, 4″	0	Dead; recommend removal.
129	*Quercus* sp.	Oak	5″	2	Remove stakes and ties; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
130	*Quercus* sp.	Oak	5″	3	Remove stakes and ties; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
131	*Schinus molle*	Peruvian pepper	Multitrunk 4″, 3″, 2″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
132	*Quercus* sp.	Oak	2″	2	Remove stakes and ties; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
133	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″, 2″, 2″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
134	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
135	*Myoporum laetum*	Myoporum	2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
136	*Myoporum laetum*	Myoporum	Multitrunk 4″, 2″, 2″, 2″, 1″, 1″, 1″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
137	*Myoporum laetum*	Myoporum	Multitrunk 2″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
138	*Eucalyptus* sp.	Eucalyptus	Multitrunk 5″, 5″, 4″, 4″, 3″	0	Dead; recommend removal.
139	*Myoporum laetum*	Myoporum	2″	1	Poor structure; pest infestation; tree has issues that are not correctable.
140	*Myoporum laetum*	Myoporum	2″	1	Poor structure; pest infestation; tree has issues that are not correctable.
141	*Eucalyptus* sp.	Eucalyptus	2″	1	“U” trunk; pest infestation; tree has issues that are not correctable.
142	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″	2	Control pests; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
143	*Eucalyptus* sp.	Eucalyptus	34.5″	2	Codominant trunks; control pests; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
144	*Myoporum laetum*	Myoporum	2″	2	Control pests; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
145	*Eucalyptus* sp.	Eucalyptus	6″	0	Dead; may be hazardous if there is a target; recommend removal.
146	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
147	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.

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Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
148	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 3″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
149	*Eucalyptus* sp.	Eucalyptus	11″	0	Dead; may be hazardous if there is a target; recommend removal.
150	*Myoporum laetum*	Myoporum	Multitrunk 2.5″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
151	*Eucalyptus* sp.	Eucalyptus	Multitrunk 4″, 3″, 3″, 2″	0	Dead; may be hazardous if there is a target; recommend removal.
152	*Myoporum laetum*	Myoporum	Multitrunk 6″, 5″, 5″, 4″, 4″, 4″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
153	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 2″, 2″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
154	*Eucalyptus* sp.	Eucalyptus	Stump	1	Resprouting from stump; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
155	*Eucalyptus citriodora*	Lemon scented gum	6″	2	Partially dead branches; tree has issues that are not correctable.
156	*Myoporum laetum*	Myoporum	Multitrunk 1.5″, 1.5″, 1.5″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
157	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 3″, 2″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
158	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″, 3″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
159	*Eucalyptus* sp.	Eucalyptus	11″	1	Two-thirds dead; may be hazardous if there is a target; recommend removal.
160	*Eucalyptus* sp.	Eucalyptus	5.5″	0	Dead; may be hazardous if there is a target; recommend removal.
161	*Myoporum laetum*	Myoporum	Multitrunk 2″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
162	*Eucalyptus* sp.	Eucalyptus	7″	0	Dead; recommend removal.
163	*Eucalyptus* sp.	Eucalyptus	2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
164	*Eucalyptus* sp.	Eucalyptus	Multitrunk 6.5″, 3″	0	Dead; may be hazardous if there is a target; recommend removal.
165	*Eucalyptus* sp.	Eucalyptus	8″	0	Dead; may be hazardous if there is a target; recommend removal.
166	*Myoporum laetum*	Myoporum	Multitrunk 6″, 3″, 3″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
167	*Eucalyptus* sp.	Eucalyptus	28″	1	Three-fourths dead; codominant trunks; may be hazardous if there is a target; recommend removal.
168	*Eucalyptus* sp.	Eucalyptus	2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
169	*Eucalyptus* sp.	Eucalyptus	Multitrunk 11″, 3″	1	Primary trunk is dead; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
170	*Eucalyptus* sp.	Eucalyptus	Multitrunk 5″, 5″	0	Dead; recommend removal.

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Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
171	*Eucalyptus* sp.	Eucalyptus	14″	0	Dead; may be hazardous if there is a target; recommend removal.
172	*Schinus molle*	Peruvian pepper	Multitrunk 6″,6″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
173	*Eucalyptus* sp.	Eucalyptus	Multitrunk 10″, 8″	0	Dead; may be hazardous if there is a target; recommend removal.
174	*Eucalyptus* sp.	Eucalyptus	Multitrunk 12″, 10″	0	Dead; may be hazardous if there is a target; recommend removal.
175	*Eucalyptus* sp.	Eucalyptus	11″	0	Dead; may be hazardous if there is a target; recommend removal.
176	*Schinus molle*	Peruvian pepper	Multitrunk 4″, 3″	1	Codominant trunks; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
177	*Eucalyptus* sp.	Eucalyptus	Multitrunk 11″, 10″, 8″	0	Dead; may be hazardous if there is a target; recommend removal.
178	*Eucalyptus* sp.	Eucalyptus	Dead stump	0	Dead; recommend removal.
179	*Schinus molle*	Peruvian pepper	2.5″	1	Previously toped crown; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
180	*Myoporum laetum*	Myoporum	2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
181	*Myoporum laetum*	Myoporum	3.5″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
182	*Myoporum laetum*	Myoporum	Multitrunk 4″, 2″	1	Rot decay at base; prostrate growth; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
183	*Eucalyptus* sp.	Eucalyptus	Multitrunk 12″, 10″	0	Dead; may be hazardous if there is a target; recommend removal.
184	*Myoporum laetum*	Myoporum	2″	0	Dead; recommend removal.
185	*Eucalyptus polyanthemos*	Silver dollar gum	9″	0	Dead; may be hazardous if there is a target; recommend removal.
186	*Eucalyptus citriodora*	Lemon scented gum	Multitrunk 5″, 5″	2	Codominant trunk; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
187	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″, 2″, 1″	1	Sprouted from stump base; root plate lifting; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
188	*Eucalyptus* sp.	Eucalyptus	14″	0	Dead; root rot; likely to fall into facility.
189	*Eucalyptus* sp.	Eucalyptus	Multitrunk 6″, 5″, 5″, 4″	1	Four suckers coming from horizontal trunk; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
190	*Schinus molle*	Peruvian pepper	Multitrunk 3″, 2″, 2″, 1″	1	Three-fourths dead; decay and dieback; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
191	*Eucalyptus* sp.	Eucalyptus	Multitrunk 10″, 9″	4	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
192	*Myoporum laetum*	Myoporum	Multitrunk 5″, 2″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
193	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.

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Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
194	*Eucalyptus* sp.	Eucalyptus	9″	0	Dead; may be hazardous if there is a target; recommend removal.
195	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
196	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 3″, 3″, 2″, 2″, 1″	0	Dead; recommend removal.
197	*Myoporum laetum*	Myoporum	Multitrunk 2″, 2″, 2″, 2″	0	Dead; recommend removal.
198	*Schinus molle*	Peruvian pepper	Multitrunk 6″, 4″, 4″, 3″	2	Codominant trunks at base; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
199	*Schinus molle*	Peruvian pepper	Multitrunk 4″, 3″, 2″, 2″, 1″	2	Codominant trunks at base; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
200	*Myoporum laetum*	Myoporum	2.5″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
201	*Eucalyptus* sp.	Eucalyptus	2.5″	0	Dead; recommend removal.
202	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 2″	0	Dead; recommend removal.
203	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 2″, 1″	1	Three-fourths dead; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
204	*Eucalyptus* sp.	Eucalyptus	10″	0	Root plate uplift; dead; may be hazardous if there is a target; recommend removal.
205	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″, 1″, 1″	1	Three-fourths dead; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
206	*Eucalyptus citriodora*	Lemon scented gum	8″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
207	*Eucalyptus* sp.	Eucalyptus	12″	1	Significant pest damage; likely to fall into wall; recommend removal.
208	*Myoporum laetum*	Myoporum		0	Dead; recommend removal.
209	*Eucalyptus* sp.	Eucalyptus	6″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
210	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
211	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
212	*Eucalyptus* sp.	Eucalyptus	5″	1	Constricted trunk due to stakes and ties; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
213	*Eucalyptus* sp.	Eucalyptus	2.5″	0	Dead; recommend removal.
214	*Eucalyptus* sp.	Eucalyptus	28″	0	Dead; may be hazardous if there is a target; recommend removal.
215	*Schinus molle*	Peruvian pepper	Multitrunk 5″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
216	*Schinus molle*	Peruvian pepper	Multitrunk 4″, 4″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
217	*Eucalyptus* sp.	Eucalyptus		0	Dead; may be hazardous if there is a target; recommend removal.

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Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
218	*Eucalyptus* sp.	Eucalyptus	22″	1	Three-fourths dead; leaning toward facility; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
219	*Eucalyptus citriodora*	Lemon scented gum	12″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
220	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 2″, 2″	1	Three-fourths dead; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
221	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
222	*Eucalyptus citriodora*	Lemon scented gum	13″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
223	*Eucalyptus citriodora*	Lemon scented gum	13″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
224	*Eucalyptus citriodora*	Lemon scented gum	Multitrunk 9″, 6″	1	Codominant trunks; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
225	*Eucalyptus citriodora*	Lemon scented gum	13″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
226	*Eucalyptus* sp.	Eucalyptus	2″	0	Dead; recommend removal.
227	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
228	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
229	*Eucalyptus* sp.	Eucalyptus	18″	0	Dead; may be hazardous if there is a target; recommend removal.
230	*Myoporum laetum*	Myoporum	Multitrunk 6″, 2″, 2″	1	Wilted leaves; dying; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
231	*Myoporum laetum*	Myoporum	8″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
232	*Myoporum laetum*	Myoporum	Multitrunk 8″, 2″, 2″, 1″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
233	*Myoporum laetum*	Myoporum	Multitrunk 6″, 6″, 4″, 3″	1	Prostrate growth; rot and root decay; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
234	*Myoporum laetum*	Myoporum	8″	1	Two-thirds dead branches; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
235	*Eucalyptus* sp.	Eucalyptus	17″	1	Five-sixths dead branches; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
236	*Eucalyptus citriodora*	Lemon scented gum	17″	4	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
237	*Myoporum laetum*	Myoporum	Multitrunk 6″, 4″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.

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Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
238	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″, 4″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
239	*Eucalyptus* sp.	Eucalyptus	2″	0	Dead; recommend removal.
240	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″	2	Rootbound; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
241	*Myoporum laetum*	Myoporum	Multitrunk 7″, 6″, 3″, 3″	2	Prostrate trunk; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
242	*Eucalyptus* sp.	Eucalyptus	12″	1	Two-thirds dead; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
243	*Eucalyptus* sp.	Eucalyptus	11″	0	Dead; recommend removal.
244	*Myoporum laetum*	Myoporum	Multitrunk 11″, 6″, 4″	0	Dead; recommend removal.
245	*Myoporum laetum*	Myoporum	Multitrunk 6″, 6″, 5″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
246	*Eucalyptus* sp.	Eucalyptus	7″	1	Prostrate growth; will fall down hill; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
247	*Eucalyptus citriodora*	Lemon scented gum	11″	1	Two-thirds dead; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
248	*Myoporum laetum*	Myoporum	Multitrunk 10″, 4″	0	Dead; recommend removal.
249	*Eucalyptus* sp.	Eucalyptus	10″	0	Dead; may be hazardous if there is a target; recommend removal.
250	*Eucalyptus* sp.	Eucalyptus	10″	0	Dead; may be hazardous if there is a target; recommend removal.
251	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″, 1″	1	Rootbound; leaning downhill; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
252	*Eucalyptus* sp.	Eucalyptus	11″	0	Dead; may be hazardous if there is a target; recommend removal.
253	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″, 2″, 1″	2	Rootbound; leaning downhill; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
254	*Myoporum laetum*	Myoporum	Multitrunk 2″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
255	*Eucalyptus sideroxylon*	Red ironbark	12″	0	Dead; may be hazardous if there is a target; recommend removal.
256	*Eucalyptus* sp.	Eucalyptus	11″	0	Dead; may be hazardous if there is a target; recommend removal.
257	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
258	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
259	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 3″, 3″, 3″	2	Rootbound; emergent from stump; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
260	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″	2	Split at base of roots; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
261	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
262	*Myoporum laetum*	Myoporum	Multitrunk 6″, 3″, 3″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
263	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
264	*Eucalyptus* sp.	Eucalyptus	Multitrunk 5″, 3″	0	Dead; recommend removal.
265	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″	0	Dead; recommend removal.
266	*Myoporum laetum*	Myoporum	Multitrunk 8″, 7″, 5″	0	Dead; recommend removal.
267	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″, 4″	1	Split trunk; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
268	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″, 2″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
269	*Eucalyptus citriodora*	Lemon scented gum	10″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
270	*Eucalyptus* sp.		22″	0	Dead; may be hazardous if there is a target; recommend removal.
271	*Myoporum laetum*	Myoporum	Multitrunk 7″, 5″, 5″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
272	*Myoporum laetum*	Myoporum	4″	1	Tree is leaning downhill; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
273	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″, 3″, 3″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
274	*Eucalyptus citriodora*	Lemon scented gum	7″	1	Excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
275	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″, 3″	0	Dead; recommend removal.
276	*Myoporum laetum*	Myoporum	Multitrunk 8″, 5″	1	Three-fourths dead; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
277	*Myoporum laetum*	Myoporum	Multitrunk 8″, 4″, 4″, 3″, 2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
278	*Myoporum laetum*	Myoporum	Multitrunk 14″, 6″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
279	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″, 5″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
280	*Myoporum laetum*	Myoporum	Multitrunk 6″, 6″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
281	*Myoporum laetum*	Myoporum	Multitrunk 6″, 5″	1	Split at base; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
282	*Eucalyptus* sp.	Eucalyptus	14″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
283	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
284	*Myoporum laetum*	Myoporum	Multitrunk 6″, 4″	1	Split at base; excessive dead branches; poor structure; pest infestation; tree has issues that are not correctable.
285	*Eucalyptus* sp.	Eucalyptus	3″	0	Dead; recommend removal.
286	*Eucalyptus* sp.	Eucalyptus	4″	0	Dead; recommend removal.
287	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
288	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
289	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
290	*Myoporum laetum*	Myoporum	5″	0	Dead; recommend removal.
291	*Myoporum laetum*	Myoporum	Multitrunk 7″, 7″, 6″, 4″, 4″	0	Dead; recommend removal.
292	*Eucalyptus* sp.	Eucalyptus	6.5″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
293	*Eucalyptus* sp.	Eucalyptus	2″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
294	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
295	*Eucalyptus* sp.	Eucalyptus	14″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
296	*Myoporum laetum*	Myoporum	Multitrunk 4″, 3″, 3″	0	Dead; recommend removal.
297	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
298	*Eucalyptus camaldulensis*	Red River gum	18″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
299	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 3″	0	Dead; recommend removal.
300	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″, 3″, 3″	0	Dead; recommend removal.
301	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″	1	Extensive dead wood; tree has issues that are not correctable.
302	*Eucalyptus polyanthemos*	Silver dollar gum	Multitrunk 14″, 12″	2	Codominant trunks; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
303	*Eucalyptus* sp.	Eucalyptus	Multitrunk 10″, 9″, 8″	0	Dead; may be hazardous if there is a target; recommend removal.
304	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″	0	Dead; recommend removal.
305	*Eucalyptus* sp.	Eucalyptus	15″	0	Dead; may be hazardous if there is a target; recommend removal.
306	*Eucalyptus citriodora*	Lemon scented gum	7.5″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
307	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 3″	1	Codominant trunks; extensive dead wood; tree has issues that are not correctable.
308	*Myoporum laetum*	Myoporum	3″	1	Offshoot from topped trunk; tree has issues that are not correctable.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
309	*Myoporum laetum*	Myoporum	4.5″	1	Offshoot from topped trunk; tree has issues that are not correctable.
310	*Myoporum laetum*	Myoporum	5.5″	1	Offshoot from topped trunk; tree has issues that are not correctable.
311	*Myoporum laetum*	Myoporum	5.5″	1	Prostrate, horizontal limbs; tree has issues that are not correctable.
312	*Myoporum laetum*	Myoporum	Multitrunk 8″, 7″, 6″, 5″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
313	*Myoporum laetum*	Myoporum	Multitrunk 8″, 5″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
314	*Myoporum laetum*	Myoporum	Multitrunk 11″, 9″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
315	*Myoporum laetum*	Myoporum	Multitrunk 7″, 6″, 6″, 5″, 4″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
316	*Myoporum laetum*	Myoporum	2″	1	Topped; extensive dead wood; tree has issues that are not correctable.
317	*Myoporum laetum*	Myoporum	5″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
318	*Myoporum laetum*	Myoporum	Multitrunk 5″, 5″	2	Codominant trunks; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
319	*Myoporum laetum*	Myoporum	Multitrunk 7″, 6″	1	Codominant trunks; extensive dead wood; tree has issues that are not correctable.
320	*Myoporum laetum*	Myoporum	Multitrunk 6″, 4″	2	Codominant trunks; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
321	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″	2	Codominant trunks; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
322	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″, 4″	1	Split trunks; girdling root; extensive dead wood; tree has issues that are not correctable.
323	*Myoporum laetum*	Myoporum	Multitrunk 12″, 10″, 10″	1	One horizontal limb; root rot; extensive dead wood; tree has issues that are not correctable.
324	*Myoporum laetum*	Myoporum	Multitrunk 6″, 5″, 4″	0	Dead; recommend removal.
325	*Myoporum laetum*	Myoporum	Multitrunk 3″, 3″, 2″	0	Dead; recommend removal.
326	*Myoporum laetum*	Myoporum	8″	2	Leaning downhill; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
327	*Myoporum laetum*	Myoporum	8″	0	Dead; recommend removal.
328	*Myoporum laetum*	Myoporum	Multitrunk 3″, 2″, 1″	0	Dead; recommend removal.
329	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4″	2	Codominant trunks; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
330	*Myoporum laetum*	Myoporum	6″	2	Leaning downhill; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
331	*Myoporum laetum*	Myoporum	Multitrunk 10″, 5″	2	Codominant trunks; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
332	*Eucalyptus citriodora*	Lemon scented gum	20″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.

TREE ATTRIBUTE TABLE

Tree No.	Scientific Name	Common Name	DBH	Health Rating	Notes
333	*Myoporum laetum*	Myoporum	Multitrunk 10″, 7″	1	Prostrate; rot at base; tree has issues that are not correctable.
334	*Myoporum laetum*	Myoporum	Multitrunk 6″, 5″, 4″	0	Dead; recommend removal.
335	*Myoporum laetum*	Myoporum	6″	1	Leaning; extensive dead wood; tree has issues that are not correctable.
336	*Myoporum laetum*	Myoporum	Multitrunk 3″, 3″, 3″, 3″	1	Leaning; extensive dead wood; tree has issues that are not correctable.
337	*Myoporum laetum*	Myoporum	Multitrunk 8″, 6″, 6″, 4″	1	Topped; extensive dead wood; tree has issues that are not correctable.
338	*Myoporum laetum*	Myoporum	Multitrunk 7″, 5″	1	Offshoot from dead trunk; extensive dead wood; tree has issues that are not correctable.
339	*Myoporum laetum*	Myoporum	Multitrunk 7″, 5″, 5″, 4″, 4″, 3″	1	Extensive dead wood; tree has issues that are not correctable.
340	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″, 3″	1	Extensive dead wood; tree has issues that are not correctable.
341	*Myoporum laetum*	Myoporum	Multitrunk 3″, 3″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
342	*Myoporum laetum*	Myoporum	Multitrunk 4″, 4″, 3″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
343	*Myoporum laetum*	Myoporum	3″	1	Dead wood; tree has issues that are not correctable.
344	*Eucalyptus* sp.	Eucalyptus	11″	3	Supporting another leaning tree; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
345	*Myoporum laetum*	Myoporum	Multitrunk 9″, 5″	2	Codominant trunks; girdling roots; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
346	*Myoporum laetum*	Myoporum	Multitrunk 5″, 4	2	Leaning; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
347	*Eucalyptus* sp.	Eucalyptus		1	Suckers; dead wood; tree has issues that are not correctable.
348	*Eucalyptus* sp.	Eucalyptus	7″	2	Leaning toward compound; prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
349	*Eucalyptus* sp.	Eucalyptus	Multitrunk, large	0	Dead; may be hazardous if there is a target; recommend removal.
350	*Myoporum laetum*	Myoporum	6″	1	Dead wood; tree has issues that are not correctable.
351	*Myoporum laetum*	Myoporum	Multitrunk 10″, 4″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
352	*Eucalyptus citriodora*	Lemon scented gum	20″	3	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.
353	*Myoporum laetum*	Myoporum	Multitrunk 8″, 4″	1	Codominant trunk; dead wood; tree has issues that are not correctable.
354	*Myoporum laetum*	Myoporum	Multitrunk 8″, 7″, 4″	1	Split at base; dead wood; tree has issues that are not correctable.
355	*Myoporum laetum*	Myoporum	9″	2	Prune dead wood and 10% of live wood no greater than 2” in diameter; provide supplemental irrigation.

