Air Quality Analysis for the EDI Master Plan, Escondido, California

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June 19, 2015

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Acronyms

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AD	anaerobic digester
APN	Assessor's Parcel Number
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CNG	compressed natural gas
CO	carbon monoxide
dge	diesel gallon equivalent
DPM	diesel particulate matter
EPA	Environmental Protection Agency
°F	degrees Fahrenheit
GWh	gigawatt hour
g/L	gram per liter
LOS	Level of Service
mph	mile per hour
$\mu g/m^3$	microgram per cubic meter
MSW	mixed solid waste
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
PM	particulate matter
ppm	parts per million
RAQS	Regional Air Quality Strategy
ROG	reactive organic gases
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SIP	State Implementation Plan
SO_2	sulfur dioxide
TAC	toxic air contaminants
TCM	transportation control measures
USC	United States Code
VOC	volatile organic compounds

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Executive Summary

This report evaluates potential local and regional air quality impacts associated with the Escondido Disposal, Inc. (EDI) Master Plan (project) in the City of Escondido (City). The project would reorganize the existing EDI Recycling Facility at 1044 West Washington Avenue and expand the facility into the lot at 1021 West Mission Avenue. The project would provide for more efficient and effective operations and add an anaerobic digester facility capable of converting organic waste into natural gas. Natural gas would be used to either generate electricity or fuel 40 to 50 collection vehicles powered by compressed natural gas (CNG). The project was assessed against significance criteria identified in the California Environmental Quality Act Guidelines and the City Municipal Code. Following these criteria, the project would have air quality impacts if it conflicted with the San Diego Regional Air Quality Strategy (RAQS), contributed to an air quality violation, resulted in a considerable net increase of ozone, exposed sensitive receptors to air toxics, or exposed a significant number of people to objectionable odors.

The primary goal of the RAQS is to reduce ozone precursor emissions. As the project is consistent with the existing zoning and land use designation, project emissions have already been accounted for, and the project would be consistent with the RAQS. Impacts would be considered less than significant.

The project would emit pollutants during construction and operation. Project emissions were calculated using the California Emissions Estimator Model (CalEEMod). As calculated in this analysis, modeled emissions would be less than the significance thresholds identified in the City Municipal Code. Therefore, the project would not substantially contribute to an air quality violation. Additionally, as modeled ozone precursor emissions are less than significance thresholds, the project would not result in a considerable increase of ozone.

Air toxics likely to be emitted as a result of the project include carbon monoxide (CO) and diesel particulate matter (DPM) from project traffic and construction equipment. Traffic associated with the project would emit both CO and DPM. The project would reorganize the EDI Recycling Facility, but would not substantially increase traffic volumes associated with the facility. Project construction equipment would also emit DPM. As the project site is not proximate to any sensitive receptors, project construction would not expose sensitive receptors to DPM. For these reasons, the project would not expose sensitive receptors to air toxics.

Anaerobic digestion of green waste produces odorous gases. As such, the proposed AD facility would be completely enclosed, and exhaust would be treated by biofilters to remove odors. As biofilters would remove odorous compounds prior to either processes

associated with electrical generation or CNG fuel dispensing, neither process would generate substantial odors. Thus, the project would not generate substantial odors.

This analysis concludes that all project air quality impacts would be below a level of significance and no mitigation measures would be required.

1.0 Introduction

1.1 Purpose of the Report

The purpose of this report is to assess the potential for the EDI Master Plan (project) to result in significant adverse air quality impacts. The analysis of potential impacts is based on national and state Ambient Air Quality Standards (AAQS) and is assessed in accordance with the standards established by the City of Escondido (City) Environmental Quality Ordinance and the California Environmental Quality Act (CEQA) Guidelines.

1.2 Project Location and Description

The project site is located between West Washington Avenue and West Mission Avenue in Escondido, California (Figures 1 and 2). The project site consists of four parcels: Assessor's Parcel Number (APN) 228-250-77, APN 228-250-16, APN 228-250-17, and APN 228-250-78. The first three parcels total approximately 6.3 acres and contain the existing EDI Recycling Facility at 1044 West Washington Avenue. The fourth parcel is approximately 4.7 acres and contains a vacant 69,850-square-foot office building. The West Washington Avenue parcels are zoned General Industrial (M-2) and have a General Plan Land Use Designation of General Industry (GI). The West Mission Avenue parcel is zoned light industrial (M-1) and has a General Plan Land Use Designation of light industrial (LI).

Waste diversion, commonly referred to as recycling, is an important practice to reduce excessive landfilling and greenhouse gas emissions from waste. The existing EDI Recycling Facility separates solid waste streams so that recyclable waste materials are not disposed at a landfill. The facility is permitted to accept a maximum of 3,223 tons of solid waste per day. To reduce potential odors from organic matter (organics), the maximum allowable hold time for all mixed solid waste (MSW), green waste, and food waste is restricted to 48 hours. If an odor is detected, the site operator investigates the source of the odor and determines whether the odor is travelling beyond the site and whether on-site practices could remedy the problem. Roll-up doors to waste handling and separation areas are closed when the facility is not in operation.

The goal of the project is to expand and reorganize the existing EDI Recycling Facility to facilitate a more effective separation of waste streams. This would increase waste diversion without changing the facility's daily throughput of waste. Additionally, the project would construct an anaerobic digester (AD) facility that would recycle food waste and green waste into natural gas. The AD facility would be capable of processing up to 31,200 tons of organic waste per year. Natural gas would be used to either generate 5.0

gigawatt hours (GWh) of electricity or 420,000 diesel gallon equivalent (dge) of compressed natural gas (CNG) annually. This is enough fuel for 40 to 50 CNG fueled collection vehicles.