DBH = diameter at breast height

LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - Laguna Beach (1981), CA

I:\SWT1601\GIS\ProjectLocation_USGS.mxd (7/5/2016)

Coyote Canyon Landfill LFG Plant
Tree Health Assessment

Project Location and Vicinity

LSA

LEGEND

Tree Health Rating

- 0 - Dead
- 1 - Extreme Problems
- 2 - Poor
- 3 - Fair
- 4 - Good

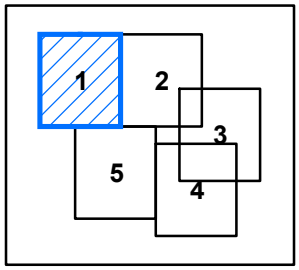

FIGURE 2
Sheet 1 of 5

Coyote Canyon Landfill LFG Plant
Tree Health Assessment
Tree Locations

N

0 15 30
FEET

SOURCE: Bing Maps (2014)

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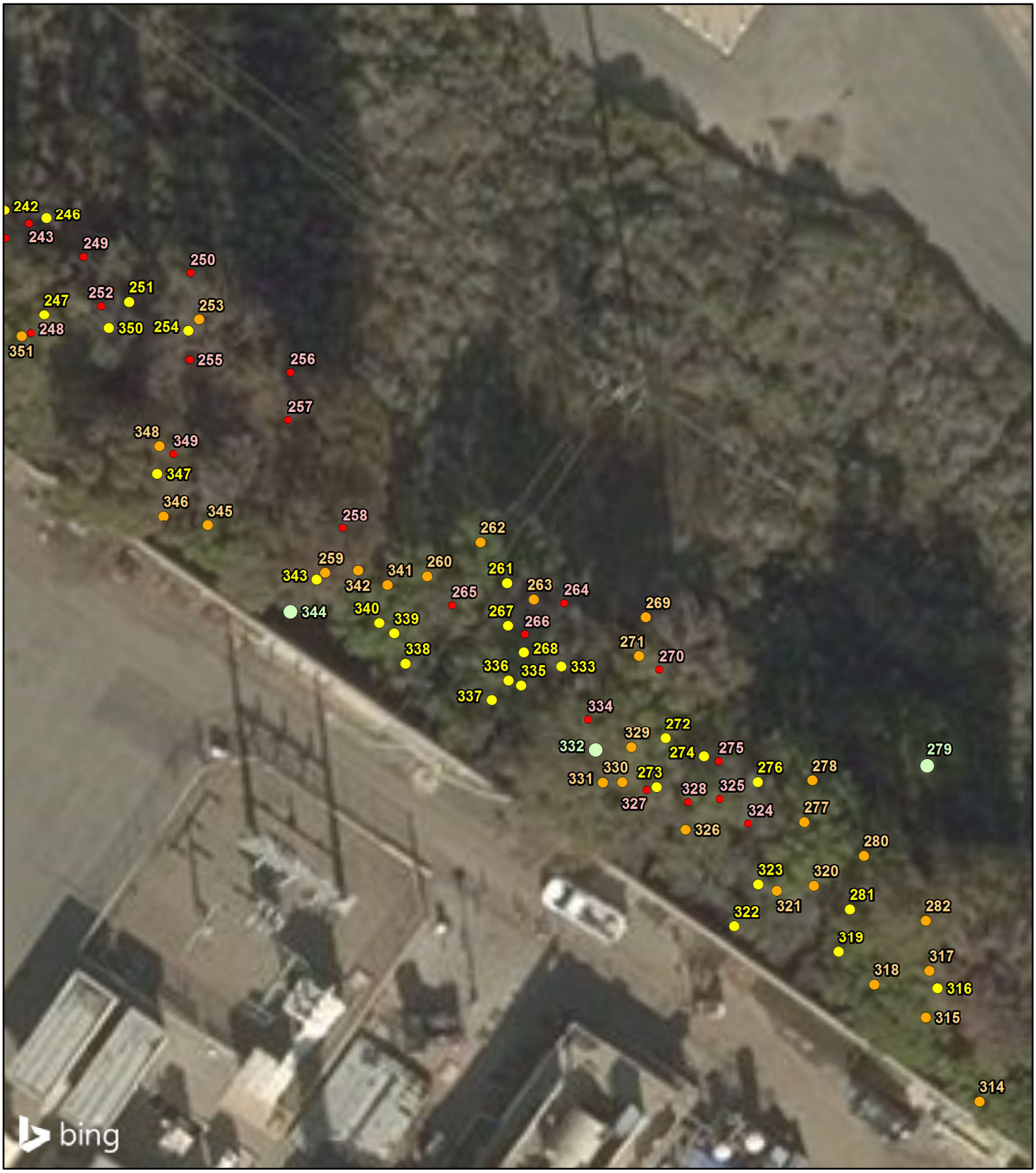
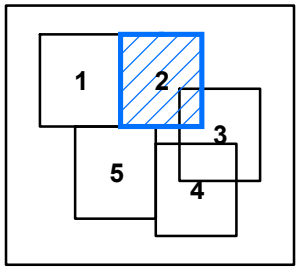


LSA

LEGEND

Tree Health Rating

- 0 - Dead
- 1 - Extreme Problems
- 2 - Poor
- 3 - Fair
- 4 - Good



N

0 15 30

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SOURCE: Bing Maps (2014)

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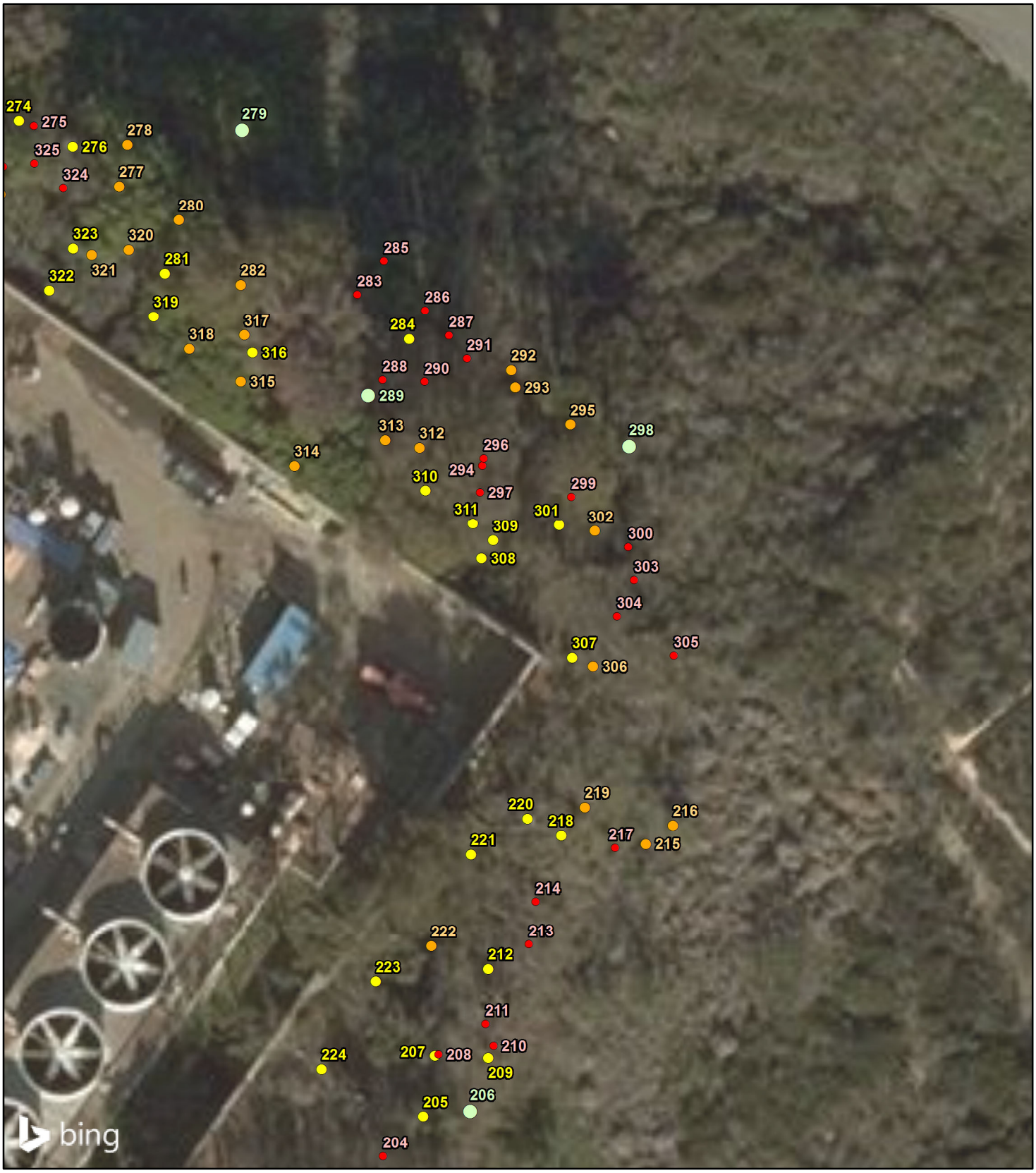
FIGURE 2

Sheet 2 of 5

Coyote Canyon Landfill LFG Plant

Tree Health Assessment

Tree Locations

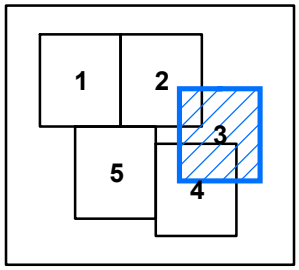


LSA

LEGEND

Tree Health Rating

- 0 - Dead
- 1 - Extreme Problems
- 2 - Poor
- 3 - Fair
- 4 - Good



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0 15 30

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SOURCE: Bing Maps (2014)

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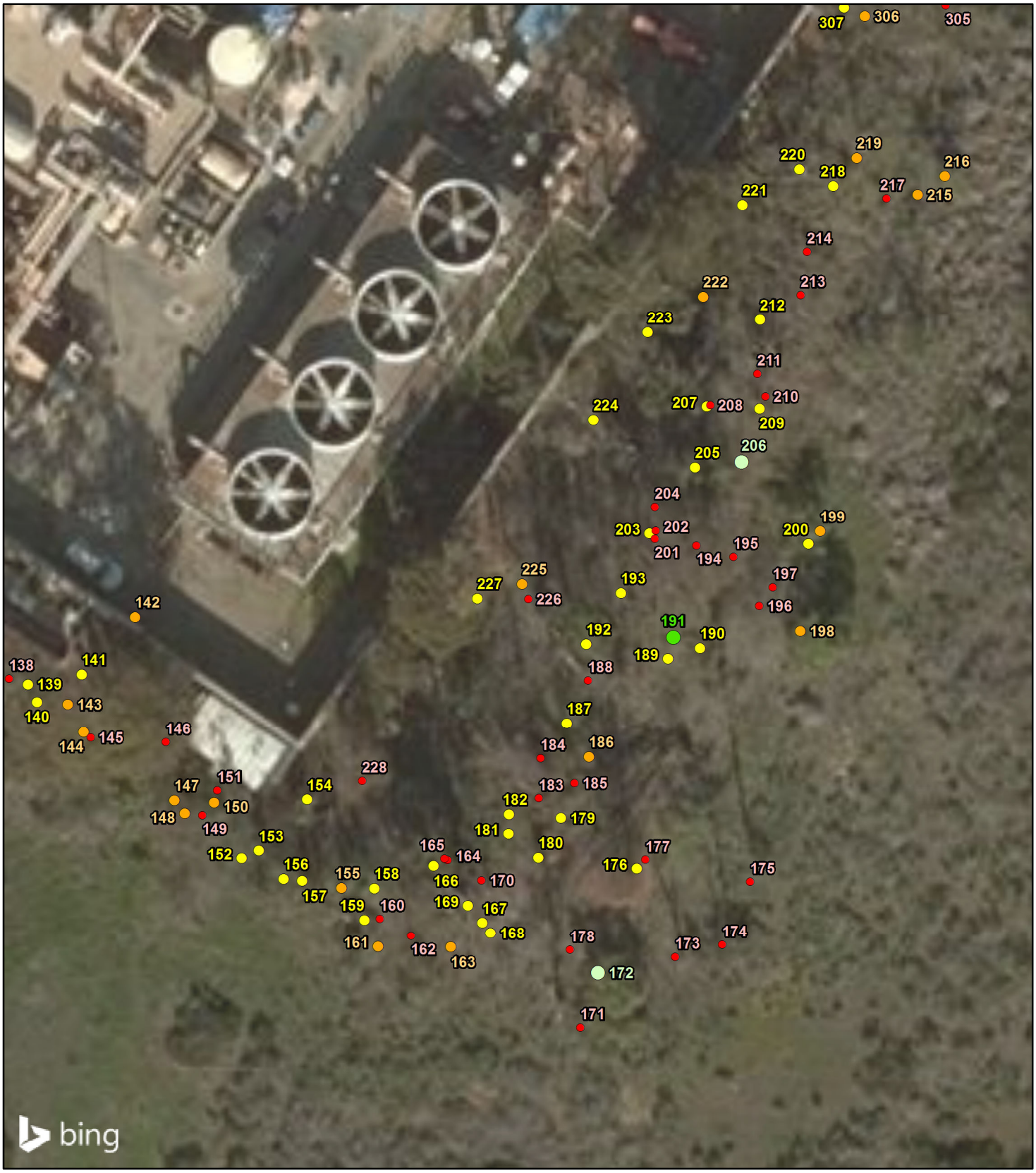
FIGURE 2

Sheet 3 of 5

Coyote Canyon Landfill LFG Plant

Tree Health Assessment

Tree Locations



LSA

LEGEND

Tree Health Rating

- 0 - Dead
- 1 - Extreme Problems
- 2 - Poor
- 3 - Fair
- 4 - Good

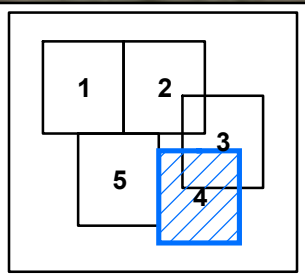


FIGURE 2

Sheet 4 of 5

Coyote Canyon Landfill LFG Plant

Tree Health Assessment

Tree Locations

N

0 15 30

FEET

SOURCE: Bing Maps (2014)

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LSA

LEGEND

Tree Health Rating

- 0 - Dead
- 1 - Extreme Problems
- 2 - Poor
- 3 - Fair
- 4 - Good

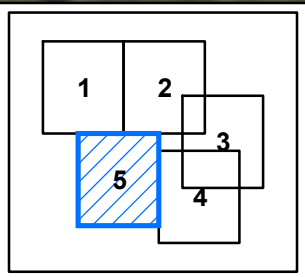

FIGURE 2
Sheet 5 of 5

Coyote Canyon Landfill LFG Plant
Tree Health Assessment
Tree Locations

0 15 30
FEET

SOURCE: Bing Maps (2014)

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TREE REPLACEMENT AND REVEGETATION PLAN

COYOTE CANYON LANDFILL GAS PLANT

CITY OF NEWPORT BEACH, COUNTY OF ORANGE, CALIFORNIA

LSA

July 2016

TREE REPLACEMENT AND REVEGETATION PLAN

COYOTE CANYON LANDFILL GAS PLANT

CITY OF NEWPORT BEACH, COUNTY OF ORANGE, CALIFORNIA

Submitted to:

OC Waste & Recycling
300 North Flower Street, Suite 400
Santa Ana, CA 92703

Prepared by:

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Irvine, California 92614
(949) 553-0666

Project No. SWT1601

LSA

July 2016

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APPENDIX

A: NCCP CONSTRUCTION-RELATED MINIMIZATION MEASURES

COYOTE CANYON LANDFILL GAS PLANT TREE REPLACEMENT AND REVEGETATION PLAN

This Tree Replacement and Revegetation Plan (Plan) for the Coyote Canyon Landfill Gas (LFG) Plant in the City of Newport Beach (City), County of Orange (County), California (Figure 1) provides guidelines for the removal of existing nonnative viewshed trees and the installation and maintenance of native viewshed trees and understory species within OC Waste and Recycling's (OCWR) property limits surrounding the LFG Plant (project area). This Plan has been prepared to satisfy Mitigation Measure (MM) 1 of Section 2.I.c, and MMs 1, 2, and 4 of Section 2.IV.a. The purpose of this Plan is to remove the existing dead or unhealthy nonnative viewshed trees that currently exist in the project area and replace them with native viewshed trees. The retained and newly installed trees are expected to break up views of the LFG Plant walls and structures and temporary and permanent wireless telecommunication facilities that will be installed in the future. Although habitat creation/restoration is not a required element of this project, this revegetation effort will potentially provide habitat for native wildlife species. The City Fuel Modification Plans and Maintenance Standards for Developments (Standards) and the County Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) were reviewed to ensure this Plan conforms to the requirements therein. The entire project area is within the NCCP Reserve.

This Plan is designed to be a user-friendly document for use by all parties (i.e., the land owner, the monitors, and the contractors) associated with the removal and revegetation efforts. Additional technical documents (e.g., irrigation specifications) are not included at this planning stage but may be required in the future. It is recommended that the irrigation specifications address the existing irrigation system.

TREE REMOVAL

Trees to be Retained

The determination of which trees are to be retained was based on review of the Coyote Canyon LFG Plant Tree Health Assessment (Assessment) performed by LSA Associates, Inc. in 2016 and the viewshed requirements of the LFG Plant. The Assessment identified 355 existing trees surrounding the perimeter of the LFG Plant; however, only 304 of the trees are within the project area. The remaining 41 trees are within the City of Irvine's Open Space. The Assessment was performed by certified arborists and each tree was given a rating from 0 to 4 based on the health of the tree (Table A).

None of the trees with a rating of 0 or 1 (207 individuals) were considered for retention. All trees with a rating of 3 or 4 (18 individuals) were considered for retention, and 13 of these individuals were selected for retention. The decision to not retain the remaining five individuals was based on the viewshed contribution of the trees. Based on the analysis of the viewshed following retention of these 13 trees, a limited number of trees with a rating of 2 (80 individuals) were considered for retention

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LEGEND

Project Area (1.40 ac)

City of Irvine Open Space

Tree Planting with 15ft Canopy Radius

- Coast live oak (planted in groups of 3, 10ft on center)
- Eucalyptus - Existing
- Oak - Existing
- Peruvian Pepper - Existing
- Western Sycamore/White Alder

N

0 30 60
FEET

SOURCE: Bing Maps (2014); City of Irvine (2011)

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FIGURE 1

Coyote Canyon Landfill LFG Plant
Tree Removal Plan/Revegetation Plan

Tree Retention and Planting

based on viewshed needs. A total of seven trees with a rating of 2 were selected for retention. Of the seven individuals to be retained, one oak (*Quercus* sp.) individual currently does not contribute to the viewshed; however, this individual may contribute to the viewshed in the future. A total of 20 trees were selected for retention (Table B, Figure 1).

Table A: Tree Rating System

Rating	Tree Condition	Description
0	Dead	Trees rated as a 0 have no significant sign of life.
1	Extreme Problems	Trees rated as a 1 have extreme problems with health and structure. These trees have issues that are not correctable and may be hazardous if there is a target (i.e., life or property).
2	Poor	Trees rated as a 2 have major problems with health and structure but the tree's condition can be improved by following the Arborist recommendations. After the recommended actions are completed, the tree's rating can be raised to a 3. These trees could pose a risk if there is a target and the recommended actions are not taken.
3	Fair	Trees rated as a 3 have minor problems with health and structure and pose no immediate danger to a target. Minor defects can be minimized by following the Arborist recommendations.
4	Good	Trees rated as a 4 have no apparent problems that can be seen by a Certified Arborist from visual ground inspection. Future hazards can be reduced or even averted by following Arborist recommendations to keep the tree in good structural and health conditions.

Table B: Retained Trees

Tree Number[1]	Rating	Species
004	3	*Eucalyptus camaldulensis*
009	3	*Eucalyptus citriodora*
059	3	*Eucalyptus polyanthemos*
067	3	*Schinus molle*
072	4	*Eucalyptus* sp.
104	2	*Schinus molle*
106	2	*Eucalyptus citriodora*
114	3	*Eucalyptus citriodora*
123	3	*Eucalyptus citriodora*
132	2	*Quercus* sp.
143	2	*Eucalyptus* sp.
206	3	*Eucalyptus citriodora*
236	4	*Eucalyptus citriodora*
282	2	*Eucalyptus* sp.
295	2	*Eucalyptus* sp.
298	3	*Eucalyptus camaldulensis*
302	2	*Eucalyptus polyanthemos*
332	3	*Eucalyptus citriodora*
344	3	*Eucalyptus* sp.
352	3	*Eucalyptus citriodora*

[1] The Tree Number corresponds to the number in the Coyote Canyon Landfill Gas Plant Tree Health Assessment (2016)

Trees to be Removed

A total of 284 trees will be removed. The species to be removed consist of myoporum (*Myoporum laetum*), Peruvian pepper (*Schinus molle*), and multiple species of eucalyptus (*Eucalyptus* spp.). The tree diameters at breast height (DBH) range from less than 2 inches to 28 inches and are summarized in Table C. In addition to the trees, all significant duff and thatch accumulations shall be removed at the direction of the Removal Monitor. These accumulations can provide a significant fuel source for wildfires. The locations of all the trees to be removed are presented on Figure 2.

Table C: Removed Trees

DBH[1]	Myoporum	Peruvian Pepper	Eucalyptus
< 6″	39	1	22
6″ < 12″	56	4	32
12″ < 18″	34	2	14
18″ < 24″	16	0	7
> 24″	8	2	7
Multitrunk[2]	8	0	18
N/A[3]	9	0	6
Total	**170**	**9**	**106**

[1] In instances where multiple DBHs were given for an individual with multiple trunks at breast height, the cumulative DBH of the trunks was used to determine what DBH category the individual was placed in.
[2] The notation in the DBH column in the Assessment says "multitrunk."
[3] Dead tree or stump.
Assessment = *Coyote Canyon Landfill Gas Plant Tree Health Assessment* (2016)
DBH = diameter at breast height

Removal Monitor

The Removal Monitor is the land owner's representative in the field and shall be responsible for monitoring the removal of the trees. The Removal Monitor shall be a qualified biologist and capable of identifying native habitats and wildlife. The duties of the Removal Monitor shall include identifying trees that are to be retained or removed, demarcating the limits of coastal sage scrub (CSS) within the project area, ensuring that removal activities do not result in avoidable impacts to CSS or the retained trees, ensuring that removal activities do not result in impacts to wildlife species, and ensuring compliance with the NCCP/HCP Construction-Related Minimization Measures (Appendix A). The Removal Monitor shall prepare a brief field memorandum for each inspection that will be provided to the Removal Contractor and the land owner. The field memorandums will include observations relating to the tree removal activities and recommended actions to be taken by the Removal Contractor to ensure that removal activities do not result in avoidable impacts to native habitat, retained trees, or wildlife.

Removal Contractor

The Removal Contractor shall be familiar with all aspects of the project, including the equipment and materials being utilized. The Removal Contractor shall be familiar with the species to be removed and

LSA

LEGEND

Project Area (1.40 ac)

City of Irvine Open Space

Trees to be Removed

Eucalyptus

Myoporum

Peruvian Pepper

0 30 60

FEET

SOURCE: Bing Maps (2014); City of Irvine (2011)

I:\SWT1601\GIS\TreeRemoval.mxd (7/27/2016)

FIGURE 2

Coyote Canyon Landfill LFG Plant
Tree Removal Plan/Revegetation Plan

Trees to be Removed

retained (Tables B and C). The Maintenance Contractor shall also be familiar with all of the native habitats and species to be avoided.