The project would reorganize the existing EDI Recycling Facility on the West Washington Avenue parcel and incorporate the adjacent West Mission Avenue parcel to the north. Buildings would be demolished, renovated, and built as shown in Table 1 (Figures 3 and 4). Demolition would include 57,182 square feet of building area including the parts of the existing transfer station and the plant addition. Renovation would include 105,297 square feet of building area including parts of the existing transfer station, offices, and the manufacturing plant. Newly constructed building area would total 114,033 square feet and would include a new visitor entry, break room, vehicle maintenance canopy, material recovery facility (MRF), and anaerobic digester (AD) facility. The reorganized EDI Recycling Facility would result in a total of 10,372 square feet of office space and 210,524 square feet of recycling facilities.

TABLE 1
PROPOSED ON-SITE CHANGES

Identified Space	Existing Area (square feet)	Proposed Change	Proposed Use	Proposed Area (square feet)
W. Mission Avenue Parcel				
Office	10,372	Renovate	Office	10,372
Manufacturing Plant	18,333	Renovate	Bale Storage	14,977
Plant Addition	40,520	Demolish & Rebuild	Single-Stream MRF/ Self-Haul/C&D	74,436
		Build	Vehicle Maintenance Canopy	4,615
W. Washington Avenue Parcel				
Transfer Station	104,955	Renovate	Mixed Tipping Area	36,798
		Renovate	Mixed MRF Area	43,150
		Build	Future AD	30,037
HHW Canopy	1,566	No Change	HHW	1,566
		Build	Break Room/Visitor Center*	4,420
		Build	Visitor Entry	525
TOTAL	**172,473**	**-**	**-**	**216,476***

AD = anaerobic digester
HHW = hazardous household waste
MRF = material recovery facility
C&D = construction and demolition
*The total building envelop is 216,476 square feet. The Break Room/Visitor Center would be constructed within the envelope of the existing structure. For the purposes of this analysis, the effective building area is 220,896 square feet.

The project would be implemented over four primary phases. The project would be phased over a period of approximately 5 years. Phase 1 would include the renovation of

the Golfcraft manufacturing plant, demolition of the existing Golfcraft manufacturing plant addition, construction of on-site circulation improvements, installation of new scales at the W. Mission Avenue and W. Washington Avenue access points, and construction of a maintenance canopy. The renovated Golfcraft manufacturing building would be used to house a 14,977-square-foot baling facility and temporary storage warehouse for bales. The demolished Golfcraft manufacturing plant addition would be replaced with a 74,436-square-foot building connected to the baling facility. This building would house a single stream MRF line, a commercial and recyclable tipping area, and a self-haul/construction and demolition (C&D) materials receiving area. A 4,615-foot maintenance canopy would also be constructed between the new building and the existing transfer station building.

Phase 2 would involve the renovation of the existing transfer station. While the activities occurring within these building would largely remain the same as the existing operation, the removal of the self-haulers and separation of the commercial waste and recyclables would allow for the existing tipping floor and mixed MRF line area to be expanded. The existing mixed tipping area would be expanded to 36,798 square feet and the mixed MRF line area would be expanded to 43,150 square feet. The existing hazardous household waste (HHW) canopy would remain on-site and unchanged. Additionally, as part of Phase 2, an employee break room and visitors center would be constructed inside the existing transfer station.

During Phase 3, the project would renovate the Golfcraft office building and reconfigure part of the manufacturing plant to provide 10,372 square feet of office space. During Phase 3, the existing EDI offices would be relocated to the renovated Golfcraft office building.

Phase 4 would include the demolition of the existing baling and bale storage area and EDI office building and construction of a 30,037-square-foot anaerobic digester (AD) facility.

1.3 Anaerobic Digestion Process

Anaerobic digestion is the process by which bacteria break down organics in an oxygen-free environment. The primary product of anaerobic digestion is typically between 60 to 70 percent methane, 30 to 40 percent carbon dioxide, and trace amounts of other gases. This product is commonly known as biogas (natural gas). This biogas may either be used to generate electricity or be treated and used as fuel in CNG vehicles. The remaining solids that are not decomposed in the process is referred to as digestate, and is commonly used as fertilizer.

Project Location

FIGURE 1

Regional Location

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Image Source: SanGIS (flown May 2012)