Methods of Removal

This Plan does not specify a method of removal; however, it is assumed that most, if not all, of the removals will be accomplished with the use of chainsaws. The method of removal employed by the Removal Contractor must not result in excessive ground disturbance, damage to the retained trees, or damage to native habitats or wildlife species. Trees that cannot be removed without significantly impacting existing CSS habitat, as determined by the Removal Monitor, may be left in place. The Removal Contractor shall take all necessary fire prevention precautions. The Restoration Contractor shall provide sufficient fire suppression materials (e.g., shovels, extinguishers, hoses, and water truck). In addition, the Restoration Contractor shall regularly replace or sharpen dull chainsaw chains.

Disposal of Plant Materials. All plant materials (i.e., cut trees, duff, and thatch) shall be removed from the project area within 48 hours after being cut and disposed of at an appropriate, legal, off-site disposal location.

Herbicide Treatment. Herbicide will be applied to each stump immediately (i.e., less than 1 minute) following tree cutting. Herbicide need only be applied to live trees as determined by the Removal Monitor. In order to apply an unrestricted herbicide (e.g., Round-Up), the Removal Contractor must have a Pest Control Business License, which requires that at least one individual employed by the Removal Contractor be in possession of a Qualified Applicator's License (QAL). If a qualified applicator is not present during treatment, all applicators must have undergone documented herbicide application training. All licenses must be issued by the State of California, registered in the County of Orange, and of current status.

Only United States Environmental Protection Agency-approved herbicides may be used. No persistent herbicides may be used. Tree stumps shall be treated with a 100 percent solution. A brightly colored dye shall be used in all applications. The dye material shall be a nontoxic, water-soluble, liquid material.

During herbicide application, protection or avoidance of nontargeted species (i.e., native vegetation and retained trees) is required.

Schedule

The project area is within the NCCP Reserve and contains CSS habitat. In accordance with the NCCP/HCP Construction-Related Minimization Measures, tree removal activities shall occur outside of the coastal California gnatcatcher (*Polioptila californica californica*) nesting season (February 15 through July 15). In addition, to the maximum extent practicable, no tree removal activities will occur during the general bird breeding season (February 15 through August 31). Take of any nesting bird is prohibited by the federal Migratory Bird Treaty Act. If tree removal during the breeding season becomes necessary, the land owner must inform the regulatory agencies of the need to perform tree

removal activities during the breeding season. In the past, and only for very small areas, the regulatory agencies have allowed vegetation clearing during the breeding season if a qualified biologist performed a detailed nesting survey of the area that is to be worked. If the biologist finds any species of nesting bird within the work area, work will be delayed until there are no birds nesting within the area. For larger areas, the agencies have required that protocol surveys for coastal California gnatcatchers (*Polioptila californica californica*) be conducted by a qualified biologist prior to the clearing of vegetation. If any nesting birds are found during the protocol surveys (even species other than coastal California gnatcatcher), tree removal activities will be delayed.

REVEGETATION

Revegetation Monitor

The Revegetation Monitor is the land owner's representative in the field and shall be responsible for monitoring the installation, establishment, and maintenance of the replacement trees and native erosion control seed mix according to this Plan. The Revegetation Monitor shall be a qualified biologist or certified arborist (when applicable as determined by the certified arborist) capable assessing the health of the installed trees and the project area. The Revegetation Monitor shall be responsible for the following:

- Review and verify the genetic source of all plant materials to be installed.
- If feasible, assess the health and condition of all trees to be installed at the nursery prior to delivery.
- Assess the health and condition of all trees to be installed upon delivery to the project area prior to installation and during installation.
- Review any erosion control measures and the performance of the irrigation system following installation.
- Monitor the installation of the trees and erosion control seed mix.
- Regularly assess the revegetation area during the establishment period (i.e., 120 days following installation) to ensure that the establishment of the trees and erosion control seed mix is being promoted and that undesirable species are being removed.
- Assess the revegetation area on a semi-annual basis following the establishment period.
- Propose remedial measures if the revegetation effort is unsuccessful.

Assessments of the revegetation area will entail assessing the health of the installed trees, the performance of the irrigation system, any erosion control issues, the degree of invasion by undesirable species, and expansion/encroachment of CSS habitat within the project area. The establishment of CSS habitat beyond its current limits within the project area shall not be allowed. CSS shrub species seedlings shall be removed from those portions of the project area where CSS habitat does not currently exist. The Revegetation Monitor shall prepare a brief field memorandum for each inspection that will be provided to the Revegetation Contractor and the land owner. The field memorandums will include the Revegetation Monitor's observations as well as recommended actions to be taken by the Revegetation Contractor to ensure the establishment and continued well-being of the installed vegetation.

Revegetation Contractor

The Revegetation Contractor responsible for the installation and maintenance of the trees and erosion control seed mix shall be familiar with all aspects of the project, including equipment and materials being utilized. All pruning of trees to be retained shall be consistent with the American National Standards Institute (ANSI) A300 pruning practices. The Revegetation Contractor shall be familiar with the undesirable species that occur in the vicinity of the project area, including, but not limited to, the list provided in Table D. The Maintenance Contractor shall also be familiar with all of the native species to be installed within the revegetation area (Tables E and F). Following installation, the project area shall be maintained regularly in accordance with this Plan.

Table D: Undesirable Species

Scientific Name	Common Name
Artemisia californica[1]	coastal sagebrush
Chrysanthemum coronarium	garland chrysanthemum
Cynara cardunculus	artichoke thistle
Eriogonum fasciculatum[1]	California buckwheat
Eucalyptus sp.[2]	eucalyptus
Myoporum laetum	myoporum
Salvia mellifera[1]	black sage
Salsola tragus	Russian-thistle
Schinus molle[2]	Peruvian pepper

[1] These native species shall not be removed from existing CSS habitat.
[2] Except those specified trees that are to be retained.
CSS = coastal sage scrub

Table E: Replacement Tree List

Scientific Name	Common Name	Size	Quantity
Alnus rhombifolia	white alder	36″ or 48″ box	12[1]
Platanus racemosa	western sycamore	36″ or 48″ box	
Quercus agrifolia	coast live oak	24″ box	63[2]

[1] A total of 12 white alders and western sycamores will be installed. Both species need not be installed. One species may substitute for the other.
[2] Coast live oaks will be planted in groups of 3, 10 ft on center.
ft = feet/foot

Table F: Erosion Control Seed Mix

Scientific Name	Common Name	Pounds/Acre
Bromus carinatus	California brome	16
Elymus triticoides	beardless wild-rye	10
Lasthenia californica	coastal goldfields	1
Lupinus bicolor	miniature lupine	10
Plantago erecta	California plantain	8
Stipa lepida	foothill needle grass	3
Stipa pulchra	purple needle grass	12

Erosion Control

Erosion control measures shall be supplied, installed, and maintained as necessary. In the case of heavy rainfall conditions, nonvegetative erosion control measures (e.g., sandbags, rice straw wattles, or silt fence) may need to be installed. The Revegetation Contractor shall be responsible for all erosion control for the entire term of the contract. Erosion control shall include, but is not limited to, (1) installation of an erosion control seed mix (see Installation Materials and Techniques section); (2) continuation of nonvegetative erosion control, as necessary; and (3) repair of rutting and washouts.

Irrigation

A permanent irrigation system to be designed by a landscape architect and built by the Revegetation Contractor will be installed to facilitate the establishment of the installed plant material and ensure the survival of the installed trees for the life of the project. The irrigation system shall also be designed so that the retained trees are also serviced. The tree species to be installed and the retained trees may require supplemental irrigation for the life of the project. This is especially true for the western sycamores (*Platanus racemosa*) and white alders (*Alnus rhombifolia*) that naturally occur primarily in riparian habitats. The Maintenance Contractor will be responsible for maintenance of the irrigation system for the life of the project.

The failure of many of the existing viewshed trees may be attributable to the poor maintenance of the existing irrigation system.

Schedule

Installation of erosion control measures and the irrigation system may commence immediately following completion of removal activities. Installation of the tree species may occur following completion of the removal activities; however, it is preferable that the western sycamores and white alders are installed during their dormancy period (late fall through winter). The erosion control seed mix shall be installed in late fall or early winter. Monthly monitoring and maintenance shall occur throughout the 120-day establishment period immediately following the completion of installation. Monitoring and maintenance shall occur on a semi-annual basis for the life of the project following the 120-day establishment period.

Installation Materials and Techniques

Trees. The tree species to be installed within the project area were selected based on the native species found in the project vicinity, provisions within the City Standards, and capability of meeting the viewshed requirements. No trees will be installed within existing CSS habitat. If possible, the genetic source of all trees to be installed in the project area will be within 20 miles of the project site. All species substitution decisions or alternative genetic sources shall be approved by the Revegetation Monitor. The planting locations for all of the trees are depicted on Figure 1.

All trees shall be installed within 7 days following acceptable delivery. The list of species, sizes, and quantities to be installed are presented in Table E.

Tree Installation Techniques. This Plan does not specify the equipment to be utilized; however, it is anticipated that excavators, backhoes, front-end loaders, or skid steers may be employed. The method of installation employed by the Removal Contractor must not result in excessive ground disturbance, damage to the retained trees, or damage to native habitats or wildlife species. Tree planting locations shall be marked under the instruction and supervision of the Revegetation Monitor. Trees shall be planted in accordance with the following specifications:

- All planting holes shall have vertical sides with roughened surfaces and be at least 1.5 times the diameter and depth of the plant's container. The Revegetation Contractor may elect to excavate larger planting holes in order to facilitate greater root development.
- After excavation and before planting, the planting holes shall be thoroughly saturated with water, backfilled with thoroughly broken-up native topsoil, and then thoroughly saturated again with water to avoid soil settling after installation. Holes shall be allowed to drain thoroughly between fillings to reduce settling.
- Any roots wrapped around the sides of the containers shall be pulled loose from the root balls. The sides of the root balls shall be scarified to promote new root development.
- Roots shall be adequately protected at all times from the sun and/or drying winds.
- Trees shall be planted with the roots untangled and laid out in the planting holes to promote good root growth and prevent the trees from becoming rootbound.
- Trees shall be set in the thoroughly drained planting holes so that the crowns of the root balls are 0.5 inch above finish grade when backfilled with soil. The crowns of the trees shall not be depressed.
- A watering basin shall be created around each tree. The basin shall not be a depression in the soil.
- Each tree shall be individually watered at the time of planting with sufficient water to reach the lower roots. Special care must be taken to prevent the soil from washing away from the roots and the root crown from being buried with soil. In addition, special care should be taken to avoid excess watering and the formation of erosion rills along slopes.
- All empty tree containers shall be removed from the project area and not left on site overnight.

Seed. The erosion control seed species to be installed were selected based on the native species found in the vicinity of the project area and on provisions within the City Standards. If possible, the genetic source of all trees to be installed in the project area will be within 20 miles of the project site. All species substitution decisions or alternative genetic sources shall be approved by the Revegetation Monitor. The list of species to be seeded and the required pounds per acre (lbs/ac) of each species are presented in Table F. Prior to procurement of the seed, the Revegetation Monitor shall make any needed adjustments based on availability and cost considerations. The erosion control seed mix will be hand seeded or hydroseeded within those portions of the project area that currently do not contain CSS habitat. The method of installation employed by the Removal Contractor must not result in excessive ground disturbance, damage to the retained trees, or damage to native habitats or wildlife species.

Seeding Techniques: Hand Seeding/Broadcast Seeding. If hand seeded, the specified seed mix will be mixed with bran at a 2:1 ratio by volume and will be broadcast over the project area. After hand seeding/broadcasting, the seed is to be lightly raked into the soil (but not buried) with a flexible landscape rake or equivalent.

Seeding Techniques: Hydroseeding. If hydroseeded, a two-stage hydroseed application method shall be employed. Preventive measures must be taken to avoid damage to the installed/retained trees or adjacent native vegetation (i.e., spraying and covering plants with mulch, or breaking stems or branches with hoses). The application procedure is as follows:

- **First Application**
  - 150 lbs/ac of 100 percent long-strand wood fiber (no tackifier)
  - Specified seed
- **Second Application**
  - 2,000 lbs/ac of 100 percent long-strand wood fiber (no tackifier)
  - 150 lbs/ac Ecology Control "M" binder

All hydroseed mixing shall be performed in a clean tank and shall take place at the project site. All hoses shall also be clean. The Revegetation Contractor shall spray designated areas with the slurry in a sweeping motion and in an arched stream until a uniform coat is achieved, with no slumping or shadowing, as the material is spread at the required rate. The tanks must be emptied completely during each stage of hydroseeding. Any slurry mixture that has not been applied by the Revegetation Contractor within 1 hour after mixing shall be rejected and replaced at the Revegetation Contractor's expense.

Mulch and Fertilizer

The Revegetation Contractor shall not use mulch or chemical fertilizer unless directed to do so by the Revegetation Monitor. No mulch or fertilizer is prescribed within this Plan; however, the Revegetation Monitor may prescribe the use of mulch or fertilizer at any point during the installation or monitoring process based on observed soil conditions or performance of the installed trees.

MAINTENANCE

The retained trees shall be maintained by the Revegetation Contractor according to the recommendations presented within the Assessment immediately following completion of removal activities. The entire project area, excepting those areas that currently contain CSS habitat, shall be maintained by the Revegetation Contractor according to this Plan and the City Standards for the life of the project. Normal maintenance will include removal of undesirable species, pruning of trees, trash removal, erosion control, and irrigation system maintenance. The establishment of CSS habitat beyond its current limits within the project area shall not be allowed. CSS shrub species seedlings shall be removed from those portions of the project area where CSS habitat does not currently exist. Maintenance activities shall not result in impacts to existing CSS habitat. Tree pruning activities shall

occur outside the general bird breeding season (February 15 through August 31). The project area shall be maintained for undesirable species on a monthly basis throughout the 120-day establishment period immediately following installation to ensure the establishment of the installed vegetation. The project area shall be maintained on a semi-annual basis thereafter for the life of the project. With the exception of those species that cannot be eradicated through manual removal (including use of hand tools), undesirable species present shall be removed manually. Herbicide usage shall be subject to approval by the Revegetation Monitor.

Long-term Maintenance

In addition to the maintenance requirements previously described, long-term maintenance activities shall be instituted in order to promote the growth of appropriate native trees and allow for the removal of the retained trees and potentially the removal of the native riparian tree species. The retained nonnative species (i.e., Peruvian pepper and eucalyptus) are not appropriate within the NCCP Reserve. In addition, the eucalyptus appear on the City Standards list of prohibited species and are a potential fire hazard. The short-term goal of this Plan is for the retained trees and the relatively fast-growing western sycamores/white alders to satisfy the viewshed requirements in a relatively short amount of time. Although native, the western sycamores and white alders are both deciduous and most often are associated with riparian habitats. A significant amount of supplemental irrigation will be required to sustain these individuals. Coast live oaks are the only evergreen tree species native to coastal Orange County that can withstand the relatively xeric hilltop conditions and fulfill the viewshed requirements; however, this species is relatively slow growing and will not be able to fulfill the viewshed requirements for many years. Nonnative tree individuals shall be removed if and when native individuals provide suitable viewshed in the same location. Likewise, native riparian tree species may be removed if and when the coast live oaks provide suitable viewshed in the same location. Coast live oaks will be planted in groups of three, 10 feet on center. This will guard against long-term loss and encourage vertical growth of the oaks. The coast live oaks will be thinned on the recommendation of the Revegetation Monitor at the appropriate time.

APPENDIX A

NCCP CONSTRUCTION-RELATED MINIMIZATION MEASURES

NCCP Construction-Related Minimization Measures

NCCP/HCP FEIS/FEIR No. 553, Section 7.5.3

1. To the maximum extent practicable, no grading of CSS habitat that is occupied by nesting gnatcatchers will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures," are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFG with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of gnatcatchers, cactus wrens and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent as practicable in the context of the public health and safety considerations.

2. Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP, shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities and the locations of any such species shall be clearly marked and identified on the construction/grading plans.

3. A monitoring biologist, acceptable to USFWS/CDFG will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFG at least seven (7) calendar days (and preferably fourteen (14) calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to assure that Identified bird species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.

4. Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking or storage of equipment or materials will be permitted within such marked areas.

5. In areas bordering the NCCP reserve system or Special Linkage/Special Management areas containing significant CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.

6. CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

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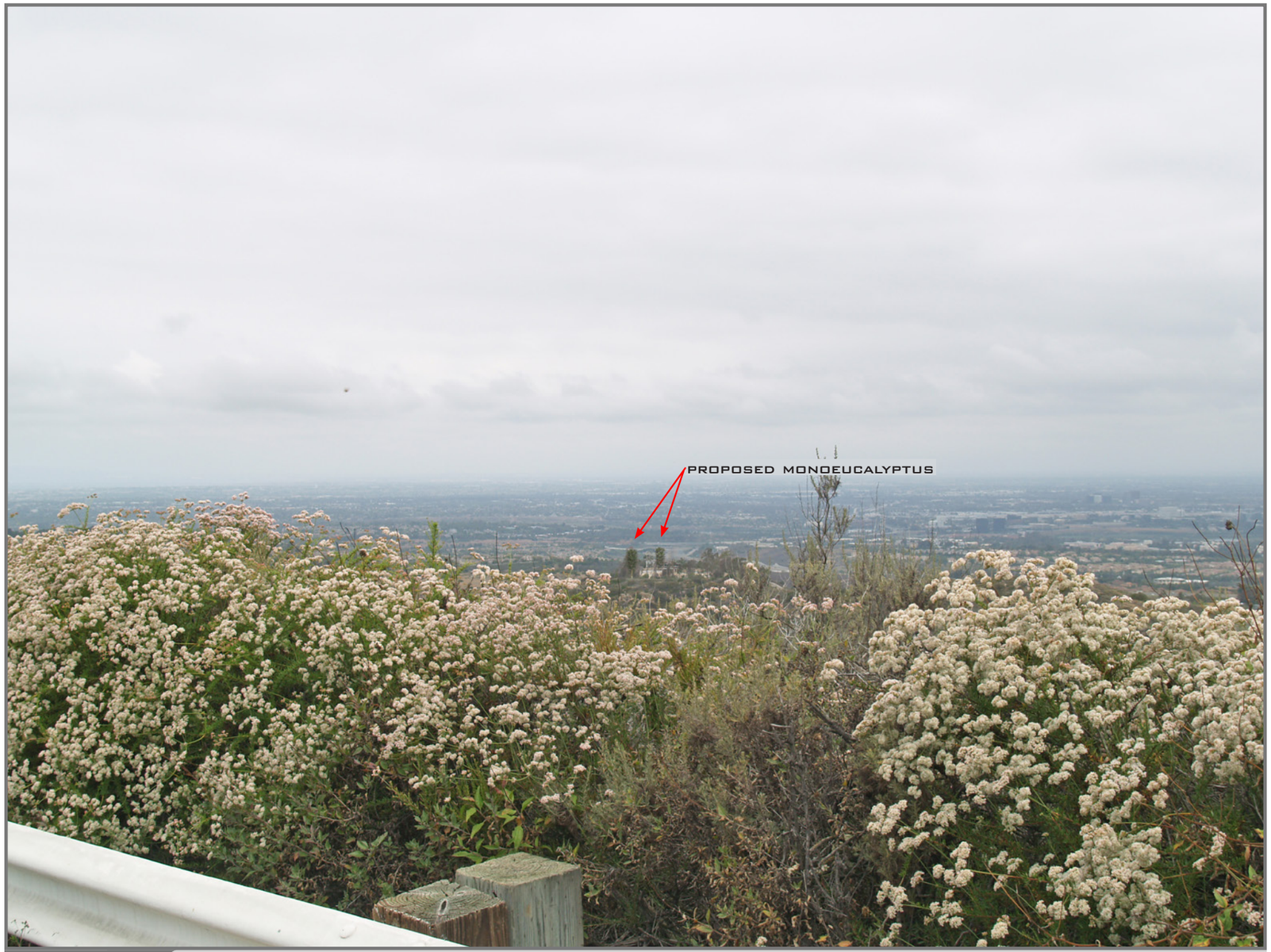

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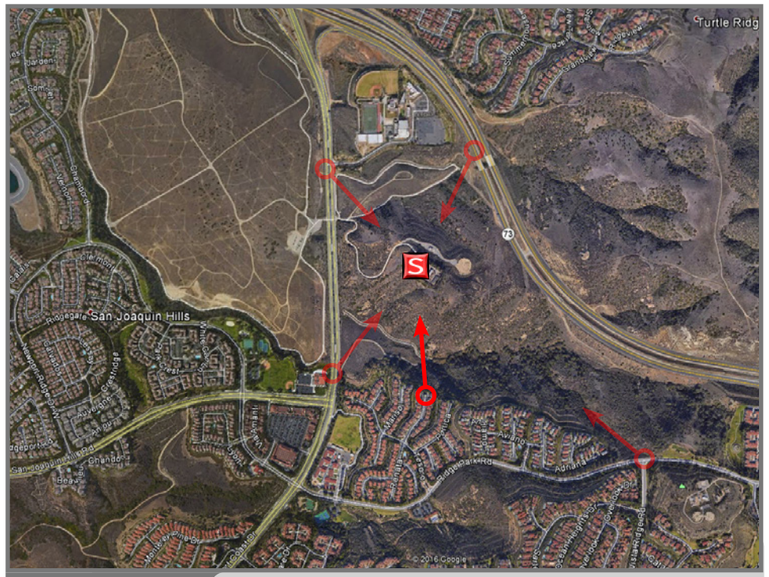

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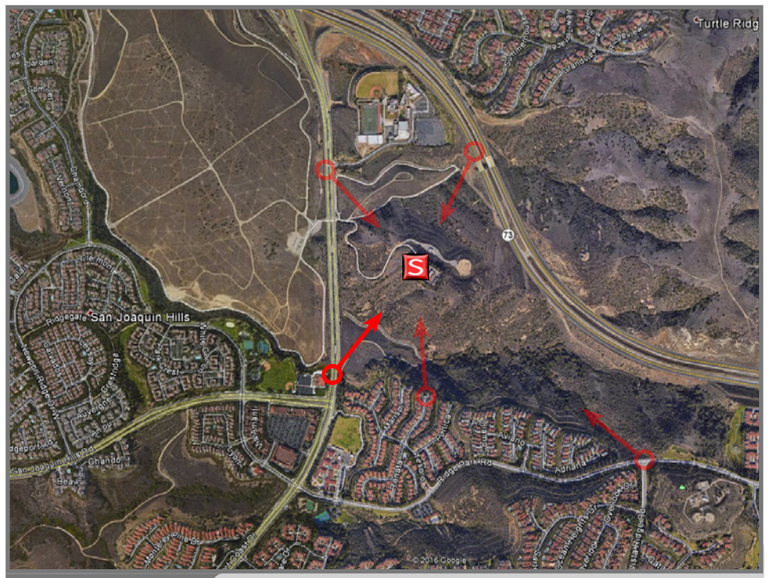

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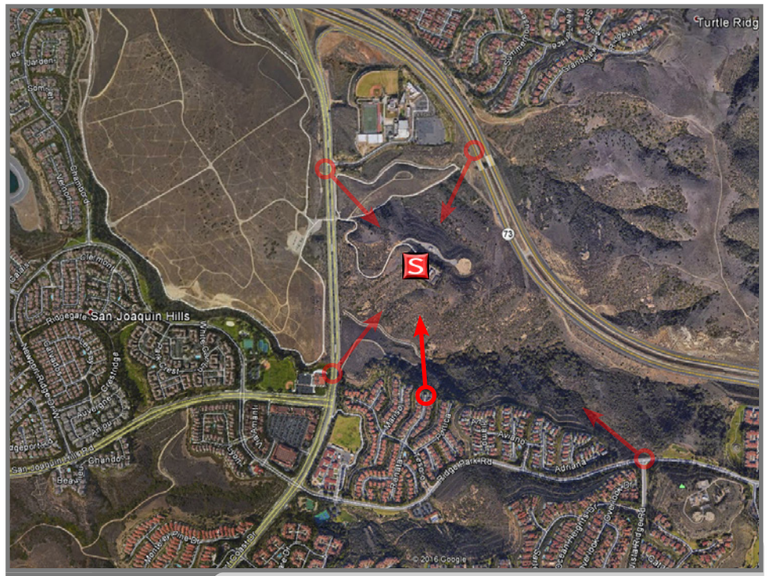

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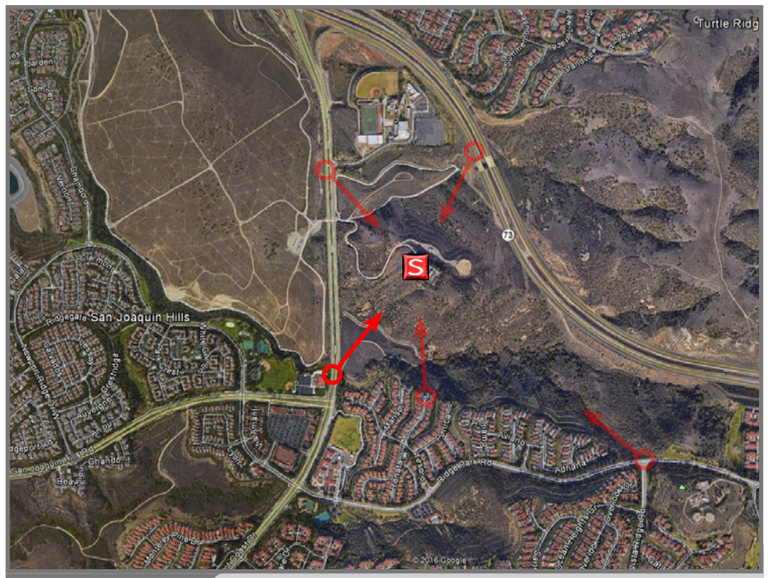
View 3



Location ©2016 Google Maps

Existing

Proposed Looking northeast from Newport Coast Drive

Accuracy of photo simulation based upon information provided by project applicant.

OG25XC211

Gas Recovery Systems MONOEUC (5 year Growth)

20662 Newport Coast Drive Newport Beach CA 92657

AEsims.com
877.9AE.sims

View 4

Location ©2016 Google Maps

Existing

Proposed Looking southwest from 73 Toll Road

Accuracy of photo simulation based upon information provided by project applicant.

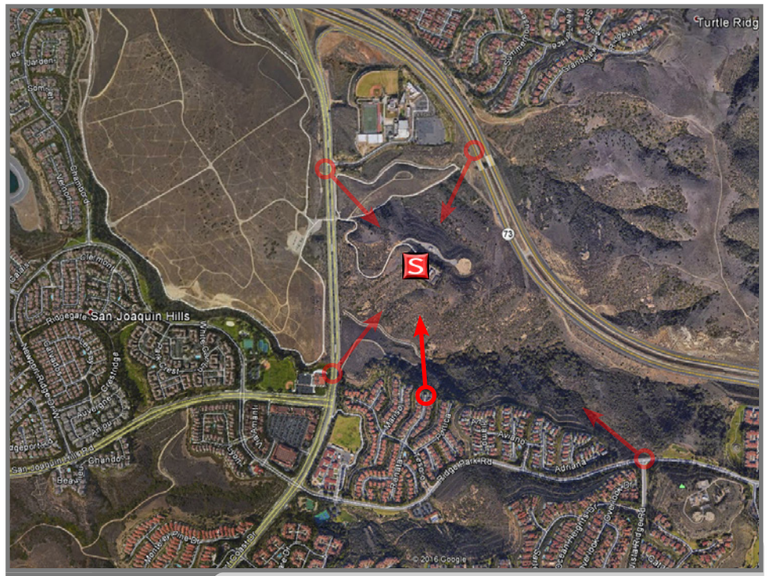
OG25XC211

Gas Recovery Systems MONOEUC (5 year Growth)

20662 Newport Coast Drive Newport Beach CA 92657

ARTISTIC engineering
AEsims.com
877.9AE.sims

View 5



Location

Existing

Proposed Looking north from Renata

Accuracy of photo simulation based upon information provided by project applicant.

Sprint

OG25XC211

Gas Recovery Systems MONOEUC (Full Maturity)

20662 Newport Coast Drive Newport Beach CA 92657

ARTISTIC engineering
AEsims.com
877.9AE.sims

View 1

Location ©2016 Google Maps

Existing

Proposed Looking southeast from Newport Coast Drive

Accuracy of photo simulation based upon information provided by project applicant.

Sprint

OG25XC211

Gas Recovery Systems MONOEUC (Full Maturity)

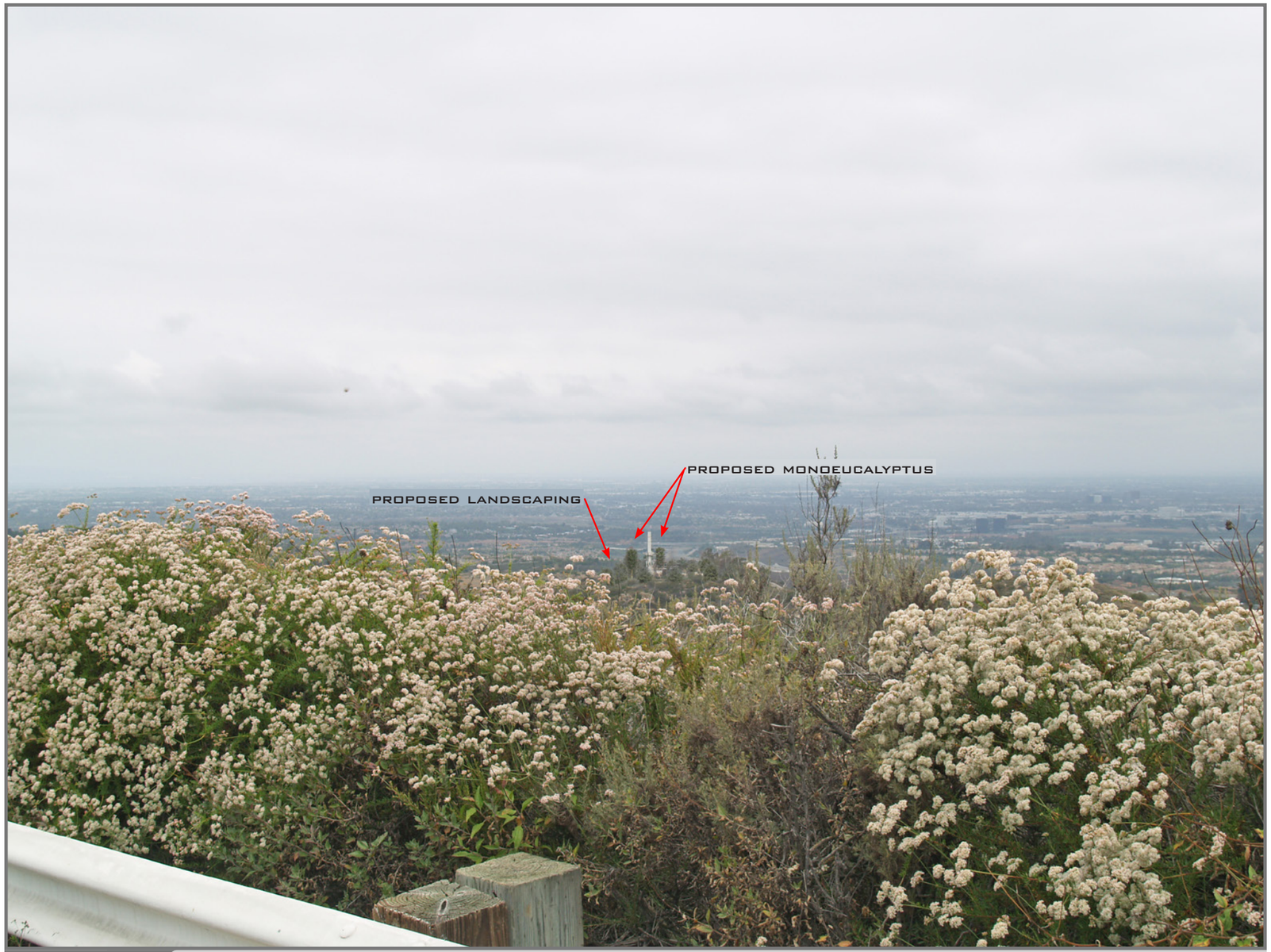
20662 Newport Coast Drive Newport Beach CA 92657

ARTISTIC engineering
AEsims.com
877.9AE.sims

View 2

Location ©2016 Google Maps

Existing



Proposed Looking northwest from Ridge Park Road and Vista Ridge Road

Accuracy of photo simulation based upon information provided by project applicant.

OG25XC211

Gas Recovery Systems MONOEUC (Full Maturity)

20662 Newport Coast Drive Newport Beach CA 92657

Sprint

ARTISTIC engineering
AEsims.com
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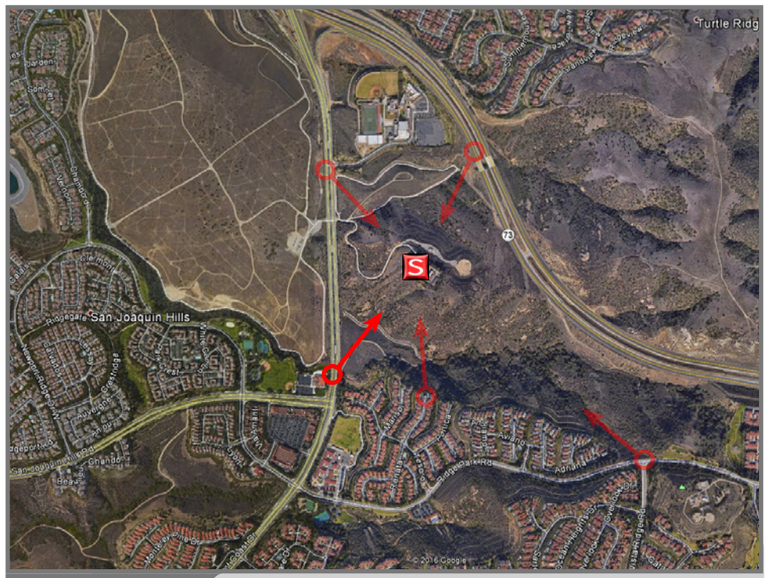
View 3



Location ©2016 Google Maps

Existing

Proposed Looking northeast from Newport Coast Drive

Accuracy of photo simulation based upon information provided by project applicant.

OG25XC211

Gas Recovery Systems MONOEUC (Full Maturity)

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View 4

Location ©2016 Google Maps

Existing

Proposed Looking southwest from 73 Toll Road

Accuracy of photo simulation based upon information provided by project applicant.

Sprint

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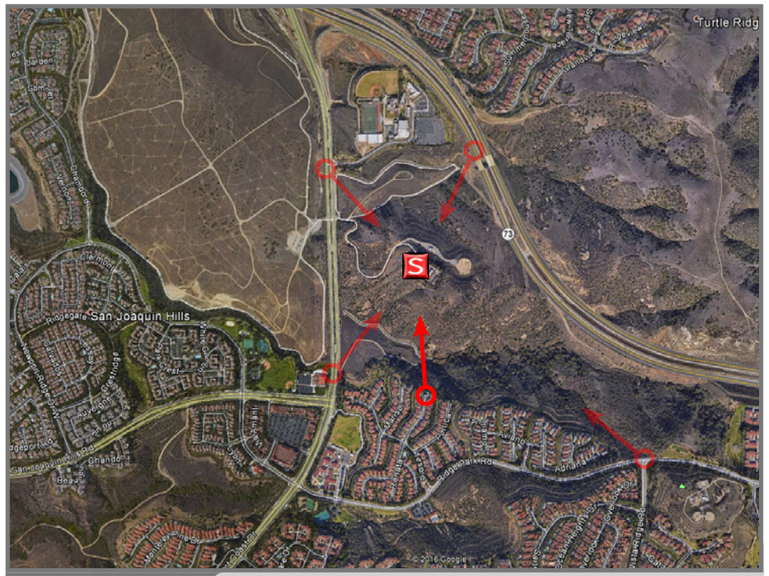
View 5



Location

Existing

Proposed Looking north from Renata

Accuracy of photo simulation based upon information provided by project applicant.

Sprint

OG25XC211

Gas Recovery Systems TEMP (Trees Removed)

20662 Newport Coast Drive Newport Beach CA 92657

ARTISTIC engineering
AEsims.com
877.9AE.sims

View 1

Location

Existing

Proposed Looking southeast from Newport Coast Drive

Accuracy of photo simulation based upon information provided by project applicant.

Sprint

OG25XC211

Gas Recovery Systems TEMP (Trees Removed)

20662 Newport Coast Drive Newport Beach CA 92657

ARTISTIC engineering
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View 2

Location ©2016 Google Maps

Existing

Proposed Looking northwest from Ridge Park Road and Vista Ridge Road

Accuracy of photo simulation based upon information provided by project applicant.

Sprint

OG25XC211

Gas Recovery Systems TEMP (Trees Removed)

20662 Newport Coast Drive Newport Beach CA 92657

ARTISTIC engineering
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877.9AE.sims

View 3

Location

Existing

Proposed — Looking northeast from Newport Coast Drive

Accuracy of photo simulation based upon information provided by project applicant.

OG25XC211

Gas Recovery Systems TEMP (Trees Removed)

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ARTISTIC engineering
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View 4

Location ©2016 Google Maps

Existing

Proposed Looking southwest from 73 Toll Road

Accuracy of photo simulation based upon information provided by project applicant.

Sprint

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Gas Recovery Systems TEMP (Trees Removed)

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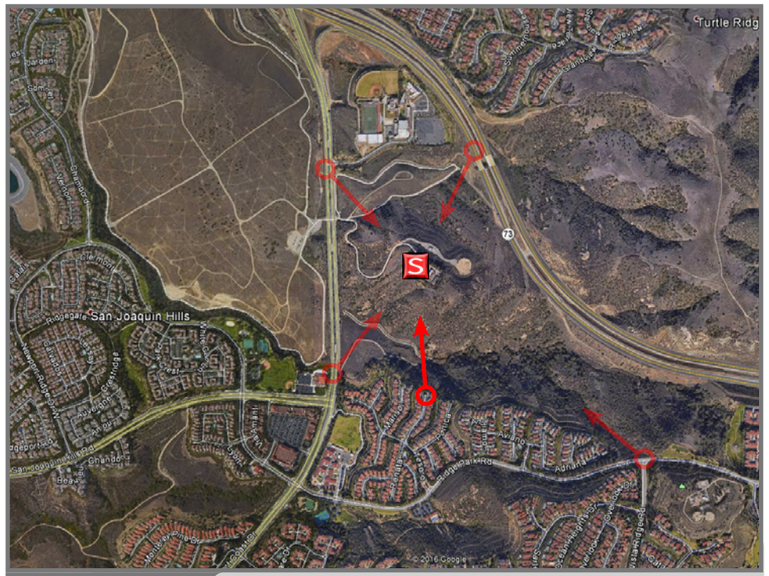
View 5



Location

Existing

Proposed Looking north from Renata

Accuracy of photo simulation based upon information provided by project applicant.

LSA ASSOCIATES, INC.
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M E M O R A N D U M

DATE: May 20, 2016

TO: Romi Archer, LSA Environmental Services

FROM: Ron Brugger, Senior Air Quality Specialist, LSA

SUBJECT: CEQA Air Quality and Greenhouse Gas Technical Study for the Demolition of Structures And Construction of Temporary and Permanent Wireless Telecommunication Facilities at the Closed Coyote Canyon Landfill Gas-To-Energy Facility Site Project

LSA Associates, Inc. (LSA) is pleased to submit this air quality and greenhouse gas (GHG) analysis for the demolition of structures and construction of temporary and permanent wireless telecommunication facilities at the closed Coyote Canyon Landfill gas-to-energy facility site. The project site is located at 20662 Newport Coast Drive, and the active area of the project is located on a 4.14-acre (ac) area on a hill along the east side of Newport Coast Drive in the City of Newport Beach (City), California (refer to Figure 1, attached, for project location map).

PROJECT UNDERSTANDING

The proposed project consists of three components, all of which will occur at the landfill gas-to-energy facility site (project site). These components are the demolition of landfill gas-to-energy facility structures, the construction and operation of temporary wireless communication facilities, and the construction and operation of permanent wireless communication facilities.

The first component that will occur will be the on-site demolition of most of the existing structures. Some of the existing structures will remain, including three existing landfill gas flares that will continue to flare landfill gas, structures needed to support the landfill gas collection system infrastructure, and existing electrical, water, sewer, and natural gas and landfill gas lines. In addition, the paved access road to the project site as well as the perimeter wall and the tall trees surrounding the perimeter wall will all remain. The most significant structure that will be demolished is an existing 105-foot (ft) high exhaust stack that is no longer in operation. This structure is highly visible in the Newport Coast and also houses cellular network apparatus that will need to be replaced with temporary apparatus and later (once demolition activities are complete) with permanent replacement apparatus.

Demolition

Demolition activities are anticipated to begin in October 2016 and shall be completed by December 31, 2016. Demolition activities are anticipated to occur Monday through Saturday, from 7:00 a.m. to 6:00 p.m. or sundown.

Heavy equipment that will be utilized during the demolition effort include the following: a 270-ton crane for the removal of the turbine and generator; a 170-ton crane with 150 ft of boom for the removal of the 105 ft tall exhaust stack; a Komatsu 650 excavator with an Allied G130 concrete hammer; a 350 Link belt excavator with a G90 concrete hammer and a Labounty MDP 27 universal processor; a 966 Cat rubber-tired loader; skidsteer loaders; water trucks; an 18-wheel semi-end dump trucks; and a vibratory sheep's foot compactor.

Two large excavators with universal processors (i.e., a grabbing attachment on the excavators used for precise demolition work) will be used for tearing apart the existing structures. Jackhammering will be required to tear apart the concrete pad at the site, and concrete breakers will then be used for crushing the demolished concrete. The demolished concrete will then be removed off site and taken to a recycling facility. The voids left by the removal of the concrete pad will be backfilled with clean, compacted soil to 90 percent of maximum density and quality assured.

There are certain structures at the gas-to-energy facility that will be sold by the demolition contractor to other gas-to-energy facility operators or for other similar facilities. These structures include the gas turbines, boilers, and other structures. These structures will be removed from the site and transported to their end-use destinations.

Other structures will be dismantled using the two large excavators, with the dismantled materials sorted by material type. Materials will then transported off site for recycling (i.e., metals and concrete).

For the demolition of the 105 ft tall exhaust stack, a 170-ton crane with 150 ft of boom will be used to lift off sections of the stack that will be lowered to the ground, where the universal processors can size the material for trucking and proper off-site disposal. The stack will have some preliminary cuts performed by men on man-lifts, with the crane moved in and attached prior to finalizing the cuts, and the section lifted off and lowered to the ground. The process will continue until the stack is accessible from ground level. It is anticipated that it will take no more than 2 days to remove this exhaust stack, and the crane will not remain in the air for more than a few hours at a time.

It is estimated that the demolition will generate approximately 8,640 tons of demolished concrete and that each truck will be able to haul 18 tons per load. Therefore, the demolition will generate approximately 480 two-way vehicle trips that will be distributed over a 3-month period. Assuming 25 workdays per month and a 3-month demolition schedule, the demolition component would generate approximately 7 two-way demolished concrete truck trips per day. For the estimated 14,360 square feet (sf) of structures that will be demolished, it is estimated this will generate approximately 4 two-way truck trips per day over the 3-month demolition schedule. The demolition component would also generate approximately 30 two-way employee and material delivery trips per day. It is estimated that the highest number of daily trips generated by the project is 75, assuming the overlapping of demolition and construction. The work area is limited in space, and the access road is too narrow to provide parking. Therefore, the site is not large enough to generate a higher volume of daily trips due to its limited capacity.