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Project Boundary

FIGURE 2
Project Location
on Aerial Photograph

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Map Source: JRM&A

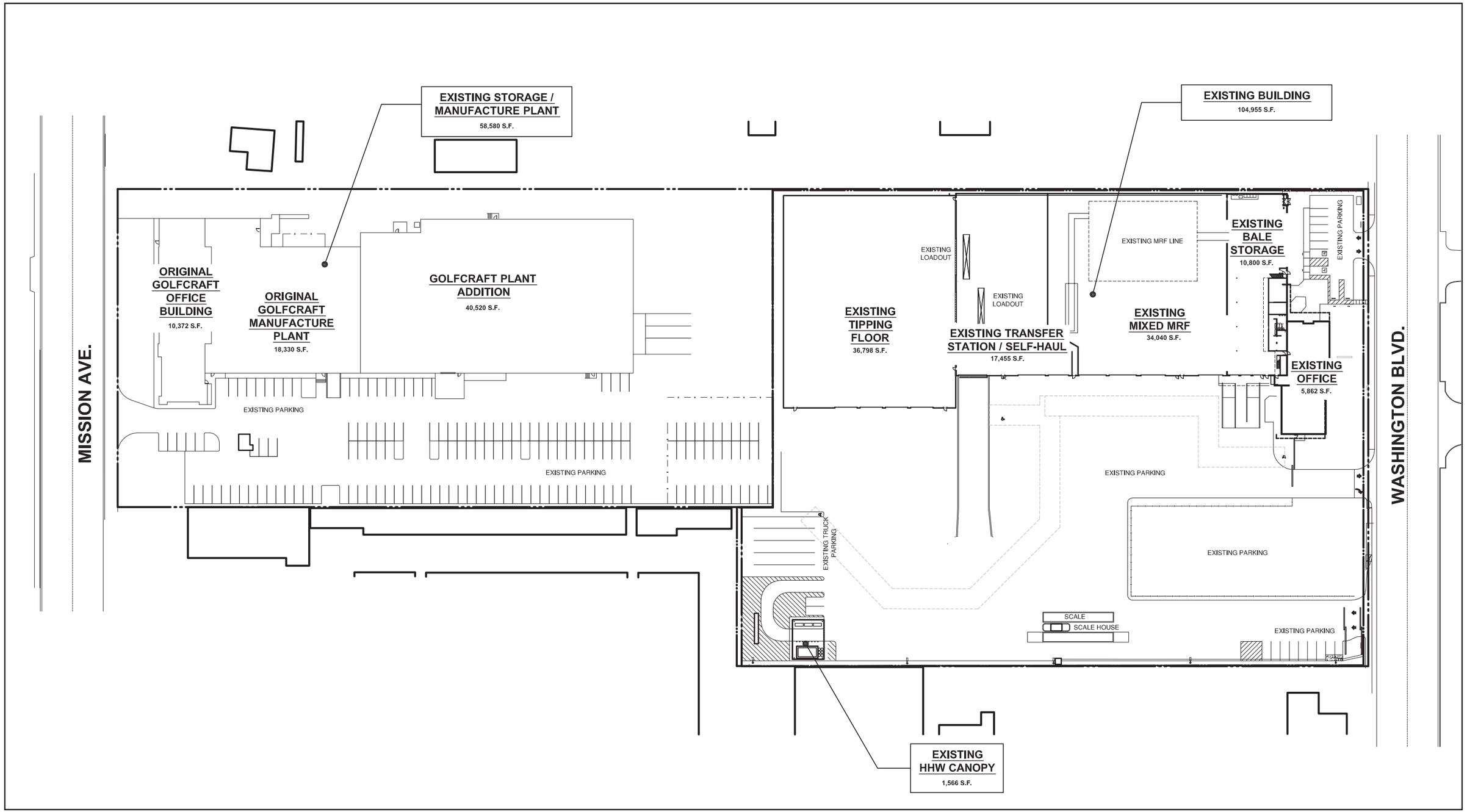

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FIGURE 3
Existing Site Plan

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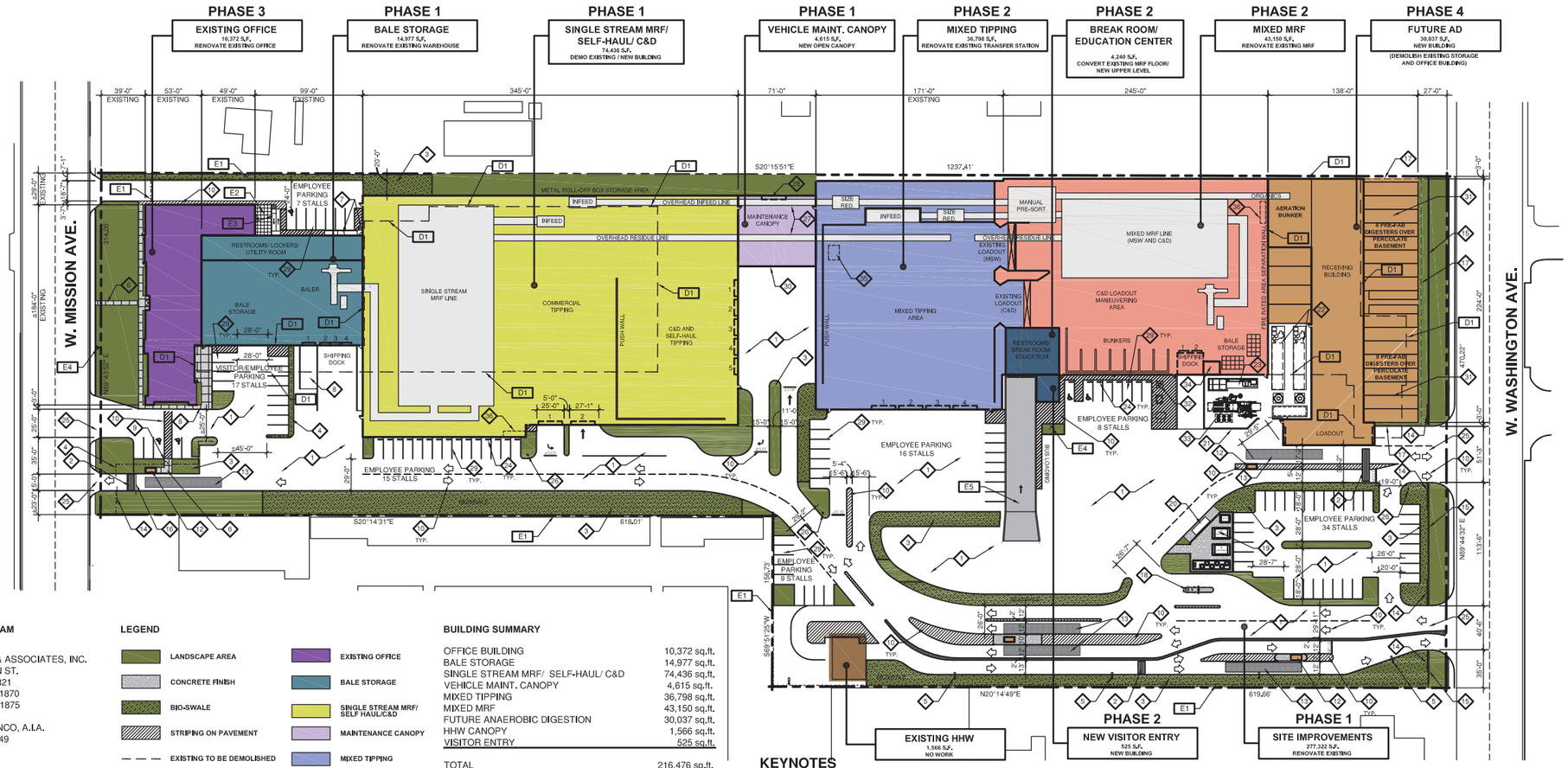
Map Source: JRM&A



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LEGEND

- LANDSCAPE AREA
- CONCRETE FINISH
- BIO-SWALE
- STRIPING ON PAVEMENT
- EXISTING TO BE DEMOLISHED
- EXISTING OFFICE
- BALE STORAGE
- SINGLE STREAM MRF/ SELF HAUL/C&D
- MAINTENANCE CANOPY
- MIXED TIPPING
- MIXED MRF
- FUTURE AD
- VISITOR ENTRY
- EXISTING HHW

SITE COVERAGE

TOTAL LOT SITE	495,469 sq.ft.
TOTAL BUILDING COVERAGE	214,910 sq.ft.
TOTAL LANDSCAPE COVERAGE	61,335 sq.ft.
TOTAL HARDSCAPE COVERAGE	219,224 sq.ft.
PERCENTAGE BUILDING COVERAGE	43.4%
PERCENTAGE LANDSCAPE COVERAGE	12.3%
PERCENTAGE HARDSCAPE COVERAGE	44.3%

BUILDING SUMMARY

OFFICE BUILDING	10,372 sq.ft.
BALE STORAGE	14,977 sq.ft.
SINGLE STREAM MRF/ SELF-HAUL/ C&D	74,436 sq.ft.
VEHICLE MAINT. CANOPY	4,615 sq.ft.
MIXED TIPPING	36,798 sq.ft.
MIXED MRF	43,150 sq.ft.
FUTURE ANAEROBIC DIGESTION	30,037 sq.ft.
HHW CANOPY	1,566 sq.ft.
VISITOR ENTRY	525 sq.ft.
TOTAL	216,476 sq.ft.

PARKING ANALYSIS

OFFICE BUILDING (1:300) 10,372 sq.ft. / 300	35 STALLS
BALE STORAGE (1:3,000) 14,977 sq.ft. / 3,000	5 STALLS
SINGLE STREAM MRF/ SELF-HAUL / C&D (1:3,000) 74,436 sq.ft. / 3,000	25 STALLS
VEHICLE MAINT. CANOPY 4,615 sq.ft. /3,000	2 STALLS
MIXED TIPPING FLOOR (1:3,000) 36,798 sq.ft. / 3,000	12 STALLS
MIXED MRF (1:3,000) 43,150 sq.ft. / 3,000	15 STALLS
FUTURE ANAEROBIC DIGESTION (1:3,000) 30,037 sq.ft. / 3,000	10 STALLS
TOTAL REQUIRED	104 STALLS
PROVIDED	106 STALLS

KEYNOTES

1. CONCRETE PAVING
2. STEEL TRENCH COVER CONCRETE PIT
3. BIO-SWALE/LANDSCAPE AREA, SEE CIVIL & LANDSCAPE PLANS
4. 8'-0" HIGH CHAIN LINK FENCE
5. 25'-0" HIGH LIGHT POLE
6. DECORATIVE PEDESTRIAN CONCRETE WALK
7. ACCESSIBILITY CONCRETE STAIR & RAMP
8. VEHICLE CONCRETE RAMP
9. CHAIN LINK SWING GATE
10. PAVEMENT MARKING PAINT CAUTION YELLOW
11. CHAIN LINK SLIDING GATE
12. PRE-FABRICATED SCALE HOUSE
13. TRUCK SCALE OVER CONCRETE PIT. SEE CIVIL PLANS
14. 8'-0" HIGH WROUGHT IRON SLIDING GATE
15. 8'-0" HIGH DECORATIVE CMU WALL
16. MOTORIZED SECURITY ARM GATE
17. METAL SCREEN WALL ABOVE, SEE ELEVATIONS
18. CNG FUELING AREA
19. CNG EQUIPMENT AREA
20. AT GROUND DIESEL STORAGE TANK (CAPACITY: 1,500 GALLONS)
21. EQUIPMENT CMU SCREEN WALL
22. BIO-FILTER
23. BIO-GAS/CHILLER SKID
24. CONCRETE WHEEL STOP
25. DRIVEWAY APPROACH
26. FIRE HYDRANT
27. OVERHEAD CONVEYOR WITH 17' MIN CLEARANCE BELOW CONVEYOR
28. 20' WIDE X 17' HIGH ROLL-UP DOOR FOR EASEMENT ACCESS
29. 9' X 18' PARKING SPACE
30. 30' CLEAR AT UNDERSIDE OF CANOPY
31. PERCOLATE BASEMENT (APPROXIMATELY 8'-0" DEEP)
32. BIOGAS COMBUSTION FLARE
33. COMBINE HEAT & POWER UNIT
34. ELECTRICAL ROOM
35. MOBILE GRINDER
36. HAZARDOUS WASTE STORAGE W/ INTEGRAL CONTAINMENT

EXISTING KEYNOTES

(EXISTING ITEMS TO REMAIN, UNLESS OTHERWISE NOTED)

- E1 CHAIN LINK FENCE/GATE
- E2 RAISED COVER PATIO
- E3 WOOD STAIR & RAMP
- E4 FIRE HYDRANT
- E5 CONCRETE RAMP

DEMOLITION KEYNOTES

- D1 DASHED LINES INDICATE EXISTING BUILDING/AREA TO BE DEMOLISHED PRIOR TO START CONSTRUCTION PHASES

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FIGURE 4
Site Plan

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2.0 Environmental Setting

2.1 Geographic Setting

The project is located in the city of Escondido, approximately 12.7 miles east of the Pacific Ocean. Mountains to the north and east tend to restrict airflow and concentrate pollutants in the valleys and low-lying areas below.

2.2 Climate

Escondido, like the rest of San Diego County's North County coastal areas, has a Mediterranean climate characterized by warm, dry summers and mild, wet winters. The mean highs and lows for the project area are 77 and 62 degrees Fahrenheit (°F), respectively. The average annual precipitation is 14.8 inches, falling primarily from November to April. Winter low temperatures in the project area average about 43°F, and summer high temperatures average about 86°F (City of Escondido 2015).