Metals will be transported to a recycling facility located in the City of Long Beach, and the demolished concrete will be transported to either the Ewles Materials recycling facility in the City of Irvine or a similar facility. Access from the project site to the Ewles Materials recycling facility (located at 16081 Construction Circle West in Irvine) will be from Newport Coast Drive, the State

Route 73 (SR-73) Toll Road, State Route 55 (SR-55), Interstate 405 (I-405), Jamboree Road, Barranca Parkway, and Construction Circle West. Solid waste materials (e.g., insulation, aluminum, gypsum, sheet metal, and wood waste) will be disposed at the Frank R. Bowerman Landfill in Irvine, which is owned and operated by the County of Orange (County). Access from the project site to the Frank R. Bowerman Landfill (located at 11002 Bee Canyon Access Road, Irvine) will be from Newport Coast Drive, the SR-73 Toll Road, the State Route 133 (SR-133) Toll Road, Interstate 5 (I-5), Sand Canyon Avenue, and the Bee Canyon Access Road. The majority of the vehicle trips for demolition will be for the off-site demolished concrete removal.

Construction

The construction of the temporary wireless communication facilities will occur during Fortistar's demolition activities. Four existing antenna arrays that provide cell coverage to the Newport Coast area are currently attached to the existing 105 ft high exhaust stack. The four carriers that own these antenna arrays are Sprint, AT&T, Verizon, and T-Mobile. Prior to the demolition of the 105 ft high exhaust stack, all four carriers will need to construct temporary wireless communication facilities at the project site and then remove the existing antenna arrays from the 105 ft high exhaust stack. There will be two temporary wireless communication facilities, each of which will be 60 feet tall.

Both of the 60 ft tall temporary wireless communication facilities will have two antenna arrays attached, one located approximately 50 feet and the other approximately 55 feet from the ground surface. Currently, existing power units located on the project site provide power to their existing antenna arrays and will continue to provide power for both the proposed temporary and permanent wireless communication facilities at the project site. One will need to be replaced and a new power supply will be installed that will support both the temporary and permanent wireless communication facilities. Construction of the temporary wireless communication facilities will take approximately 5 weeks before they are operational and can begin to provide cellular coverage. The temporary wireless communication facilities will only be on the project site until the permanent wireless communication facilities are constructed and operational, which will occur in the fall of 2017 and after the migratory bird nesting season, which is from February 15 to September 15.

Construction of the temporary wireless communication facilities will include equipment staging for approximately 1 week; delivery of the flower pot structure using a crane and semi-truck over 3 days; trenching and conduit installation from the perimeter wall to the flower pot structure using a drill rig and backhoe over 3 days; microwave dish installation and alignment with a boom truck (i.e., crane truck) over 1 day; and cable installation and antenna relocation to the flower pot over a 3-day period, which will include the decommissioning of existing antennas and other radiofrequency material from the 105 ft high exhaust stack and requiring the use of a boom truck.

Construction and Operation of Permanent Wireless Communication Facilities. Once the two temporary wireless communication facilities are operational, and after all demolition activities are complete, the four carriers will begin work on the construction of the permanent wireless communication facilities in the fall of 2017, after the migratory bird nesting season (i.e., February 15 to September 15). There will be two 60 ft tall permanent wireless communication facilities. It is anticipated that the permanent wireless communication facilities will take approximately 3 months to

construct and will be operational by approximately November 2017, at which time the temporary cell towers will be removed from the project site.

Construction of these permanent wireless communication facilities will include equipment staging for approximately 8 weeks; ground-ring trenching over a 3-day period using a drill rig and backhoe; inspection and installation of the foundation cage over 1 week using a boom truck; pouring of the foundation concrete with a cement truck and inspection over 1 week; curing time and tower delivery over 2 weeks; steel tower installation using a crane over 1 week; antenna relocations to the new towers (including dish alignment using a boom truck) over 1 week; and installation of the faux branches and inspection.

EXISTING SETTING

The project site is located in the City of Newport Beach, which is part of the South Coast Air Basin (Basin), and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

Climate/Meteorology

Air quality in the planning area is affected not only by various emission sources (e.g., mobile, industry) but also by atmospheric conditions such as 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 the worst air pollution problem in the nation.

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the Basin, which lies in the semipermanent high-pressure zone of the eastern Pacific, resulting in a climate that is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted; however, periods of extremely hot weather, winter storms, or Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°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 Newport Beach Harbor Station. The monthly average maximum temperature recorded at this station from 1921 to the present ranged from 63.2°F in December to 73.4°F in August, with an annual average maximum of 67.8°F. The monthly average minimum temperature recorded at this station ranged from 46.9°F in January to 63.2°F in August, with an annual average minimum of 54.6°F. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

Most 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. The Newport Beach Harbor Field Station monitored precipitation from 1921 to the present, during which average monthly rainfall varied from 2.30 inches in February to 0.38 inch or less between May and October, with an annual

total of 11.00 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

Although the Basin has a semiarid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore 8- to 12-mile–per-hour (mph) daytime breeze and an offshore 3 to 5 mph nighttime breeze. The typical wind flow pattern fluctuates only with occasional winter storms or strong northeasterly (Santa Ana) winds from the mountains and deserts northeast of the Basin. Summer wind flow patterns represent worst-case conditions because this is the period of higher temperatures and more sunlight, which results in ozone (O_3) formation.

Temperature normally decreases with altitude, and a reversal of this atmospheric state, where temperature increases with altitude, is called an inversion. The height from the Earth to the inversion base is known as the mixing height. Persistent low inversions and cool coastal air tend to create morning fog and low stratus clouds. Cloudy days are less likely in the eastern portions of the Basin and are about 25 percent more likely along the coast. The vertical dispersion of air pollutants in the Basin is limited by temperature inversions in the atmosphere close to the Earth's surface.

Inversions are generally lower in the nighttime when the ground is cool than during daylight hours when the sun warms the ground and, in turn, the surface air layer. As this heating process continues, the temperature of the surface air layer approaches the temperature of the inversion base, causing heating along its lower edge. If enough warming takes place, the inversion layer becomes weak and opens up to allow the surface air layers to mix upward. This can be seen in the middle to late afternoon on a hot summer day when the smog appears to clear up suddenly. Winter inversions typically break earlier in the day, preventing excessive contaminant buildup.

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 lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problem is the accumulation of carbon monoxide (CO) and nitrogen oxides (NO_X) due to extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Local Air Quality

The SCAQMD, together with the California Air Resources Board (ARB), maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the project site is the Costa Mesa Station on Mesa Verde Drive. This station is approximately 7.3 miles (mi) northwest of the project site, and its air quality trends are representative of the ambient air quality in the project area. The pollutants monitored at this station are CO, O_3, nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). The closest station that monitors particulate matter less than 10 microns and 2.5 microns in size (PM_{10} and $PM_{2.5}$, respectively) is the Mission Viejo Station at 26081 Via Pera, which is located approximately 8.6 mi east of the project site. The ambient air quality data monitored at these two stations within the past 3 years are listed in Table A.

Table A: Ambient Air Quality in the Project Vicinity

Pollutant	Standard	2013	2014	2015
Carbon Monoxide (CO) – Costa Mesa at Mesa Verde Drive				
Maximum 1-hour concentration (ppm)		2.4	2.7	3.0
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		2.0	1.9	2.2
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O_3) – Costa Mesa at Mesa Verde Drive				
Maximum 1-hour concentration (ppm)		0.095	0.096	0.099
Number of days exceeded:	State: > 0.09 ppm	1	1	1
Maximum 8-hour concentration (ppm)		0.083	0.079	0.079
Number of days exceeded:	State: > 0.07 ppm	2	6	3
	Federal: > 0.07 ppm	2	6	3
Coarse Particulates (PM_{10}) – Mission Viejo at 26081 Via Pera				
Maximum 24-hour concentration (µg/m^3)		51	41	49
Number of days exceeded:	State: > 50 µg/m^3	1	0	0
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		19	20	19
Exceeded for the year:	State: > 20 µg/m^3	No	No	No
Fine Particulates ($PM_{2.5}$) – Mission Viejo at 26081 Via Pera				
Maximum 24-hour concentration (µg/m^3)		28	26	32
Number of days exceeded:	Federal: > 35 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		8.1	8.3	7.0
Exceeded for the year:	State: > 12 µg/m^3	No	No	No
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2) – Costa Mesa at Mesa Verde Drive				
Maximum 1-hour concentration (ppm)		0.076	0.061	0.052
Number of days exceeded:	State: > 0.18 ppm	0	0	0
	Federal: > 0.10 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.011	0.011	0.012
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2) – Costa Mesa at Mesa Verde Drive				
Maximum 24-hour concentration (ppm)		0.0012	0.0013	0.0011
Number of days exceeded:	State: > 0.04 ppm	0	0	0
Maximum 1-hour concentration (ppm)		0.004	0.009	0.005
Number of days exceeded:	State: > 0.25 ppm	No	No	No
	Federal: > 0.075 ppm	No	No	No

Source: United States Environmental Protection Agency. AirData Air Quality Monitors. Website: http://www.epa.gov/airdata/ad_maps.html, accessed May 2016.
µg/m^3 = micrograms per cubic meter
EPA = United States Environmental Protection Agency
ppm = parts per million

The ambient air quality data in Table A show that CO, PM_{10}, $PM_{2.5}$, NO_2 and SO_2 levels are consistently below the relevant State and federal standards. The State and federal 8-hour O_3 standards were exceeded 11 days in the last 3 years, and the State 1-hour O_3 standard was exceeded 3 days over the last 3 years.

Air Pollution Constituents and Attainment Status

The ARB coordinates and oversees both State and federal air pollution control programs in the State. The ARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the United States Environmental Protection Agency (EPA) and local air districts. The ARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by the ARB and EPA to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent 3 calendar years compared with the ambient air quality standards (AAQS).

Attainment areas may be:

- Attainment/unclassified ("unclassifiable" in some lists), which have never violated the air quality standard of interest or do not have enough monitoring data to establish attainment or nonattainment status;
- Attainment-maintenance (national ambient air quality standards [NAAQS] only), which violated an NAAQS that is currently in use (was nonattainment) in or after 1990, but now attains the standard and is officially redesignated as attainment by the EPA with a maintenance State Implementation Plan (SIP); or
- Attainment (usually only for California ambient air quality standards [CAAQS], but sometimes for NAAQS), which have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official maintenance period.

Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards. Table B lists the attainment status for the criteria pollutants in the Basin.

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

Pollutant	State	Federal
O_3 1-hour	Nonattainment	No Federal Standard
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Moderate Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Attainment
Lead	Attainment[1]	Unclassified/Attainment[1]
All others	Attainment/Unclassified	No Federal Standard

Source: California Air Resources Board. Air Quality Standards and Area Designations. Website: http://www.arb.ca.gov/desig/desig.htm, accessed May 2016.

[1] Except in Los Angeles County.

CO = carbon monoxide
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SO_2 = sulfur dioxide

THRESHOLDS OF SIGNIFICANCE

Thresholds for Construction and Operational Emissions that have Regional Effects

Table C shows the California Environmental Quality Act (CEQA) significance thresholds that have been established for the Basin. Projects in the Basin with construction- or operations-related emissions that exceed any of the emission thresholds should be considered significant under CEQA.

Table C: SCAQMD Significance Thresholds

Air Pollutant	Construction
VOCs	75 lbs/day
CO	550 lbs/day
NO_X	100 lbs/day
SO_X	150 lbs/day
PM_{10}	150 lbs/day
$PM_{2.5}$	55 lbs/day

Source: South Coast Air Quality Management District (2016), www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf, accessed May 2016.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Thresholds for Localized Significance

The SCAQMD published its *Final Localized Significance Threshold Methodology* in July 2008, recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors from emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$. Localized significance thresholds (LSTs) represent the maximum emissions from a project site that are not expected to result in an exceedance of the NAAQS or CAAQS. LSTs are based on the ambient concentrations of that pollutant within the project's Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA is the North Coastal Orange County area (Area 18). Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The closest sensitive receptors are the homes on Marisol in the Tesoro community, located approximately 0.25 mi south of the project site.

In the cases of CO and NO_2, since ambient levels are below the CAAQS, as shown in Table A, the project would be considered to have a significant impact if project emissions result in a concentration at a significant receptor that exceeds the CAAQS. Even though the ambient levels of PM_{10} and $PM_{2.5}$ shown in Table A are less than the CAAQS and NAAQS, and since both are nonattainment pollutants, the significance criteria are the pollutant concentration thresholds presented in SCAQMD Rules 403 (SCAQMD 2005) and Rule 1301 (SCAQMD 1995). The Rule 403 threshold of 10.4 micrograms per cubic meter ($\mu g/m^3$) applies to construction emissions. The Rule 1301 threshold of 2.5 $\mu g/m^3$ applies to operational activities.

To avoid the need for every air quality analysis to perform air dispersion modeling, the SCAQMD performed air dispersion modeling for a range of construction sites less than or equal to 5 ac in size and created look-up tables that correlate pollutant emissions rates with project size to screen out projects that are unlikely to generate enough emissions to result in a locally significant concentration of any criteria pollutant. While the total project facility covers 4.14 ac, the area of this demolition and tower construction project is less than half of the total site and conservatively assumed to be approximately 2 ac for this analysis.

Construction LST emission thresholds for a 2 ac site at 0.25 mi (425 meters) are applicable to the project. Therefore, the following LST emissions thresholds would apply during project construction.

- 218 pounds per day (lbs/day) of NO_X
- 6,274 lbs/day of CO
- 124 lbs/day of PM_{10}
- 69 lbs/day of $PM_{2.5}$

AIR QUALITY IMPACT ANALYSIS

Short-Term (Construction) Emissions

Emissions of pollutants would occur during construction of the proposed project from soil disturbance and equipment exhaust. Major sources of emissions during demolition and construction include: (1) exhaust emissions from construction equipment and vehicles; and (2) fugitive dust generated by demolition activities, construction vehicles, and equipment traveling over exposed surfaces.

Peak daily emissions associated with the on-site construction equipment, on-road haul trucks and vendor trips, and fugitive dust emissions during each of the construction tasks were calculated using California Emission Estimator Model (CalEEMod) Version 2013.2.2. The total peak-day construction emissions are summarized in Table D and detailed in Appendix A. The emissions listed in Table D represent the maximum daily emissions generated during each phase of construction.

Table D: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	VOCs	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	4.6	44	29	.05	1.4	2.4	.26	2.3
Temporary tower construction	2.5	24	17	.02	.17	1.5	.05	1.4
Permanent tower construction	2.8	28	19	.03	.03	1.8	.01	1.6
Peak Daily	**7.0**	**68**	**45**	**.08**	**5.5**		**4.0**	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA Associates, Inc. (May 2016).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Since on-site construction operations must comply with dust control and other measures prescribed by SCAQMD Rules 402 and 403, compliance with these rules is assumed in Table D. Table D shows that construction equipment/vehicle emissions during construction periods would not exceed any of the SCAQMD established daily emissions thresholds. No mitigation is required.

Fugitive Dust

Blowing dust, combined with engine emissions, produces airborne matter referred to in air quality studies as fugitive dust, which includes larger dust particles as well as PM_{10} and $PM_{2.5}$. Fugitive dust emissions are generally associated with land clearing, exposure, and cut-and-fill operations. Once construction activities are complete, no further fugitive dust emissions occur. Dust generated daily during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Any nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending on the prevailing wind conditions. Fugitive dust would also be generated as construction equipment or trucks travel on unpaved areas of the construction site. The PM_{10} and $PM_{2.5}$ portions of the fugitive dust emissions are included in Table D. As indicated in Table D, compliance with SCAQMD Rules 402 and 403 would ensure that fugitive dust (PM_{10} and $PM_{2.5}$) generation would be less than significant.

Localized Significance

The SCAQMD has issued guidance on applying CalEEMod modeling results to LST analyses.[1] Table E shows the results of applying this guidance to the CalEEMod results listed in Table D and shows the construction-related emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ compared to the LSTs.

Table E: Summary of On-Site Construction Emissions, Localized Significance

Construction	Emission Rates (lbs/day)			
	NO_X	**CO**	**PM_{10}[1]**	**$PM_{2.5}$[1]**
On-Site Emissions	41	25	3.3	2.4
Localized Significance Threshold	**218**	**6,274**	**124**	**69**
Exceed Significance?	**No**	**No**	**No**	**No**

Source: Compiled by LSA Associates, Inc. (May 2016).
[1] Total PM_{10} and $PM_{2.5}$ daily emissions with fugitive dust mitigation measures implemented.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

[1] South Coast Air Quality Management District. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf, accessed May 2016.

Table E shows that the calculated emissions rates for the proposed on-site construction activities are below the LSTs for CO, NO_X, PM_{10}, and $PM_{2.5}$. Therefore, the proposed project would not cause any short-term localized air quality impacts, and no mitigation is required.

Odors

Odor complaints are most commonly associated with agricultural land uses, wastewater treatment plants, food processing plants, chemical plans, composting, refineries, and landfills, etc. Objectionable odors may be emitted during the operation of diesel-fueled equipment during construction of the proposed project. However, these odors would be limited to the project site during construction and would disperse quickly. Therefore, these odors are not considered a significant impact.

Long-Term (Operational) Emissions

Long-term air emission impacts are associated with any change in permanent use of the project site by on-site stationary and off-site mobile sources that substantially increase emissions. The project consists of the demolition of an existing tower and gas-to-energy collection system and cell tower replacement at the Coyote Canyon Landfill. Once the demolition and construction operations are completed, there will be no new operational emissions from the project.

Air Quality Management Plan Consistency

One measure of determining if the project is consistent with the air quality plans is if the project will not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards of the interim emission reductions specified in the air quality plans.

The main purpose of an air quality plan is to bring an area into compliance with the requirements of the federal and State air quality standards. Such plans describe the air pollution control strategies to be implemented by a city, county, or region. The most recent SCAQMD plan for attaining CAAQS, the 2012 Final Air Quality Management Plan (AQMP) (SCAQMD 2013), was approved by SCAQMD's Governing Board on December 7, 2012.

Because of the region's nonattainment status for ozone, $PM_{2.5,}$ and PM_{10}, if project-generated emissions of either of the ozone precursor pollutants (i.e., reactive organic gases [ROGs] and NO_X), $PM_{2.5}$, or PM_{10} would exceed the SCAQMD significance thresholds, then the project would be considered in conflict with the attainment plans. As supported in the analysis above, the proposed project would not result in significant air quality impacts. Therefore, no significant impact would occur regarding the project's consistency with the City of Newport Beach General Plan (2006) or the AQMP, and no mitigation measures are required.

STANDARD CONDITIONS

SCAQMD Rules

The 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 (BACMs) 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 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

- **SCAQMD Rule 403 Measures**
    - Water active sites at least twice daily (locations where grading is to occur will be thoroughly watered prior to earthmoving).
    - All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 ft of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
    - Traffic speeds on all unpaved roads shall be reduced to 15 miles per hour (mph) or less.
- **SCAQMD CEQA Handbook**
    - Dust suppression measures
        - Revegetate disturbed areas as quickly as possible.
        - All streets shall be swept once per day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).
        - Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.
        - All on-site roads shall be paved as soon as feasible, watered periodically, or chemically stabilized.
        - The area disturbed by clearing, grading, earthmoving, or excavation operations shall be minimized at all times.
    - The construction contractor shall select the construction equipment used on site based on low-emission factors and high-energy efficiency. The construction contractor shall ensure that construction-grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturers' specifications.
    - The construction contractor shall utilize electric or diesel-powered equipment in lieu of gasoline-powered engines where feasible.
    - The construction contractor shall ensure that construction plans include a statement that work crews will shut off equipment when not in use. During smog season (May through October), the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.

- The construction contractor shall time the construction activities so as to not interfere with peak-hour traffic and minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flagperson shall be retained to maintain safety adjacent to existing roadways.
- The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew.

GREENHOUSE GAS EMISSIONS

Methodology

The recommended approach for GHG analysis included in the State of California Governor's Office of Planning and Research (OPR) June 2008 Technical Advisory is to: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on climate change, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact to below a level of significance (OPR 2008). The June 2008 Technical Advisory provides some additional direction regarding planning documents as follows:

> *"CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation…. For local government lead agencies, adoption of general plan policies and certification of general plan EIRs that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews" (June 2008 Technical Advisory, pages 7-8).*

Preliminary guidance from the OPR (OPR 2008) and recent letters from the Attorney General[1] critical of CEQA documents that have taken different approaches indicate that Lead Agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities.

The SCAQMD has also issued recommendations regarding the methodology to be used to analyze GHG impacts in environmental documents prepared pursuant to CEQA. In October 2008, SCAQMD released a *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*[2] that suggested a tiered approach to project analysis.

According to the tiered approach, if a project is exempt from CEQA, Tier 1 would be the most appropriate tier, the project effects related to GHG emissions/global climate change (GCC) would be less than significant, and the analysis would be complete. If the project is not exempt and there is a

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1 State of California Department of Justice, Office of the Attorney General. Comment Letters filed under the California Environmental Quality Act. Website: http://oag.ca.gov/environment/ceqa/letters, accessed May 2016.

2 South Coast Air Quality Management District. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/, accessed May 2016.

local GHG reduction plan in place, then Tier 2 would be the most appropriate tier. If the project is consistent with that plan, then the project effects related to GHG emissions/GCC would be less than significant, and the analysis would be complete. If the project is not consistent with the plan, then the project would have a significant impact related to GHG emissions/GCC, and the analysis would be complete. If there is no local GHG reduction plan, Tier 3 is used to screen smaller projects. Both the SCAQMD and ARB screening thresholds categorize projects into two categories: "industrial" and "commercial/residential." If the project emissions are less than the applicable numerical threshold, then the project effects related to GHG emissions/GCC would be less than significant, and the analysis would be complete. If the project exceeds the numerical threshold, then the project should be analyzed using Tier 4.

If the project emissions would meet the applicable Tier 4 16 percent reduction goal (based on the project's consistency with California's goals to reduce GHG emissions under Assembly Bill [AB] 32), then the project would have less than significant impacts related to GHG emissions/GCC, and the analysis would be complete. If the project exceeds both Tier 3 and Tier 4 thresholds, then the project would have a significant impact related to GHG emissions/GCC and the analysis would be complete.

Tier 5 is not a threshold, but rather specifies that a project include all feasible on- and off-site measures to reduce GHG emissions, as well as financially support independent projects that have a net reduction in GHG emissions.

Environmental Setting

GCC is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended time period. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

"Global climate change" refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period of time (decades or longer). GCC may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric[1] temperature of 0.36°F per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, and changes in wind patterns or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in California might include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento Delta.

[1] The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

Global surface temperatures have risen by 1.33°F ±0.32°F over the last 100 years (1906–2005). The rate of warming over the last 50 years is almost double that over the last 100 years (IPCC 2013). latest projections, based on state-of-the art climate models, indicate that temperatures in California are expected to rise 3–10.5°F by the end of the century (CEC 2006). The prevailing scientific opinion on GCC is that "most of the warming observed over the last 60 years is attributable to human activities" (IPCC 2013). Increased amounts of carbon dioxide (CO_2) and other greenhouse gases (GHGs) are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the greenhouse effect.[1]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC include:[2]

- CO_2
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons **(**PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, human activities 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 GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere as compared to the GHGs that remain in the atmosphere for significant periods of time, thereby contributing to GCC in the long term. Water vapor is generally excluded from the list of GHGs 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 GCC evaluation, the term "GHGs" will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential, which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb

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1 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, greenhouse gases 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; therefore, although an excess of greenhouse gas results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

2 The GHGs listed are consistent with the definition in AB 32 (Government Code 38505), as discussed later in this section.

infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The global warming potential of each gas is measured relative to CO_2, the most abundant GHG. The definition of global warming potential for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). Table F shows the global warming potential for each type of GHG. For example, SF_6 is 23,900 times more potent at contributing to global warming than CO_2.

Table F: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50–200	1
Methane (CH_4)	12 ±3	21
Nitrous Oxide (N_2O)	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF_4)	50,000	6,500
PFC: Hexafluoromethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: *First Update to the Climate Change Scoping Plan: Building on the Framework* (ARB 2014). Website: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed May 2016.
HFC = hydrofluorocarbon
PFC = perfluorocarbon

Primary Greenhouse Gases. The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form as CO_2. Natural sources of CO_2 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_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO_2; consequently, the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s.[1]

In 2002, CO_2 emissions from fossil fuel combustion accounted for approximately 98 percent of human-made CO_2 emissions and approximately 84 percent of California's overall GHG emissions (CO_2e). The transportation sector accounted for California's largest portion of CO_2

[1] California Climate Change. Climate Action Team Reports. Website: http://www.climatechange.ca.gov/climate_action_team/reports/, accessed May 2016.

emissions, with gasoline consumption making up the greatest portion of these emissions. Electricity generation was California's second-largest category of GHG emissions.

Methane. CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (burning of coal, oil, and natural gas, etc.). Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California, followed by enteric fermentation (emissions from the digestive processes of livestock).[1] Agricultural processes such as manure management and rice cultivation are also significant sources of human-made CH_4 in California. CH_4 accounted for approximately 8 percent of gross climate change emissions (CO_2e) in California in 2012.[2] It is estimated that over 60 percent of global methane emissions are related to human-related activities (IPCC 2013). As with CO_2, the major removal process of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Nitrous Oxide. N_2O 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_2O is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, 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_2O emissions in California. N_2O emissions accounted for nearly 7 percent of human-made GHG emissions (CO_2e) in California in 2002.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone (O_3) depleting substances regulated under the Montreal Protocol.[3] PFCs and SF_6 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, which is active in California, leads to greater use of PFCs. Total HFCs, PFCs, and SF_6 accounted for approximately 3.5 percent of human-made GHG emissions (CO_2e) in California in 2002.[4]

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1 California Air Resources Board. California Greenhouse Gas Emission Inventory – 2015 Edition. Website: http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed May 2016.

2 Ibid.

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

4 California Climate Change. Climate Action Team Reports. Website: http://www.climatechange.ca.gov/climate_action_team/reports/, accessed May 2016

Emissions Sources and Inventories. 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 GCC. This section summarizes the latest information on global, national, California, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere (see Table F), accumulate over time, and are generally well-mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

Global Emissions. Worldwide emissions of GHGs in 2012 totaled 29 billion MT CO_2e per year (MT CO_2e/yr) (UNFCCC 2015). 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. In 2013, the United States emitted approximately 6.7 billion MT CO_2e, down from 7.3 billion MT CO_2e in 2007. Of the six major sectors nationwide—electric power industry, transportation, industry, agriculture, commercial, and residential—the electric power industry and transportation sectors combined account for approximately 70 percent of the GHG emissions; the majority of the electric power industry and all of the transportation emissions are generated from direct fossil fuel combustion. In 2013, the total United States GHG emissions were approximately 9.0 percent less than 2005 levels (EPA 2014).

State of California Emissions. According to State ARB emission inventory estimates, the State emitted approximately 459 million metric tons of CO_2e (MMT CO_2e) emissions in 2013. This is a decrease of 1.5 MMT CO_2e from 2012 and a 7 percent decrease since 2004 (ARB 2015).

The ARB estimates that transportation was the source of approximately 37 percent of the State's GHG emissions in 2013, followed by electricity generation (both in-State and out-of-State) at 20 percent and industrial sources at 20 percent. The remaining sources of GHG emissions were residential and commercial activities at 9 percent, agriculture at 8 percent, high-GWP gases at 4 percent, and recycling and waste at 2 percent (ARB 2015).

The ARB is responsible for developing the State GHG Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities within the State and supports the AB 32 Climate Change Program. The ARB's current GHG emission inventory covers the years 1990–2013 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, agricultural lands).

The ARB staff have projected statewide unregulated GHG emissions for 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, at 509 MMT CO_2e. GHG emissions from the transportation and electricity sectors as a whole are expected to increase but remain at approximately 30 percent and 32 percent of total CO_2e emissions, respectively (ARB 2014).

Regional Emissions. Existing GHG emissions for the Southern California Association of Governments (SCAG) region were calculated for construction sources, mobile sources, natural gas consumption, and electricity generation. GHG emissions for 2009 were estimated to be approximately 176.79 MMT CO_2e. Transportation and energy (i.e., electricity use and natural gas consumption)

accounted for approximately 47 and 52 percent of emissions, respectively. Construction activity accounted for approximately 1 percent of the GHG emissions.

Impact Significance Criteria

The *State CEQA Guidelines* leave the determination of significance to the reasonable discretion of the lead agency and encourage lead agencies to develop and publish thresholds of significance for use in determining the significance of environmental effects in CEQA documents. Neither the SCAQMD nor the City has yet established specific quantitative significance thresholds for GHG emissions for constuction-only projects. Until more guidance is provided from federal or State agencies, the more conservative SCAQMD screening significance criteria level of 3,000 MT of CO_2e per year will be used for the proposed project. However, given the frequency of changes in regulations over GHG emissions, this standard should be recognized as interim and will likely change over time as further guidance is provided by federal or State regulatory agencies.

Impact Analysis

Construction GHG 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 use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Table G lists the annual GHG emissions from project construction.

Per SCAQMD guidance, due to the long-term nature of the GHGs in the atmosphere, instead of determining significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the project).

Operational GHG Emissions. The project consists of the demolition of an existing tower and gas-to-energy collection system and cell tower replacement at the Coyote Canyon Landfill. Once the demolition and construction operations are completed, there will be no new operational emissions from the project. Thus, the equivalent annual GHG emissions from the project would be less than 10 MT/yr of CO_2e.

Table G: Construction Greenhouse Gas Emissions

Construction Phase		Total Regional Pollutant Emissions (MT/yr)			
		CO_2	CH_4	N_2O	CO_2e
2016	Demolition	183	.04	0	184
	Temporary Tower Construction	28	<0.01	0	28
2017	Permanent Tower Construction	83	.02	0	83
Total Construction Emissions		**293**	**.07**	**0**	**294**
Amortized over 30 years		**9.8**	**<0.01**	**0**	**9.8**

Source: Compiled by LSA Associates, Inc. (May 2016).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Therefore, equivalent annual GHG emissions would be below the screening threshold of 3,000 MT CO_2e per year for commercial projects, and GHG emissions would be considered to have a less than significant impact. The proposed project would not impede or interfere with achieving the State's emission reduction objectives in AB 32 (and Executive Order S-03-05). No mitigation is required.

REFERENCES

California Air Resources Board (ARB). Air Quality Standards and Area Designations. Website: http://www.arb.ca.gov/desig/desig.htm, accessed May 2016.

———. May 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework Pursuant to AB 32, the California Global Warming Solutions Act of 2006*. Website: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed May 2016.

———. 2015. California Greenhouse Gas Emission Inventory – 2015 Edition. Website: http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed May 2016.

California Energy Commission (CEC). July 2006. Our Changing Climate – Assessing the Risks to California. Website: http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF, accessed May 2016.

California Climate Change. Climate Action Team Reports. Website: http://www.climatechange.ca.gov/climate_action_team/reports/, accessed May 2016.

City of Newport Beach. November 2006. *General Plan*. Website: http://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan, accessed May 2016.

Intergovernmental Panel on Climate Change (IPCC). 2013. *Climate Change 2013: The Physical Science Basis, Working Group I Contribution to the Fifth Assessment Report of the IPCC*. Website: http://www.climatechange2013.org/, accessed May 2016.

State of California Governor's Office of Planning and Research (OPR). June 2008. *Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. Website: https://www.opr.ca.gov/docs/june08-ceqa.pdf, accessed May 2016.

South Coast Air Quality Management District (SCAQMD). February 2013. *Final 2012 AQMP*. Website: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan, accessed May 2016.

———. July 2008. *Final Localized Significance Threshold Methodology*. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf, accessed May 2016.

———. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/, accessed May 2016.

———. 2005 (amended). Rule 403: Fugitive Dust. Website: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4, accessed May 2016.

———. 1995 (amended). Rule 1301: General. Website: http://www.aqmd.gov/docs/default-source/rule-book/reg-xiii/rule-1301-general.pdf?sfvrsn=4, accessed May 2016.

———. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2, accessed May 2016.

State of California Department of Justice, Office of the Attorney General. Comment Letters filed under the California Environmental Quality Act. Website: http://oag.ca.gov/environment/ceqa/letters, accessed May 2016.

United Nations Framework Convention on Climate Change (UNFCCC). 2015. Combined Total of Annex I and Non-Annex I Country CO_2e emissions, Greenhouse Gas Inventory Data. Website: http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php, accessed April 2016.

United States Environmental Protection Agency (EPA). AirData Air Quality Monitors. Website: http://www.epa.gov/airdata/ad_maps.html, accessed May 2016.

———.U.S. Greenhouse Gas Inventory Report: 1990-2014. Website: http://www.epa.gov/climatechange/emissions/usinventoryreport.html, accessed May 2016.

Attachments: Figure 1
CalEEMod Modeling Runs

LSA

FIGURE 1

SOURCE: Bing Maps (2014)

I:\GEO1001E\GIS\ProjectLocation_Aerial.mxd (5/20/2016)

Coyote Canyon Stack Demolition and Cell Tower Replacement

Project Location and Vicinity

Coyote Canyon Landfill Tower Demolition and Replacement Project

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project includes construction of a cellular antenna tower.

Construction Phase - Schedule per project plans

Off-road Equipment - Equipment list per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment list per project plans.

Off-road Equipment - Equipment list per project plans.

Demolition -

Trips and VMT - Estimated delivery truck numbers for tower construction from project description.

Consumer Products - No operational emissions.

Landscape Equipment - No operational emissions.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	79.00
tblConstructionPhase	NumDays	0.00	66.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/30/2017	12/3/2016
tblConstructionPhase	PhaseEndDate	2/18/2017	11/30/2017
tblConstructionPhase	PhaseStartDate	1/1/2017	11/5/2016
tblConstructionPhase	PhaseStartDate	12/4/2016	9/15/2017
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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					
2016	7.0020	68.2413	45.1417	0.0752	2.9561	3.9812	6.9373	0.5198	3.7267	4.2465	0.0000	7,546.2263	7,546.2263	1.6580	0.0000	7,581.0434
2017	2.8402	28.1750	19.0413	0.0270	0.0250	1.7851	1.8101	7.1200e-003	1.6423	1.6494	0.0000	2,761.4845	2,761.4845	0.8206	0.0000	2,778.7163
Total	**9.8422**	**96.4163**	**64.1829**	**0.1022**	**2.9811**	**5.7663**	**8.7474**	**0.5269**	**5.3690**	**5.8959**	**0.0000**	**10,307.7108**	**10,307.7108**	**2.4785**	**0.0000**	**10,359.7598**

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					
2016	7.0020	68.2413	45.1417	0.0752	1.5284	3.9812	5.5097	0.3036	3.7267	4.0303	0.0000	7,546.2263	7,546.2263	1.6580	0.0000	7,581.0434
2017	2.8402	28.1750	19.0413	0.0270	0.0250	1.7851	1.8101	7.1200e-003	1.6423	1.6494	0.0000	2,761.4845	2,761.4845	0.8206	0.0000	2,778.7163
Total	**9.8422**	**96.4163**	**64.1829**	**0.1022**	**1.5534**	**5.7663**	**7.3198**	**0.3107**	**5.3690**	**5.6798**	**0.0000**	**10,307.7108**	**10,307.7108**	**2.4785**	**0.0000**	**10,359.7598**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**47.89**	**0.00**	**16.32**	**41.03**	**0.00**	**3.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	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
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
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	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
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
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2016	12/31/2016	6	79	
2	Temporary tower construction	Trenching	11/5/2016	12/3/2016	6	25	
3	Permanent tower construction	Building Construction	9/15/2017	11/30/2017	6	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Permanent tower construction	Cranes	1	4.00	226	0.29
Permanent tower construction	Forklifts	2	6.00	89	0.20
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Permanent tower construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Cranes	2	8.00	226	0.29
Demolition	Excavators	2	8.00	162	0.38
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Plate Compactors	1	8.00	8	0.43
Temporary tower construction	Trenchers	1	8.00	80	0.50
Demolition	Rubber Tired Dozers	0	1.00	255	0.40
Temporary tower construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Temporary tower construction	Other Material Handling Equipment	2	8.00	167	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Permanent tower construction	Trenchers	1	8.00	80	0.50
Permanent tower construction	Other Material Handling Equipment	2	8.00	167	0.40

Trips and VMT

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
Demolition	9	23.00	0.00	854.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Permanent tower construction	8	0.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Temporary tower construction	5	13.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2016

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					2.3404	0.0000	2.3404	0.3544	0.0000	0.3544			0.0000			0.0000
Off-Road	4.2559	41.0958	24.9015	0.0403		2.3864	2.3864		2.2595	2.2595		4,049.4968	4,049.4968	0.9688		4,069.8416
Total	**4.2559**	**41.0958**	**24.9015**	**0.0403**	**2.3404**	**2.3864**	**4.7268**	**0.3544**	**2.2595**	**2.6139**		**4,049.4968**	**4,049.4968**	**0.9688**		**4,069.8416**

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	0.1975	2.9788	2.1618	7.9500e-003	0.1883	0.0448	0.2331	0.0516	0.0412	0.0928		801.3974	801.3974	5.7000e-003		801.5170
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	0.0798	0.1031	1.2627	3.1200e-003	0.2571	1.8000e-003	0.2589	0.0682	1.6600e-003	0.0698		260.9584	260.9584	0.0123		261.2161
Total	**0.2773**	**3.0818**	**3.4245**	**0.0111**	**0.4454**	**0.0466**	**0.4920**	**0.1197**	**0.0429**	**0.1626**		**1,062.3558**	**1,062.3558**	**0.0180**		**1,062.7331**

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					0.9127	0.0000	0.9127	0.1382	0.0000	0.1382			0.0000			0.0000
Off-Road	4.2559	41.0958	24.9015	0.0403		2.3864	2.3864		2.2595	2.2595	0.0000	4,049.4968	4,049.4968	0.9688		4,069.8416
Total	**4.2559**	**41.0958**	**24.9015**	**0.0403**	**0.9127**	**2.3864**	**3.2992**	**0.1382**	**2.2595**	**2.3977**	**0.0000**	**4,049.4968**	**4,049.4968**	**0.9688**		**4,069.8416**

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	0.1975	2.9788	2.1618	7.9500e-003	0.1883	0.0448	0.2331	0.0516	0.0412	0.0928		801.3974	801.3974	5.7000e-003		801.5170
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	0.0798	0.1031	1.2627	3.1200e-003	0.2571	1.8000e-003	0.2589	0.0682	1.6600e-003	0.0698		260.9584	260.9584	0.0123		261.2161
Total	**0.2773**	**3.0818**	**3.4245**	**0.0111**	**0.4454**	**0.0466**	**0.4920**	**0.1197**	**0.0429**	**0.1626**		**1,062.3558**	**1,062.3558**	**0.0180**		**1,062.7331**

3.3 Temporary tower construction - 2016

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	2.3888	23.6594	15.6932	0.0212		1.5417	1.5417		1.4183	1.4183		2,200.1320	2,200.1320	0.6636		2,214.0684
Total	**2.3888**	**23.6594**	**15.6932**	**0.0212**		**1.5417**	**1.5417**		**1.4183**	**1.4183**		**2,200.1320**	**2,200.1320**	**0.6636**		**2,214.0684**

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	0.0350	0.3460	0.4089	8.7000e-004	0.0250	5.4800e-003	0.0305	7.1200e-003	5.0400e-003	0.0122		86.7436	86.7436	6.2000e-004		86.7565
Worker	0.0451	0.0583	0.7137	1.7600e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		147.4982	147.4982	6.9400e-003		147.6439
Total	**0.0801**	**0.4043**	**1.1225**	**2.6300e-003**	**0.1703**	**6.5000e-003**	**0.1768**	**0.0457**	**5.9800e-003**	**0.0516**		**234.2418**	**234.2418**	**7.5600e-003**		**234.4003**

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	2.3888	23.6594	15.6932	0.0212		1.5417	1.5417		1.4183	1.4183	0.0000	2,200.1320	2,200.1320	0.6636		2,214.0684
Total	**2.3888**	**23.6594**	**15.6932**	**0.0212**		**1.5417**	**1.5417**		**1.4183**	**1.4183**	**0.0000**	**2,200.1320**	**2,200.1320**	**0.6636**		**2,214.0684**

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	0.0350	0.3460	0.4089	8.7000e-004	0.0250	5.4800e-003	0.0305	7.1200e-003	5.0400e-003	0.0122		86.7436	86.7436	6.2000e-004		86.7565
Worker	0.0451	0.0583	0.7137	1.7600e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		147.4982	147.4982	6.9400e-003		147.6439
Total	**0.0801**	**0.4043**	**1.1225**	**2.6300e-003**	**0.1703**	**6.5000e-003**	**0.1768**	**0.0457**	**5.9800e-003**	**0.0516**		**234.2418**	**234.2418**	**7.5600e-003**		**234.4003**

3.4 Permanent tower construction - 2017

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	2.8079	27.8602	18.6566	0.0262		1.7802	1.7802		1.6378	1.6378		2,676.1528	2,676.1528	0.8200		2,693.3721

Total	**2.8079**	**27.8602**	**18.6566**	**0.0262**		**1.7802**	**1.7802**		**1.6378**	**1.6378**		**2,676.1528**	**2,676.1528**	**0.8200**		**2,693.3721**

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	0.0323	0.3148	0.3846	8.6000e-004	0.0250	4.8900e-003	0.0299	7.1200e-003	4.5000e-003	0.0116		85.3317	85.3317	6.0000e-004		85.3442
Worker	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
Total	**0.0323**	**0.3148**	**0.3846**	**8.6000e-004**	**0.0250**	**4.8900e-003**	**0.0299**	**7.1200e-003**	**4.5000e-003**	**0.0116**		**85.3317**	**85.3317**	**6.0000e-004**		**85.3442**

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	2.8079	27.8602	18.6566	0.0262		1.7802	1.7802		1.6378	1.6378	0.0000	2,676.1528	2,676.1528	0.8200		2,693.3721
Total	**2.8079**	**27.8602**	**18.6566**	**0.0262**		**1.7802**	**1.7802**		**1.6378**	**1.6378**	**0.0000**	**2,676.1528**	**2,676.1528**	**0.8200**		**2,693.3721**

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	0.0323	0.3148	0.3846	8.6000e-004	0.0250	4.8900e-003	0.0299	7.1200e-003	4.5000e-003	0.0116		85.3317	85.3317	6.0000e-004		85.3442
Worker	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
Total	**0.0323**	**0.3148**	**0.3846**	**8.6000e-004**	**0.0250**	**4.8900e-003**	**0.0299**	**7.1200e-003**	**4.5000e-003**	**0.0116**		**85.3317**	**85.3317**	**6.0000e-004**		**85.3442**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510449	0.057012	0.191854	0.151889	0.041459	0.005887	0.015572	0.014818	0.001440	0.002145	0.004716	0.000509	0.002251

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	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
NaturalGas 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

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					
User Defined Industrial	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
Total		**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**

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					
User Defined Industrial	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
Total		**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**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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 Vegetation

Coyote Canyon Landfill Tower Demolition and Replacement Project

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project includes construction of a cellular antenna tower.

Construction Phase - Schedule per project plans

Off-road Equipment - Equipment list per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment list per project plans.

Off-road Equipment - Equipment list per project plans.

Demolition -

Trips and VMT - Estimated delivery truck numbers for tower construction from project description.

Consumer Products - No operational emissions.