The dominant meteorological feature affecting the region is the Pacific High Pressure Zone, which produces the prevailing westerly to northwesterly winds. These winds tend to blow pollutants away from the coast toward the inland areas. Consequently, air quality near the coast is generally better than that which occurs at the base of the coastal mountain range.

Fluctuations in the strength and pattern of winds from the Pacific High Pressure Zone interacting with the daily local cycle produce periodic temperature inversions that influence the dispersal or containment of air pollutants in the San Diego Air Basin (SDAB). Beneath the inversion layer pollutants become "trapped" as their ability to disperse diminishes. The mixing depth is the area under the inversion layer. Generally, the morning inversion layer is lower than the afternoon inversion layer. Greater difference between morning and afternoon mixing depth corresponds to a greater pollutant dispersion rate.

Throughout the year, the height of the temperature inversion in the afternoon varies between approximately 1,500 and 2,500 feet above mean sea level. In winter, the morning inversion layer is about 800 feet above mean sea level. In summer, the morning inversion layer is about 1,100 feet above mean sea level. Therefore, air quality generally tends to be better in the winter than in the summer.

The prevailing westerly wind pattern is sometimes interrupted by regional "Santa Ana" conditions. A Santa Ana occurs when a strong high pressure develops over the Nevada–

Utah area and overcomes the prevailing westerly coastal winds sending strong, steady, hot, dry northeasterly winds over the mountains and out to sea.

Strong Santa Ana winds tend to blow pollutants out over the ocean, producing clear days. However, at the onset or during breakdown of these conditions, or if the Santa Ana is weak, local air quality may be adversely affected. In these cases, emissions from the South Coast Air Basin to the north are blown out over the ocean, and low pressure over Baja California draws this pollutant-laden air mass southward. As the high pressure weakens, prevailing northwesterly winds reassert themselves and send this cloud of contamination ashore in the SDAB. When this event occurs, the combination of transported and locally produced contaminants produce the worst air quality measurements recorded in the basin.

2.3 Existing Air Quality

The project area is within the SDAB. Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and throughout the basin. The major factors affecting pollutant dispersion are wind speed and direction, vertical dispersion of pollutants (which is affected by inversions), and local topography.

Air quality is commonly expressed as the number of days in which air pollution levels exceed national and state standards for ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead, and particulate matter (PM). Separate standards for PM are applicable to respirable particulate matter (PM_{10}), particulate matter with an aerodynamic diameter of 10 microns or less, and fine particulate matter ($PM_{2.5}$), particulate matter with an aerodynamic diameter of 2.5 microns or less. These standards are further discussed in Chapter 3.0 below.

There are eleven air quality monitoring stations located throughout the greater San Diego metropolitan region. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The San Diego–Escondido monitoring station, located approximately 1.4 miles east of the project site, is the most representative station for the project area. The San Diego–Escondido monitoring station measures ozone, CO, NO_2, PM_{10}, and $PM_{2.5.}$ Table 2 provides a summary of measurements of ozone, CO, NO_2, PM_{10}, and $PM_{2.5}$ collected at the San Diego–Escondido monitoring station for the years 2009 through 2013.

TABLE 2
SUMMARY OF AIR QUALITY MEASUREMENTS RECORDED AT THE SAN DIEGO – ESCONDIDO MONITORING STATION

Pollutant/Standard	2009	2010	2011	2012	2013
Ozone					
Days State 1-hour Standard Exceeded (0.09 ppm)	0	2	1	0	0
Days State 8-hour Standard Exceeded (0.07 ppm)	9	5	2	2	4
Days National 1-hour Standard Exceeded (0.12 ppm)	0	0	0	0	0
Days 08' National 8-hour Standard Exceeded (0.075 ppm)	1	3	2	0	0
Max. 1-hr (ppm)	0.093	0.105	0.098	0.084	0.084
Max 8-hr (ppm)	0.081	0.085	0.089	0.074	0.075
Carbon Monoxide					
Days State 1-hour Standard Exceeded (20 ppm)					
Days State 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Days National 1-hour Standard Exceeded (35 ppm)	0	0	0	0	0
Days National 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Max. 1-hr (ppm)	4.4	3.9	3.5	4.4	3.2
Max. 8-hr (ppm)	3.54	2.46	2.30	3.70	N/A
Nitrogen Dioxide					
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Max 1-hr (ppm)	0.073	0.064	0.062	0.062	0.061
Annual Average (ppm)	0.016	0.014	N/A	0.013	0.013
SO_2					
Days State 24-hour Standard Exceeded (0.04 μg/m3)	N/A	N/A	N/A	N/A	N/A
Max. Daily (ppm)	N/A	N/A	N/A	N/A	N/A
Annual Average (ppm)	N/A	N/A	N/A	N/A	N/A
PM10					
Measured Days State 24-hour Standard Exceeded (50 μg/m3)	1	0	0	0	1
Calculated1 Days State 24-hour Standard Exceeded (50 μg/m3)	5.6	0.0	0.0	0.0	6.0
Measured Days National 24-hour Standard Exceeded (150 μg/m3)	0	0	0	0	0
Calculated1 Days National 24-hour Standard Exceeded (150 μg/m3)	0.0	0.0	0.0	0.0	0.0
Max. Daily (μg/m3)	73.0	42.0	40.0	33.0	82.0
State Annual Average (μg/m3)	24.6	21.0	18.8	18.1	23.1
National Annual Average (μg/m3)	24.9	20.9	18.8	18.0	23.2
$PM_{2.5}$					
Measured Days National 24-hour Standard Exceeded (35 μg/m3)	2	0	0	1	1
Calculated1 Days National 24-hour Standard Exceeded (35 μg/m3)	2.0	0.0	0.0	3.1	2.5
Max. Daily (μg/m3)	64.9	33.3	27.4	70.7	56.3
State Annual Average (μg/m3)	N/a	N/a	10.4	N/a	10.5
National Annual Average (μg/m3)	13.5	10.5	10.4	10.6	10.5

SOURCE: CARB 2014
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
N/A = not available.
*Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

2.3.1 Ozone

Nitrogen oxides and hydrocarbons (reactive organic gases [ROG]) are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone, which is the primary air pollution problem in the SDAB. Because sunlight plays such an important role in its formation, ozone pollution, or smog, is mainly a concern during the daytime in summer months. The SDAB is currently designated a federal and state nonattainment area for ozone. During the past 20 years, San Diego had experienced a decline in the number of days with unhealthy levels of ozone despite the region's growth in population and vehicle miles traveled (County of San Diego 2010).

About half of smog-forming emissions come from automobiles. Population growth in San Diego has resulted in a large increase in the number of automobiles expelling ozone-forming pollutants while operating on area roadways. In addition, the occasional transport of smog-filled air from the South Coast Air Basin only adds to the SDAB's ozone problem. Stricter automobile emission controls, including increased efficiency automobile engines, have played a large role in why ozone levels have steadily decreased.

In order to address adverse health effects due to prolonged exposure, the U.S. Environmental Protection Agency (U.S. EPA) phased out the national 1-hour ozone standard and replaced it with the more protective 8-hour ozone standard. The SDAB is currently a nonattainment area for the previous (1997) national 8-hour standard, and is recommended as a nonattainment area for the revised (2008) national 8-hour standard of 0.075 parts per million (ppm).

In the SDAB overall, during the 5-year period of 2009 to 2013, the revised 2008 national 8-hour standard of 0.075 was exceeded in 24 days in 2009, 14 days in 2010, 10 days in 2011, 10 days in 2012, and 7 days in 2013. The stricter state 8-hour ozone standard of 0.07 ppm was exceeded in 47 days in 2009, 21 days in 2010, 33 days in 2011, 25 days in 2012, and 28 days in 2013.

Also during the 5-year period of 2009 to 2013, the state 1-hour standard (0.09 ppm) was exceeded in 8 days in 2009, 7 days in 2010, 5 days in 2011, 2 days in 2012, and 2 days in 2013.

At the San Diego–Escondido monitoring station, the revised 2008 national 8-hour standard was exceeded 6 times between 2009 and 2011; between 2012 to 2013 ozone levels have not exceeded the standard. State ozone standards, 1-hour and 8-hour, were exceeded 3 and 22 times, respectively, during the 5-year period of 2009 to 2013.

2.3.2 Carbon Monoxide (CO)

The SDAB is classified as a state attainment area and as a federal maintenance area for CO. Until 2003, no violations of the state standard for CO had been recorded in the SDAB since 1991, and no violations of the national standard had been recorded in the SDAB since 1989. The violations that took place in 2003 were likely the result of massive wildfires that occurred throughout the county. No violations of the state or national CO standards have occurred since 2003. As shown in Table 2, of the available data, the national and state standards have not been exceeded at the San Diego–Escondido monitoring station or the SDAB during the 5-year period from 2009 to 2013.

Small-scale, localized concentrations of CO above the national and state standards have the potential to occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as "CO hot spots" and are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO.

2.3.3 Respirable Particulate Matter (PM_{10})

PM_{10} is particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Sources of PM_{10} emissions in the SDAB consist mainly of urban activities, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere.

Under typical conditions (i.e., no wildfires), particles classified under the PM_{10} category are mainly emitted directly from activities that disturb the soil including travel on roads and construction, mining, or agricultural operations. Other sources include windblown dust, salts, brake dust, and tire wear. For several reasons hinging on the area's dry climate and coastal location, the SDAB has special difficulty in developing adequate tactics to meet present state particulate standards.

The SDAB is designated as federal unclassified and state nonattainment air basin for PM_{10}. The measured national PM_{10} standard was exceeded once in 2007 and once in 2008 in the SDAB. The 2007 exceedance occurred on October 21, 2007, at a time when major wildfires were raging throughout the county. As this exceedance was likely caused by the wildfires, this event is covered under the U.S. EPA's Natural Events Policy that permits, under certain circumstances, the exclusion of air quality data attributable to uncontrollable natural events (e.g., volcanic activity, wild land fires, and high wind events). The 2008 exceedance is not covered under this policy because it did not occur during wildfires. No exceedances of the national standard have occurred since 2008.

The stricter state standard was exceeded a calculated number of 146.4 days in 2009, 136.0 in 2010, 138.5 in 2011, 6.1 in 2012, and 6.0 in 2013. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. Particulate measurements are collected every six days.

At the San Diego–Escondido monitoring station, the national 24-hour PM_{10} standard was not exceeded during the years 2009 through 2013. The stricter state 24-hour PM_{10} standard was exceeded once in 2009 and once in 2013. These exceedances result in a calculated number of days that the state standard was exceeded of approximately 5.6 days in 2009 and 6.0 days in 2013.

2.3.4 Fine Particulate Matter ($PM_{2.5}$)

Airborne inhalable particles with aerodynamic diameter of 2.5 microns or less have been recognized as an air quality concern requiring regular monitoring. National regulations required that $PM_{2.5}$ monitoring begin January 1, 1999. National $PM_{2.5}$ standards established in 1997 include an annual arithmetic mean of 15 micrograms per cubic meter ($\mu g/m^{3)}$ and a 24-hour concentration of 65 $\mu g/m^3$. As discussed above, the 24-hour $PM_{2.5}$ standard has been changed to 35 $\mu g/m^3$. State $PM_{2.5}$ standards established in 2002 are an annual arithmetic mean of 12 $\mu g/m^3$.

The SDAB was classified as an attainment area for the previous national 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$ and has also been classified as an attainment area for the revised national 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$ (County of San Diego 2013). The SDAB is a nonattainment area for the state $PM_{2.5}$ standard. The calculated number of days the national $PM_{2.5}$ standard was exceeded was 3.4 days in 2009, 2.0 days in 2010, 3.0 days in 2011, 1.0 days in 2012, and 2.0 days in 2013 in the SDAB.