Landscape Equipment - No operational emissions.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	79.00
tblConstructionPhase	NumDays	0.00	66.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/30/2017	12/3/2016
tblConstructionPhase	PhaseEndDate	2/18/2017	11/30/2017
tblConstructionPhase	PhaseStartDate	1/1/2017	11/5/2016
tblConstructionPhase	PhaseStartDate	12/4/2016	9/15/2017
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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					
2016	7.0261	68.3677	45.4288	0.0749	2.9561	3.9814	6.9374	0.5198	3.7269	4.2466	0.0000	7,521.9726	7,521.9726	1.6581	0.0000	7,556.7917
2017	2.8436	28.1822	19.1228	0.0270	0.0250	1.7852	1.8102	7.1200e-003	1.6424	1.6495	0.0000	2,760.7632	2,760.7632	0.8206	0.0000	2,777.9954
Total	**9.8697**	**96.5499**	**64.5516**	**0.1019**	**2.9811**	**5.7666**	**8.7476**	**0.5269**	**5.3692**	**5.8961**	**0.0000**	**10,282.7358**	**10,282.7358**	**2.4786**	**0.0000**	**10,334.7871**

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					
2016	7.0261	68.3677	45.4288	0.0749	1.5284	3.9814	5.5098	0.3036	3.7269	4.0305	0.0000	7,521.9726	7,521.9726	1.6581	0.0000	7,556.7917
2017	2.8436	28.1822	19.1228	0.0270	0.0250	1.7852	1.8102	7.1200e-003	1.6424	1.6495	0.0000	2,760.7631	2,760.7631	0.8206	0.0000	2,777.9954
Total	**9.8697**	**96.5499**	**64.5516**	**0.1019**	**1.5534**	**5.7666**	**7.3200**	**0.3107**	**5.3692**	**5.6800**	**0.0000**	**10,282.7357**	**10,282.7357**	**2.4786**	**0.0000**	**10,334.7871**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**47.89**	**0.00**	**16.32**	**41.03**	**0.00**	**3.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	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
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
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	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
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
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2016	12/31/2016	6	79	
2	Temporary tower construction	Trenching	11/5/2016	12/3/2016	6	25	
3	Permanent tower construction	Building Construction	9/15/2017	11/30/2017	6	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Permanent tower construction	Cranes	1	4.00	226	0.29
Permanent tower construction	Forklifts	2	6.00	89	0.20
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Permanent tower construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Cranes	2	8.00	226	0.29
Demolition	Excavators	2	8.00	162	0.38
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Plate Compactors	1	8.00	8	0.43
Temporary tower construction	Trenchers	1	8.00	80	0.50
Demolition	Rubber Tired Dozers	0	1.00	255	0.40
Temporary tower construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Temporary tower construction	Other Material Handling Equipment	2	8.00	167	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Permanent tower construction	Trenchers	1	8.00	80	0.50
Permanent tower construction	Other Material Handling Equipment	2	8.00	167	0.40

Trips and VMT

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
Demolition	9	23.00	0.00	854.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Permanent tower construction	8	0.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Temporary tower construction	5	13.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2016

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					2.3404	0.0000	2.3404	0.3544	0.0000	0.3544			0.0000			0.0000
Off-Road	4.2559	41.0958	24.9015	0.0403		2.3864	2.3864		2.2595	2.2595		4,049.4968	4,049.4968	0.9688		4,069.8416
Total	**4.2559**	**41.0958**	**24.9015**	**0.0403**	**2.3404**	**2.3864**	**4.7268**	**0.3544**	**2.2595**	**2.6139**		**4,049.4968**	**4,049.4968**	**0.9688**		**4,069.8416**

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	0.2112	3.0808	2.4812	7.9400e-003	0.1883	0.0449	0.2332	0.0516	0.0413	0.0929		799.4873	799.4873	5.7700e-003		799.6085
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	0.0840	0.1134	1.1893	2.9500e-003	0.2571	1.8000e-003	0.2589	0.0682	1.6600e-003	0.0698		247.1506	247.1506	0.0123		247.4083
Total	**0.2952**	**3.1942**	**3.6705**	**0.0109**	**0.4454**	**0.0467**	**0.4921**	**0.1197**	**0.0430**	**0.1627**		**1,046.6379**	**1,046.6379**	**0.0180**		**1,047.0168**

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					0.9127	0.0000	0.9127	0.1382	0.0000	0.1382			0.0000			0.0000
Off-Road	4.2559	41.0958	24.9015	0.0403		2.3864	2.3864		2.2595	2.2595	0.0000	4,049.4968	4,049.4968	0.9688		4,069.8416
Total	**4.2559**	**41.0958**	**24.9015**	**0.0403**	**0.9127**	**2.3864**	**3.2992**	**0.1382**	**2.2595**	**2.3977**	**0.0000**	**4,049.4968**	**4,049.4968**	**0.9688**		**4,069.8416**

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	0.2112	3.0808	2.4812	7.9400e-003	0.1883	0.0449	0.2332	0.0516	0.0413	0.0929		799.4873	799.4873	5.7700e-003		799.6085
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	0.0840	0.1134	1.1893	2.9500e-003	0.2571	1.8000e-003	0.2589	0.0682	1.6600e-003	0.0698		247.1506	247.1506	0.0123		247.4083
Total	**0.2952**	**3.1942**	**3.6705**	**0.0109**	**0.4454**	**0.0467**	**0.4921**	**0.1197**	**0.0430**	**0.1627**		**1,046.6379**	**1,046.6379**	**0.0180**		**1,047.0168**

3.3 Temporary tower construction - 2016

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	2.3888	23.6594	15.6932	0.0212		1.5417	1.5417		1.4183	1.4183		2,200.1320	2,200.1320	0.6636		2,214.0684
Total	**2.3888**	**23.6594**	**15.6932**	**0.0212**		**1.5417**	**1.5417**		**1.4183**	**1.4183**		**2,200.1320**	**2,200.1320**	**0.6636**		**2,214.0684**

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	0.0388	0.3542	0.4914	8.6000e-004	0.0250	5.5400e-003	0.0305	7.1200e-003	5.0900e-003	0.0122		86.0122	86.0122	6.3000e-004		86.0255
Worker	0.0475	0.0641	0.6722	1.6700e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		139.6938	139.6938	6.9400e-003		139.8395
Total	**0.0863**	**0.4182**	**1.1636**	**2.5300e-003**	**0.1703**	**6.5600e-003**	**0.1769**	**0.0457**	**6.0300e-003**	**0.0517**		**225.7060**	**225.7060**	**7.5700e-003**		**225.8650**

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	2.3888	23.6594	15.6932	0.0212		1.5417	1.5417		1.4183	1.4183	0.0000	2,200.1320	2,200.1320	0.6636		2,214.0684
Total	**2.3888**	**23.6594**	**15.6932**	**0.0212**		**1.5417**	**1.5417**		**1.4183**	**1.4183**	**0.0000**	**2,200.1320**	**2,200.1320**	**0.6636**		**2,214.0684**

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	0.0388	0.3542	0.4914	8.6000e-004	0.0250	5.5400e-003	0.0305	7.1200e-003	5.0900e-003	0.0122		86.0122	86.0122	6.3000e-004		86.0255
Worker	0.0475	0.0641	0.6722	1.6700e-003	0.1453	1.0200e-003	0.1463	0.0385	9.4000e-004	0.0395		139.6938	139.6938	6.9400e-003		139.8395
Total	**0.0863**	**0.4182**	**1.1636**	**2.5300e-003**	**0.1703**	**6.5600e-003**	**0.1769**	**0.0457**	**6.0300e-003**	**0.0517**		**225.7060**	**225.7060**	**7.5700e-003**		**225.8650**

3.4 Permanent tower construction - 2017

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	2.8079	27.8602	18.6566	0.0262		1.7802	1.7802		1.6378	1.6378		2,676.1528	2,676.1528	0.8200		2,693.3721

Total	**2.8079**	**27.8602**	**18.6566**	**0.0262**		**1.7802**	**1.7802**		**1.6378**	**1.6378**		**2,676.1528**	**2,676.1528**	**0.8200**		**2,693.3721**

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	0.0357	0.3220	0.4662	8.6000e-004	0.0250	4.9400e-003	0.0300	7.1200e-003	4.5500e-003	0.0117		84.6104	84.6104	6.2000e-004		84.6233
Worker	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
Total	**0.0357**	**0.3220**	**0.4662**	**8.6000e-004**	**0.0250**	**4.9400e-003**	**0.0300**	**7.1200e-003**	**4.5500e-003**	**0.0117**		**84.6104**	**84.6104**	**6.2000e-004**		**84.6233**

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	2.8079	27.8602	18.6566	0.0262		1.7802	1.7802		1.6378	1.6378	0.0000	2,676.1528	2,676.1528	0.8200		2,693.3721
Total	**2.8079**	**27.8602**	**18.6566**	**0.0262**		**1.7802**	**1.7802**		**1.6378**	**1.6378**	**0.0000**	**2,676.1528**	**2,676.1528**	**0.8200**		**2,693.3721**

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	0.0357	0.3220	0.4662	8.6000e-004	0.0250	4.9400e-003	0.0300	7.1200e-003	4.5500e-003	0.0117		84.6104	84.6104	6.2000e-004		84.6233
Worker	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
Total	**0.0357**	**0.3220**	**0.4662**	**8.6000e-004**	**0.0250**	**4.9400e-003**	**0.0300**	**7.1200e-003**	**4.5500e-003**	**0.0117**		**84.6104**	**84.6104**	**6.2000e-004**		**84.6233**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510449	0.057012	0.191854	0.151889	0.041459	0.005887	0.015572	0.014818	0.001440	0.002145	0.004716	0.000509	0.002251

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	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
NaturalGas 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

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					
User Defined Industrial	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
Total		**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**

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					
User Defined Industrial	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
Total		**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**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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 Vegetation

Coyote Canyon Landfill Tower Demolition and Replacement Project

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project includes construction of a cellular antenna tower.

Construction Phase - Schedule per project plans

Off-road Equipment - Equipment list per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment list per project plans.

Off-road Equipment - Equipment list per project plans.

Demolition -

Trips and VMT - Estimated delivery truck numbers for tower construction from project description.

Consumer Products - No operational emissions.

Landscape Equipment - No operational emissions.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	79.00
tblConstructionPhase	NumDays	0.00	66.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/30/2017	12/3/2016
tblConstructionPhase	PhaseEndDate	2/18/2017	11/30/2017
tblConstructionPhase	PhaseStartDate	1/1/2017	11/5/2016
tblConstructionPhase	PhaseStartDate	12/4/2016	9/15/2017
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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					
2016	0.2103	2.0528	1.3373	2.3200e-003	0.1118	0.1155	0.2273	0.0192	0.1088	0.1280	0.0000	210.3242	210.3242	0.0430	0.0000	211.2266
2017	0.0938	0.9302	0.6304	8.9000e-004	8.1000e-004	0.0589	0.0597	2.3000e-004	0.0542	0.0544	0.0000	82.6618	82.6618	0.0246	0.0000	83.1776
Total	**0.3041**	**2.9830**	**1.9677**	**3.2100e-003**	**0.1126**	**0.1744**	**0.2870**	**0.0195**	**0.1630**	**0.1824**	**0.0000**	**292.9859**	**292.9859**	**0.0675**	**0.0000**	**294.4042**

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					
2016	0.2103	2.0528	1.3373	2.3200e-003	0.0554	0.1155	0.1709	0.0107	0.1088	0.1194	0.0000	210.3240	210.3240	0.0430	0.0000	211.2264
2017	0.0938	0.9302	0.6304	8.9000e-004	8.1000e-004	0.0589	0.0597	2.3000e-004	0.0542	0.0544	0.0000	82.6617	82.6617	0.0246	0.0000	83.1775
Total	**0.3041**	**2.9830**	**1.9677**	**3.2100e-003**	**0.0563**	**0.1744**	**0.2306**	**0.0109**	**0.1630**	**0.1739**	**0.0000**	**292.9856**	**292.9856**	**0.0675**	**0.0000**	**294.4039**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**50.06**	**0.00**	**19.65**	**43.91**	**0.00**	**4.68**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	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
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	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
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

	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	N20	CO2e

Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2016	12/31/2016	6	79	
2	Temporary tower construction	Trenching	11/5/2016	12/3/2016	6	25	
3	Permanent tower construction	Building Construction	9/15/2017	11/30/2017	6	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Permanent tower construction	Cranes	1	4.00	226	0.29
Permanent tower construction	Forklifts	2	6.00	89	0.20
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Permanent tower construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Cranes	2	8.00	226	0.29
Demolition	Excavators	2	8.00	162	0.38
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Plate Compactors	1	8.00	8	0.43
Temporary tower construction	Trenchers	1	8.00	80	0.50
Demolition	Rubber Tired Dozers	0	1.00	255	0.40
Temporary tower construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Temporary tower construction	Other Material Handling Equipment	2	8.00	167	0.40

Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Permanent tower construction	Trenchers	1	8.00	80	0.50
Permanent tower construction	Other Material Handling Equipment	2	8.00	167	0.40

Trips and VMT

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
Demolition	9	23.00	0.00	854.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Permanent tower construction	8	0.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Temporary tower construction	5	13.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2016

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					0.0924	0.0000	0.0924	0.0140	0.0000	0.0140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1681	1.6233	0.9836	1.5900e-003		0.0943	0.0943		0.0893	0.0893	0.0000	145.1089	145.1089	0.0347	0.0000	145.8379
Total	**0.1681**	**1.6233**	**0.9836**	**1.5900e-003**	**0.0924**	**0.0943**	**0.1867**	**0.0140**	**0.0893**	**0.1033**	**0.0000**	**145.1089**	**145.1089**	**0.0347**	**0.0000**	**145.8379**

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	8.1500e-003	0.1238	0.0951	3.1000e-004	7.3200e-003	1.7700e-003	9.0900e-003	2.0100e-003	1.6300e-003	3.6400e-003	0.0000	28.6884	28.6884	2.1000e-004	0.0000	28.6927
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	3.1000e-003	4.6000e-003	0.0480	1.2000e-004	9.9700e-003	7.0000e-005	0.0100	2.6500e-003	7.0000e-005	2.7100e-003	0.0000	8.9897	8.9897	4.4000e-004	0.0000	8.9990
Total	**0.0113**	**0.1284**	**0.1431**	**4.3000e-004**	**0.0173**	**1.8400e-003**	**0.0191**	**4.6600e-003**	**1.7000e-003**	**6.3500e-003**	**0.0000**	**37.6781**	**37.6781**	**6.5000e-004**	**0.0000**	**37.6916**

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					0.0361	0.0000	0.0361	5.4600e-003	0.0000	5.4600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1681	1.6233	0.9836	1.5900e-003		0.0943	0.0943		0.0893	0.0893	0.0000	145.1087	145.1087	0.0347	0.0000	145.8377
Total	**0.1681**	**1.6233**	**0.9836**	**1.5900e-003**	**0.0361**	**0.0943**	**0.1303**	**5.4600e-003**	**0.0893**	**0.0947**	**0.0000**	**145.1087**	**145.1087**	**0.0347**	**0.0000**	**145.8377**

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	8.1500e-003	0.1238	0.0951	3.1000e-004	7.3200e-003	1.7700e-003	9.0900e-003	2.0100e-003	1.6300e-003	3.6400e-003	0.0000	28.6884	28.6884	2.1000e-004	0.0000	28.6927
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	3.1000e-003	4.6000e-003	0.0480	1.2000e-004	9.9700e-003	7.0000e-005	0.0100	2.6500e-003	7.0000e-005	2.7100e-003	0.0000	8.9897	8.9897	4.4000e-004	0.0000	8.9990
Total	**0.0113**	**0.1284**	**0.1431**	**4.3000e-004**	**0.0173**	**1.8400e-003**	**0.0191**	**4.6600e-003**	**1.7000e-003**	**6.3500e-003**	**0.0000**	**37.6781**	**37.6781**	**6.5000e-004**	**0.0000**	**37.6916**

3.3 Temporary tower construction - 2016

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	0.0299	0.2957	0.1962	2.6000e-004		0.0193	0.0193		0.0177	0.0177	0.0000	24.9491	24.9491	7.5300e-003	0.0000	25.1071
Total	**0.0299**	**0.2957**	**0.1962**	**2.6000e-004**		**0.0193**	**0.0193**		**0.0177**	**0.0177**	**0.0000**	**24.9491**	**24.9491**	**7.5300e-003**	**0.0000**	**25.1071**

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	4.7000e-004	4.5100e-003	5.9000e-003	1.0000e-005	3.1000e-004	7.0000e-005	3.8000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	0.9802	0.9802	1.0000e-005	0.0000	0.9803
Worker	5.6000e-004	8.2000e-004	8.5800e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.8000e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.6080	1.6080	8.0000e-005	0.0000	1.6096
Total	**1.0300e-003**	**5.3300e-003**	**0.0145**	**3.0000e-005**	**2.0900e-003**	**8.0000e-005**	**2.1800e-003**	**5.6000e-004**	**7.0000e-005**	**6.4000e-004**	**0.0000**	**2.5881**	**2.5881**	**9.0000e-005**	**0.0000**	**2.5899**

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	0.0299	0.2957	0.1962	2.6000e-004		0.0193	0.0193		0.0177	0.0177	0.0000	24.9491	24.9491	7.5300e-003	0.0000	25.1071
Total	**0.0299**	**0.2957**	**0.1962**	**2.6000e-004**		**0.0193**	**0.0193**		**0.0177**	**0.0177**	**0.0000**	**24.9491**	**24.9491**	**7.5300e-003**	**0.0000**	**25.1071**

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	4.7000e-004	4.5100e-003	5.9000e-003	1.0000e-005	3.1000e-004	7.0000e-005	3.8000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	0.9802	0.9802	1.0000e-005	0.0000	0.9803
Worker	5.6000e-004	8.2000e-004	8.5800e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.8000e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.6080	1.6080	8.0000e-005	0.0000	1.6096
Total	**1.0300e-003**	**5.3300e-003**	**0.0145**	**3.0000e-005**	**2.0900e-003**	**8.0000e-005**	**2.1800e-003**	**5.6000e-004**	**7.0000e-005**	**6.4000e-004**	**0.0000**	**2.5881**	**2.5881**	**9.0000e-005**	**0.0000**	**2.5899**

3.4 Permanent tower construction - 2017

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	0.0927	0.9194	0.6157	8.6000e-004		0.0588	0.0588		0.0541	0.0541	0.0000	80.1162	80.1162	0.0246	0.0000	80.6317
Total	**0.0927**	**0.9194**	**0.6157**	**8.6000e-004**		**0.0588**	**0.0588**		**0.0541**	**0.0541**	**0.0000**	**80.1162**	**80.1162**	**0.0246**	**0.0000**	**80.6317**

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	1.1400e-003	0.0108	0.0147	3.0000e-005	8.1000e-004	1.6000e-004	9.7000e-004	2.3000e-004	1.5000e-004	3.8000e-004	0.0000	2.5455	2.5455	2.0000e-005	0.0000	2.5459
Worker	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
Total	**1.1400e-003**	**0.0108**	**0.0147**	**3.0000e-005**	**8.1000e-004**	**1.6000e-004**	**9.7000e-004**	**2.3000e-004**	**1.5000e-004**	**3.8000e-004**	**0.0000**	**2.5455**	**2.5455**	**2.0000e-005**	**0.0000**	**2.5459**

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	0.0927	0.9194	0.6157	8.6000e-004		0.0588	0.0588		0.0541	0.0541	0.0000	80.1162	80.1162	0.0246	0.0000	80.6316

Total	**0.0927**	**0.9194**	**0.6157**	**8.6000e-004**		**0.0588**	**0.0588**		**0.0541**	**0.0541**	**0.0000**	**80.1162**	**80.1162**	**0.0246**	**0.0000**	**80.6316**

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	1.1400e-003	0.0108	0.0147	3.0000e-005	8.1000e-004	1.6000e-004	9.7000e-004	2.3000e-004	1.5000e-004	3.8000e-004	0.0000	2.5455	2.5455	2.0000e-005	0.0000	2.5459
Worker	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
Total	**1.1400e-003**	**0.0108**	**0.0147**	**3.0000e-005**	**8.1000e-004**	**1.6000e-004**	**9.7000e-004**	**2.3000e-004**	**1.5000e-004**	**3.8000e-004**	**0.0000**	**2.5455**	**2.5455**	**2.0000e-005**	**0.0000**	**2.5459**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510449	0.057012	0.191854	0.151889	0.041459	0.005887	0.015572	0.014818	0.001440	0.002145	0.004716	0.000509	0.002251

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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
NaturalGas 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

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					
User Defined Industrial	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
Total		**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**

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					
User Defined Industrial	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
Total		**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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614
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BERKELEY
CARLSBAD
FRESNO
PALM SPRINGS
PT. RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: May 23, 2016

TO: Romi Archer, Associate, LSA Associates Inc.

FROM: J.T. Stephens, LSA Associates, Inc.

SUBJECT: Construction Noise Impact Analysis Memorandum for the Demolition of Structures and Construction of Temporary and Permanent Wireless Telecommunication Facilities at the Closed Coyote Canyon Landfill Gas-To-Energy Facility Site

INTRODUCTION

This Construction Noise Impact Analysis has been prepared to evaluate the potential noise impacts and abatement measures associated with the construction of the Demolition of Structures and Construction of Temporary and Permanent Wireless Telecommunication Facilities at the Closed Coyote Canyon Landfill Gas-To-Energy Facility Site (proposed project) in the City of Newport Beach (City), California. This report examines the impacts on off-site noise-sensitive uses and evaluates the construction noise abatement measures incorporated as part of the project's California Environmental Quality Act (CEQA) review.

PROJECT LOCATION AND DESCRIPTION

The proposed project consists of three components, all of which will occur at the landfill gas-to-energy facility site (project site). These components are the demolition of landfill gas-to-energy facility structures, the construction and operation of temporary wireless communication facilities, and the construction and operation of permanent wireless communication facilities. The project site is shown in Figure 1 (Attachment A).

The first component that will occur will be the on-site demolition of most of the existing structures. Some of the existing structures will remain, including three existing landfill gas flares that will continue to flare landfill gas, structures needed to support the landfill gas collection system infrastructure, and existing electrical, water, sewer, and natural gas and landfill gas lines. In addition, the paved access road to the project site as well as the perimeter wall and the tall trees surrounding the perimeter wall will all remain. The most significant structure that will be demolished is an existing 105-foot (ft) high exhaust stack that is no longer in operation. This structure is highly visible in the Newport Coast and also houses cellular network apparatus that will need to be replaced with temporary apparatus and later (once demolition activities are complete) with permanent replacement apparatus.

Demolition

Demolition activities are anticipated to begin in October 2016 and shall be completed by December 31, 2016. Demolition activities are anticipated to occur Monday through Saturday, from 7:00 a.m. to 6:00 p.m. or sundown.

Heavy equipment that will be utilized during the demolition effort include the following: a 270-ton crane for the removal of the turbine and generator; a 170-ton crane with 150 ft of boom for the removal of the 105 ft tall exhaust stack; a Komatsu 650 excavator with an Allied G130 concrete hammer; a 350 Link belt excavator with a G90 concrete hammer and a Labounty MDP 27 universal processor; a 966 Cat rubber-tired loader; skidsteer loaders; water trucks; an 18-wheel semi-end dump trucks; and a vibratory sheep's foot compactor.