Table 2 shows that the national 24-hour standard of 35 $\mu g/m^3$ was exceeded 2 days in 2009, 1 day in 2012, and 1 day in 2013. These exceedances result in a calculated number of days that the national standard was exceeded of approximately 2.0 days in 2009, 3.1 days in 2012, and 2.5 days in 2013.

2.3.5 Other Criteria Pollutants

The national and state standards for NO_2, SO_2, and the previous standard for lead are being met in the SDAB, and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future. As discussed above, new standards for these pollutants have been adopted, and new designations for the SDAB will be determined in the future. The SDAB is also in attainment of the state standards for vinyl chloride, hydrogen sulfides, sulfates, and visibility-reducing particulates.

3.0 Regulatory Framework

3.1 Federal Regulations

3.1.1 Federal Clean Air Act

The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In order to achieve the purposes of Section 109 of the CAA [42 USC 7409], the U.S. EPA developed primary and secondary national ambient air quality standards (NAAQS). NAAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare.

Six criteria pollutants of primary concern have been designated: ozone, CO, SO_2, NO_2, lead, and PM. The primary NAAQS ". . . in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . . " and the secondary standards ". . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" [42 USC 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties).

3.2 State Regulations

3.2.1 California Clean Air Act

The California Clean Air Act (CCAA), also known as the Sher Bill or Assembly Bill (AB 2595), was signed into law on September 30, 1988, and became effective on January 1, 1989. The act required the California Air Resources Board (CARB) to establish state ambient air quality standards. The California Ambient Air Quality Standards (CAAQS) set limits that are more stringent for the six national criteria pollutants (Table 3). In addition to the national criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 3).

The CCAA requires that regional air districts implement regulations to reduce emissions from mobile sources through the adoption and enforcement of transportation control measures. The CCAA also requires the regional air district to:

- Demonstrate the overall effectiveness of the air quality program;
- Reduce nonattainment pollutants at a rate of 5 percent per year, or include all feasible measures and expeditious adoption schedule;
- Ensure no net increase in emissions from new or modified stationary sources;
- Reduce population exposure to severe nonattainment pollutants according to a prescribed schedule; and
- Include any other feasible controls that can be implemented or for which implementation can begin within 10 years of adoption of the most recent air quality plan; and
- Rank control measures by cost-effectiveness and implementation priority.

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the air quality standards. The SIP includes rules, regulations, and programs to attain national and state air quality standards, and appropriates money (including permit fees) to achieve these objectives. The portion of the SIP applicable to the SDAB is also known as the San Diego Regional Air Quality Strategy (RAQS). The San Diego RAQS is discussed further under Section 3.3, Local Regulations.

TABLE 3
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})[8]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[8]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m^3)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[9]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	–	
Lead[11,12]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility Reducing Particles[13]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

SOURCE: CARB 2013
See notes on next page.

ppm = parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per cubic meter; – = not applicable.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

[8] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standards of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[9] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[10] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99^{th} percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[11] The ARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[12] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[13] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

3.2.2 California Air Toxics Program

The public's exposure to toxic air contaminants (TAC) is a significant public health issue in California. In 1983, California Legislature enacted a program to identify the health effects of TAC and to reduce exposure to these contaminants to protect the public health (AB 1807: Health and Safety Code Sections 39650–39674). The Legislature established a two-step process to address the potential health effects from TAC. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase.

The California Air Toxics Program establishes the process for the identification and control of TAC and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics Hot Spots Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987; it requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics Hot Spots Act are to collect emission data, identify facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks, and reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act, California Senate Bill (SB) 25 - Chapter 731, Escutia, focuses on children's exposure to air pollutants. The Act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air-monitoring network, and develop any additional air toxic control measures needed to protect children's health.

3.3 Local Regulations

The San Diego Air Pollution Control District (SDAPCD) is the agency that regulates stationary sources of pollutants in the SDAB. The SDAPCD established a set of rules and regulations initially adopted on January 1, 1969, and periodically reviewed and updated.

3.3.1 Regional Air Quality Strategy

The SDAPCD prepared the 1991/1992 Regional Air Quality Strategy (RAQS) in response to the requirements set forth in AB 2595. The RAQS outlines additional strategies necessary to achieve compliance with CAAQS for O_3, CO, SO_2, and NO_2 in the SDAB. The draft was adopted, with amendments, on June 30, 1992 (County of San Diego 1992). Attached, as part of the RAQS, are the transportation control measures (TCMs) for the air quality plan prepared by the San Diego Association of Governments (SANDAG) in accordance with AB 2595 and adopted by SANDAG on March 27, 1992, as Resolution Number 92-49 and Addendum.

The SDAPCD prepares triennial updates of the RAQS adopted in 1995, 1998, 2001, 2004, and 2009. The SDAB is a nonattainment area for the state O_3 standards and is in attainment for the state's standards for CO, SO_2, and NO_2. Thus, the most recent RAQS focuses on measures to reduce ozone precursors.

3.3.2 SDAPCD Regulation XII

Locally, toxic air contaminants are regulated through SDAPCD Regulation XII. The SDAPCD Regulation XII was originally adopted in June 1996 and was most recently updated in June 2014. The regulation lists TAC that, if emitted, are required to be analyzed for potential carcinogenic, chronic exposure, and acute risks. Based on this analysis the SDAPCD may place conditions on new, modified, or reconstructed emission sources that require a Permit to Operate.

3.3.3 SDAPCD Rule 51

SDAPCD Rule 51, commonly referred to as the public nuisance law, prohibit emissions from any source whatsoever in such quantities of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to the public health or damage to property.

4.0 Significance Criteria

The City Municipal Code §33.921 to §33.928, the Escondido Environmental Quality Ordinance, adopts state CEQA Guidelines. Under state CEQA Guidelines, the project would have a potentially significant air quality impact if it would:

1. Obstruct or conflict with the implementation of the San Diego RAQS or applicable portions of the SIP.
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. 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 the release of emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentration including air toxics such as diesel particulates.
5. Create objectionable odors affecting a substantial number of people.