Two large excavators with universal processors (i.e., a grabbing attachment on the excavators used for precise demolition work) will be used for tearing apart the existing structures. Jackhammering will be required to tear apart the concrete pad at the site, and concrete breakers will then be used for crushing the demolished concrete. The demolished concrete will then be removed off site and taken to a recycling facility. The voids left by the removal of the concrete pad will be backfilled with clean, compacted soil to 90 percent of maximum density and quality assured.

There are certain structures at the gas-to-energy facility that will be sold by the demolition contractor to other gas-to-energy facility operators or for other similar facilities. These structures include the gas turbines, boilers, and other structures. These structures will be removed from the site and transported to their end-use destinations.

Other structures will be dismantled using the two large excavators, with the dismantled materials sorted by material type. Materials will then transported off site for recycling (i.e., metals and concrete).

For the demolition of the 105 ft tall exhaust stack, a 170-ton crane with 150 ft of boom will be used to lift off sections of the stack that will be lowered to the ground, where the universal processors can size the material for trucking and proper off-site disposal. The stack will have some preliminary cuts performed by men on man-lifts, with the crane moved in and attached prior to finalizing the cuts, and the section lifted off and lowered to the ground. The process will continue until the stack is accessible from ground level. It is anticipated that it will take no more than 2 days to remove this exhaust stack, and the crane will not remain in the air for more than a few hours at a time.

It is estimated that the demolition will generate approximately 8,640 tons of demolished concrete and that each truck will be able to haul 18 tons per load. Therefore, the demolition will generate approximately 480 two-way vehicle trips that will be distributed over a 3-month period. Assuming 25 workdays per month and a 3-month demolition schedule, the demolition component would generate approximately 7 two-way demolished concrete truck trips per day. For the estimated 14,360 square feet (sf) of structures that will be demolished, it is estimated this will generate approximately 4 two-way truck trips per day over the 3-month demolition schedule. The demolition component would also generate approximately 30 two-way employee and material delivery trips per day. It is estimated that the highest number of daily trips generated by the project is 75, assuming the overlapping of demolition and construction. The work area is limited in space, and the access road is too narrow to

provide parking. Therefore, the site is not large enough to generate a higher volume of daily trips due to its limited capacity.

Metals will be transported to a recycling facility located in the City of Long Beach, and the demolished concrete will be transported to either the Ewles Materials recycling facility in the City of Irvine or a similar facility. Access from the project site to the Ewles Materials recycling facility (located at 16081 Construction Circle West in Irvine) will be from Newport Coast Drive, the State Route 73 (SR-73) Toll Road, State Route 55 (SR-55), Interstate 405 (I-405), Jamboree Road, Barranca Parkway, and Construction Circle West. Solid waste materials (e.g., insulation, aluminum, gypsum, sheet metal, and wood waste) will be disposed at the Frank R. Bowerman Landfill in Irvine, which is owned and operated by the County of Orange (County). Access from the project site to the Frank R. Bowerman Landfill (located at 11002 Bee Canyon Access Road, Irvine) will be from Newport Coast Drive, the SR-73 Toll Road, the State Route 133 (SR-133) Toll Road, Interstate 5 (I-5), Sand Canyon Avenue, and the Bee Canyon Access Road. The majority of the vehicle trips for demolition will be for the off-site demolished concrete removal.

Construction

The construction of the temporary wireless communication facilities will occur during Fortistar's demolition activities. Four existing antenna arrays that provide cell coverage to the Newport Coast area are currently attached to the existing 105 ft high exhaust stack. The four carriers that own these antenna arrays are Sprint, AT&T, Verizon, and T-Mobile. Prior to the demolition of the 105 ft high exhaust stack, all four carriers will need to construct temporary wireless communication facilities at the project site and then remove the existing antenna arrays from the 105 ft high exhaust stack. There will be two temporary wireless communication facilities, each of which will be 60 feet tall.

Both of the 60 ft tall temporary wireless communication facilities will have two antenna arrays attached, one located approximately 50 feet and the other approximately 55 feet from the ground surface. Currently, existing power units located on the project site provide power to their existing antenna arrays and will continue to provide power for both the proposed temporary and permanent wireless communication facilities at the project site. One will need to be replaced and a new power supply will be installed that will support both the temporary and permanent wireless communication facilities. Construction of the temporary wireless communication facilities will take approximately 5 weeks before they are operational and can begin to provide cellular coverage. The temporary wireless communication facilities will only be on the project site until the permanent wireless communication facilities are constructed and operational, which will occur in the fall of 2017 and after the migratory bird nesting season, which is from February 15 to September 15.

Construction of the temporary wireless communication facilities will include equipment staging for approximately 1 week; delivery of the flower pot structure using a crane and semi-truck over 3 days; trenching and conduit installation from the perimeter wall to the flower pot structure using a drill rig and backhoe over 3 days; microwave dish installation and alignment with a boom truck (i.e., crane truck) over 1 day; and cable installation and antenna relocation to the flower pot over a 3-day period, which will include the decommissioning of existing antennas and other radiofrequency material from the 105 ft high exhaust stack and requiring the use of a boom truck.

Construction and Operation of Permanent Wireless Communication Facilities. Once the two temporary wireless communication facilities are operational, and after all demolition activities are complete, the four carriers will begin work on the construction of the permanent wireless communication facilities in the fall of 2017, after the migratory bird nesting season (i.e., February 15 to September 15). There will be two 60 ft tall permanent wireless communication facilities. It is anticipated that the permanent wireless communication facilities will take approximately 3 months to construct and will be operational by approximately November 2017, at which time the temporary cell towers will be removed from the project site.

Construction of these permanent wireless communication facilities will include equipment staging for approximately 8 weeks; ground-ring trenching over a 3-day period using a drill rig and backhoe; inspection and installation of the foundation cage over 1 week using a boom truck; pouring of the foundation concrete with a cement truck and inspection over 1 week; curing time and tower delivery over 2 weeks; steel tower installation using a crane over 1 week; antenna relocations to the new towers (including dish alignment using a boom truck) over 1 week; and installation of the faux branches and inspection.

METHODOLOGY

Evaluation of the noise impacts associated with the proposed project includes the following:

- Determining the noise impacts associated with short-term construction of the proposed project on adjacent noise-sensitive uses;
- Determining the required abatement measures to reduce short-term construction noise and vibration impacts.

This noise impact analysis utilizes the City's noise standards, including the City Noise Element and Municipal Code, as thresholds against which potential noise impacts are evaluated.

LOCAL REGULATIONS

City of Newport Beach Noise Standards

General Plan. The California Government Code Section 65302(g) requires that a noise element be included in the General Plan of each county and city in the State. The Noise Element of the City of Newport Beach General Plan (2006) is intended to identify sources of noise and provide objectives and policies that ensure that noise from various sources does not create an unacceptable noise environment. Overall, the City's Noise Element describes the noise environment (including noise sources) in the City, addresses noise mitigation regulations, strategies, and programs, as well as delineating federal, State, and City jurisdiction relative to rail, automotive, aircraft, and nuisance noise.

Construction-related noise impacts are discussed in Goal N-5, Minimized Excessive Construction Related Noise. Under Goal N-5, Policy N 5.1, Limiting Hours of Activity, requires that the limits on hours of construction activities be enforced.

Municipal Code. Section 10.28.040, Construction Activity – Noise Regulations,[1] states the following:

A. Weekdays and Saturdays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any weekday except between the hours of seven a.m. and six-thirty p.m., nor on any Saturday except between the hours of eight a.m. and six p.m.

B. Sundays and Holidays. No person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, on any Sunday or any federal holiday.

FEDERAL REGULATIONS

Federal Transit Administration Criteria

Due to the lack of vibration standards developed for local jurisdictions, vibration standards included in *Transit Noise and Vibration Impact Assessment* (FTA 2006) are used in this analysis for ground-borne vibration impacts, as shown in Table A.

Table A: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)	Approximate L_V (VdB)[1]
Reinforced-concrete, steel or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: *Transit Noise and Vibration Impact Assessment* (FTA 2006).
[1] RMS vibration velocity in decibels (VdB) re 1 micro-inch/second.
FTA = Federal Transit Administration
in/sec = inches per second
PPV = peak particle velocity
RMS = root-mean-square
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 B lists the potential vibration damage criteria associated with construction activities, as suggested in the *Transit Noise and Vibration Impact Assessment* (FTA 2006). FTA guidelines show that a vibration level of up to 102 VdB (an equivalent to 0.5 inch per second [in/sec] in PPV) (FTA 2006) is considered safe for buildings consisting of reinforced

[1] City of Newport Beach. Municipal Code, Noise Ordinance. Website: http://www.codepublishing.com/CA/NewportBeach/html/NewportBeach10/NewportBeach1028.html#10.28.040, accessed May 2016.

Table B: Guideline Vibration Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[2]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Source: *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013).
[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.
[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Caltrans = California Department of Transportation
in/sec = inches per second
PPV = peak particle velocity

concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a nonengineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 inch/sec in PPV). The PPV values for building damage thresholds referenced above are also shown in Table B, taken from the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013), which included additional building definition and vibration building damage thresholds.

Table C illustrates the human response to various vibration levels, as described in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

Table C: Human Response to Different Levels of Ground-Borne Noise and Vibration

Vibration Velocity Level	Noise Level		Human Response
	Low Freq[1]	Mid Freq[2]	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level unacceptable. Low-frequency noise acceptable for sleeping areas; mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise unacceptable for sleeping areas; mid-frequency noise unacceptable even for infrequent events with institutional land uses, such as schools and churches.

Source: *Transit Noise and Vibration Impact Assessment* (FTA 2006).
[1] Approximate noise level when vibration spectrum peak is near 30 Hz.
[2] Approximate noise level when vibration spectrum peak is near 60 Hz.
dBA = A-weighted decibels Hz = Hertz
Freq = Frequency VdB = vibration velocity decibels

Thresholds of Significance

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City's Noise Element of the General Plan and its Municipal Code.

EXISTING CONDITIONS

Existing Noise Environment

The project site is located approximately 930 ft west of SR-73, 915 ft east of Newport Coast Drive, 1,575 ft south of Sage Hill High School, and 1,300 ft north of single-family residences to the south. The noise levels at the project site are dominated by traffic on SR-73 and Newport Coast Drive. Based on calculations completed in Attachment B utilizing 2014 California Department of Transportation (Caltrans) Data Branch information and the Federal Highway Administration (FHWA) Traffic Noise Model, the 60 A-weighted decibel (dBA) Community Noise Equivalent Level (CNEL) contour is located approximately 940 ft to the west of the SR-73 centerline.

PROJECT CONSTRUCTION IMPACTS

Short-Term Construction-Related Noise Impacts

Short-term construction-related noise impacts would be associated with the demolition of existing structures on site and the construction of temporary and permanent wireless communication facilities for the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today, but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Truck pass-bys have the potential to cause an intermittent noise increase, generally assumed to be 75 dBA maximum instantaneous noise level (L_{max}) at 50 ft. As stated above in the project description, access from the project site to the off-site areas of disposal will be generally along major roadways including Newport Coast Drive, SR-73 Toll Road, SR-133 Toll Road, I-5, Sand Canyon Avenue, and Jamboree Road. Assuming a total of 75 truck trips per day based on a conservative estimate, the increase in volume will be minimal as compared to daily traffic volumes along the respective roadways and associated traffic noise level increases; therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during demolition and construction of the temporary and new facilities on site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. The following is a list of equipment expected to be used:

- 270-ton crane for the removal of the turbine and generator
- 170-ton crane with 150 ft of boom for the removal of the 105 ft tall exhaust stack
- Komatsu 650 excavator with an Allied G130 concrete hammer
- 350 Link belt excavator with a G90 concrete hammer and a Labounty MDP 27 universal processor
- 966 Cat rubber-tired loader
- Skidsteer loaders
- Water trucks
- 18-wheel semi-end dump trucks
- Vibratory sheep's foot compactor

Based on a description of the stages provided in the project description, the loudest phase of construction is expected to occur when jackhammering and pneumatic tools are used to tear apart the concrete pad at the site. Utilizing the reference noise levels provided in Table D below, noise impacts during this phase of construction were calculated at the surrounding sensitive receptors. At a distance of 50 ft from activities, it is expected that noise levels may reach 89 dBA equivalent continuous sound level (L_{eq}) as shown in Attachment C.

Table D: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Concrete/Industrial Saw	20	90
Crane	16	85
Excavator	40	85
Forklift	40	85
Generator	50	82
Grader	40	85
Jackhammer	20	89
Loader	40	80
Paver	50	85
Roller	20	85
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84
Welder	40	73

Source: *FHWA Highway Construction Noise Handbook* (FHWA 2006).
dBA = A-weighted decibels FHWA = Federal Highway Administration
ft = feet L_{max} = maximum instantaneous noise level

There are existing residences approximately 1,280 ft to the south of the project site and an existing high school (Sage Hill High School) located approximately 1,895 ft to the north of the project site as shown on Figure 2 (Attachment A). Taking into account the distance from operations to the sensitive uses, noise level impacts are expected to be reduced by 28 dBA at the closest residences to the south

and by 31 dBA at the high school to the north. The noise levels created from the loudest stage of construction are expected to reach 60.7 dBA L_{eq} and 57.3 dBA L_{eq} at the closest residences and school, respectively, which are comparable to the existing traffic noise levels from SR-73 as presented above. Compliance with the hours of operation required by the City's Municipal Code would result in noise impacts being less than significant. In addition to the required hours of operation, the following practices shall be implemented to reduce noise levels to the greatest extent feasible:

- During all construction operations, the project contractors should equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor should place all stationary construction equipment so that emitted noise is directed away from the relatively more sensitive receptors nearest the project site.
- The construction contractor should locate equipment staging in areas that will create the greatest distance between construction-related noise sources and relatively more noise-sensitive receptors nearest the project site during all project construction.

Vibration-Related Impact Analysis

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 where the motion may be discernible. However, 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 the 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 transportation projects, including rail projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 decibels (dB) or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earth-moving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 ft from the vibration source, although there are examples of ground-borne vibration causing interference at distances greater than 200 ft (FTA 2006). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction of the project could 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 transportation-induced 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 (FTA 2006). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). RMS 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:

$$L_v = 30 \log_{10} [V/V_{ref}]$$

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 x 10^{-6} in/sec used in the United States.

Ground-borne noise and vibration from construction activity would be generally low at the surrounding noise sensitive uses. Excavators and other heavy-tracked construction equipment generate approximately 87 VdB of ground-borne vibration when measured at 25 ft, based on the *Transit Noise and Vibration Impact Assessment* (FTA 2006) shown in Table E.

Taking into account the distance from operations to the sensitive uses, vibration impacts are expected to be reduced by 51 VdB at the closest residences to the south and by 56 VdB at the high school to the north. The vibration levels created from the heavy construction equipment are expected to reach 36 VdB and 31 VdB at the closest residences and school, respectively. These levels of ground-borne vibration are far below the threshold of human perception, which is approximately 65 VdB, and the construction vibration damage criterion of 90 VdB; therefore impacts associated with vibration from construction activities are less than significant and do not require mitigation.

Table E: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 ft	
	PPV (inch/sec)	L_V (VdB)
Vibratory Roller	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* (FTA 2006).
ft = feet
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
VdB = vibration velocity decibels

REFERENCES

California Department of Transportation. 2014. Annual Average Daily Truck Traffic on the California State Highway System. Website: http://www.dot.ca.gov/trafficops/census/docs/2014_aadt_truck.pdf (accessed May 2016).

———. September 2013. Transportation and Construction Vibration Guidance Manual. Website: http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf, accessed May 2016.

City of Newport Beach. November 2006. General Plan, Noise Element. Website: http://www.newportbeachca.gov/PLN/General_Plan/13_Ch12_Noise_web.pdf, accessed May 2016.

———. Municipal Code, Noise Ordinance. Website: http://www.codepublishing.com/CA/NewportBeach/html/NewportBeach10/NewportBeach1028.html#10.28.040, accessed May 2016.

Federal Highway Administration (FHWA). August 2006. *FHWA Highway Construction Noise Handbook.* Website: http://ntl.bts.gov/lib/34000/34300/34369/DOT-VNTSC-FHWA-06-02.pdf, accessed May 2016.

Federal Highway Administration (FHA). 1977. Highway Traffic Noise Prediction Model, FHWA RD-77-108.

Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf, accessed May 2016.

Attachments: A: Figures
B: Existing Traffic Noise Calculations
C: Construction Noise Calculations

ATTACHMENT A

FIGURES

LSA

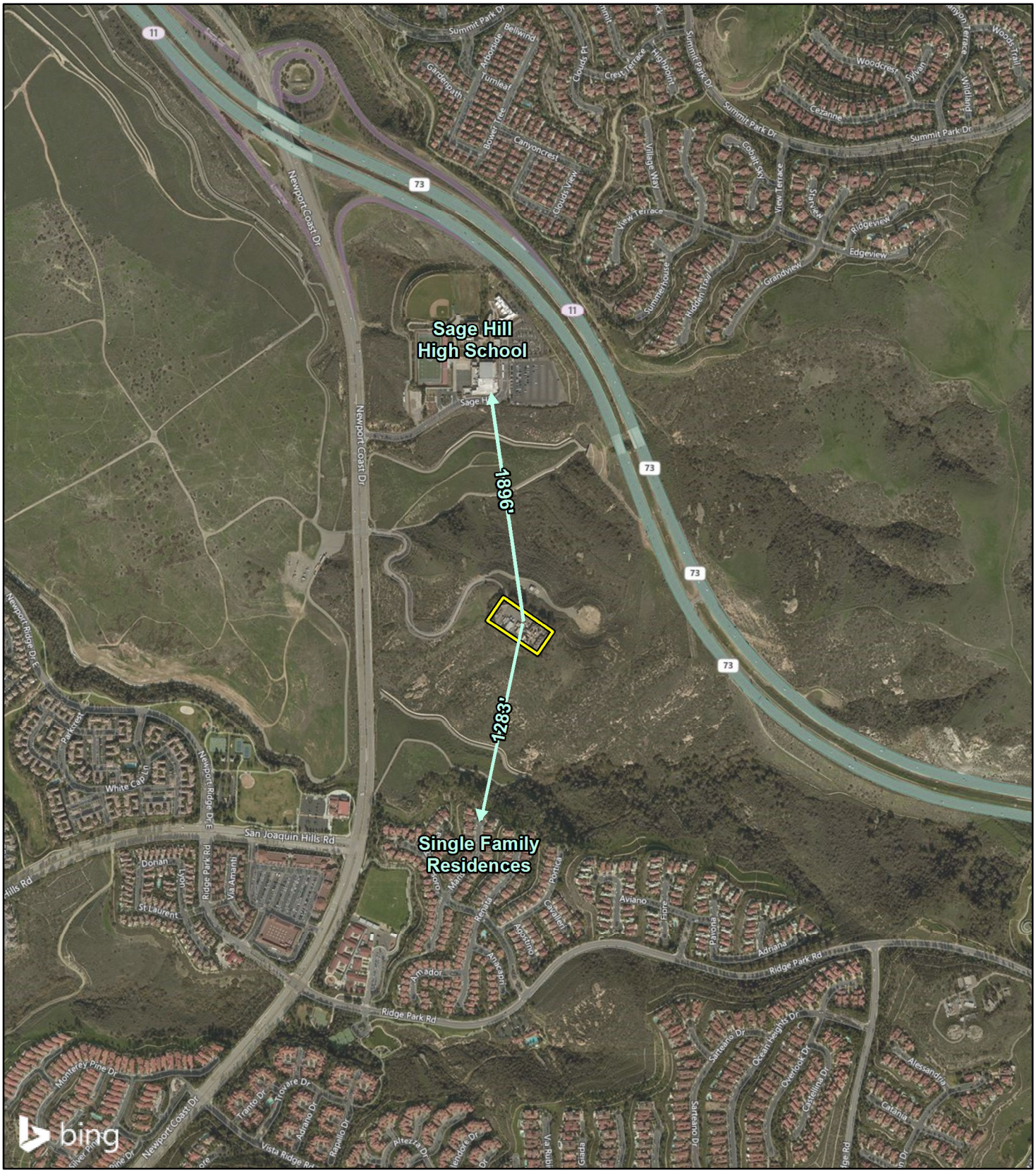
FIGURE 1

SOURCE: Bing Maps (2014)

I:\GEO1001E\GIS\ProjectLocation_Aerial.mxd (5/20/2016)

Coyote Canyon Stack Demolition and Cell Tower Replacement

Project Location and Vicinity



LSA

LEGEND

Project Location

FIGURE 2

N

0 500 1000

FEET

SOURCE: Bing Maps (2014)

Coyote Canyon Stack Demolition and Cell Tower Replacement

Nearby Sensitive Receptors

I:\GEO1001E\GIS\Noise_SensitiveReceptors.mxd (5/23/2016)

ATTACHMENT B

EXISTING TRAFFIC NOISE CALCULATIONS

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 05/19/2016
ROADWAY SEGMENT: SR-73 Freeway
NOTES: Fashion Valley - Existing

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 67200 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	76.70	12.77	9.49
M-TRUCKS	0.80	0.05	0.10
H-TRUCKS	0.08	0.00	0.01

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
204.5	438.1	942.5	2029.6

ATTACHMENT C

CONSTRUCTION NOISE CALCULATIONS

Demolition Activities

		Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements								
No.	Equipment Description	Reference (dBA) 50 ft Lmax	Quantity	Usage Factor[1]	Distance to Receptor (ft)	Ground Effect	Shielding (dBA)	Calculated (dBA) Lmax	Leq	Energy
1	Haul Truck	84	2	40	50	0.5	0	87.0	83.0	200950915
2	Excavator	85	2	40	50	0.5	0	88.0	84.0	252982213
3	Jackhammer	89	2	20	50	0.5	0	92.0	85.0	317731294
Source: LSA, May 2016.							**Lmax***	**94**	**Leq**	**89**

1- Percentage of time that a piece of equipment is operating at full power.

dBA – A-weighted Decibels

Lmax- Maximum Level

Leq- Equivalent Level