City Municipal Code §33.924 identifies significance thresholds for assessing project potential to contribute substantially to an existing or projected air quality violation. Table 4 displays these thresholds.

TABLE 4
ESCONDIDO ENVIRONMENTAL QUALITY ORDINANCE SCREENING CRITERIA

Pollutant	Screening Criteria (pounds/day)
Respiratory Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	55
Oxides of Nitrogen ($NO_{x)}$	250
Oxides of Sulfur (SO_x)	250
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOC)[1]	55, 75

SOURCE: City of Escondido Municipal Code §33.924
[1]Operational Criteria 55 pounds/day, Construction criteria 75 pounds/day

5.0 Assessment Methodology

5.1 Construction

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include:

- Fugitive dust from grading activities;
- Construction equipment exhaust;
- Construction-related trips by workers, delivery trucks, and material-hauling trucks; and
- Construction-related power consumption.

Air emissions were calculated using CalEEMod 2013.2.2 (CAPCOA 2013). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects in the state of California. CalEEMod can estimate the required construction equipment when project specific information is unavailable. The estimates are based on surveys performed by the South Coast Air Quality Management District and the Sacramento Metropolitan Air Quality Management District of typical construction projects which provide a basis for scaling equipment needs and schedule with a project's size. Air emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and

ambient temperature, among other parameters. Construction equipment and duration are summarized in Table 5.

TABLE 5
CONSTRUCTION EQUIPMENT PARAMETERS

Activity	Length (Days)	Equipment	Horsepower	Load Factor
Demolition	20	1 Concrete/Industrial Saw	81	0.73
		1 Rubber Tired Dozer	255	0.4
		3 Tractors/Loaders/Backhoes	97	0.37
Site Preparation	3	1 Grader	174	0.41
		1 Scraper	361	0.48
		1 Tractor/Loader/Backhoe	97	0.37
Grading	6	1 Grader	174	0.41
		1 Rubber Tired Dozer	255	0.4
		2 Tractors/Loaders/Backhoes	97	0.37
Building Construction	220	1 Crane	226	0.29
		2 Forklifts	89	0.2
		1 Generator Set	84	0.74
		1 Tractor/Loader/Backhoe	97	0.37
		3 Welders	46	0.45
Paving	10	1 Cement and Mortar Mixer	9	0.56
		1 Paver	125	0.42
		1 Paving Equipment	130	0.36
		2 Roller	80	0.38
		1 Tractor/Loader/Backhoe	97	0.37
Architectural Coating	10	1 Air Compressor	78	0.48

SOURCE: CalEEMod Version 2013.2.2

As discussed in Section 1.2, Project Location and Description, the project includes 57,182 square feet of demolition, 105,297 square feet of renovation, and 114,033 square feet of new construction. Building renovations were not included in construction emission calculations, because renovations do not require substantial off-road construction equipment. Project construction activities would occur in four phases. However, as the timeline for project implementation is undetermined, some phases may overlap. This analysis conservatively models all construction phases as occurring simultaneously.

CalEEMod assumptions were changed to reflect to project-specific features, and local and recent regulations. This analysis assumes that standard dust and emission control during grading operations would be implemented to reduce potential nuisance impacts and to ensure compliance with SDAPCD Rule 55.0, Fugitive Dust Control. An architectural coating volatile organic compounds (VOC) limit of 150 grams per liter (g/L) was used for all coatings to reflect the requirements of SDAPCD, Rule 67. Additionally, architectural coatings were assumed to be applied concurrently with building construction.

The CalEEMod construction output files contained in Attachment 1 indicate the specific outputs for each model run. Emissions of oxides of nitrogen (NO_x), CO, SO_2, PM_{10}, $PM_{2.5}$, and ROG, an ozone precursor, are calculated. Emission factors are not available for lead, and consequently, lead emissions are not calculated. The SDAB is currently in attainment of the national and state lead standards. Furthermore, fuel used in construction equipment and most other vehicles is not leaded.

5.2 Operation

Operation emissions are long term and include mobile and area sources. Sources of operational emissions include:

- Traffic generated by the project;
- Area source emissions from the use of fireplaces, consumer products, architectural coatings, and landscaping equipment;
- Area source emissions of fugitive dust from the conveyor belt between the structures;
- Area source emissions from operation of the AD facility; and
- Area source emissions from production of electricity or CNG for fueling collection vehicles.

5.2.1 Criteria Pollutants

As with construction emissions, operation estimates were generated primarily using CalEEMod. Although the project would only renovate and construct part of the EDI Recycling Facility, operational emissions were calculated for the entire EDI Recycling Facility. As discussed in Section 1.2, Project Location and Description, the reorganized EDI Recycling Facility would consist of a total of 10,897 square feet of office space and 210,524 square feet of recycling facilities.

Vehicle emissions are calculated based on trip generation rate and trip length. Vehicle emissions are estimated by first calculating trip rate, trip length, trip purpose, and trip type percentages (e.g., home to work, home to shop, home to other) for each land use type. Trips generated by the entire proposed EDI Recycling Facility were estimated based on Institute of Transportation Engineers Trip Generation 8th Edition trip rates for office space and heavy-duty industrial land uses. As the project is a reorganization of the existing EDI Recycling Facility rather than a new land use, this approach is conservative. Vehicle emission factors and fleet mix are derived from the Emission Factors 2011 model. Vehicle emission factors include the effects from the implementation of some of the nation's toughest vehicle emissions standards as well as fuel formulation regulations.

Although the AD facility proposed by this project may be used to fuel CNG vehicles, emissions from CNG fueled vehicles are substantially less than their diesel-fueled counterpart emissions. This analysis conservatively assumes all vehicles are diesel-fueled.

Area sources of emissions can include the use of hearths (fireplaces), consumer products, architectural coatings, and landscaping equipment. There are no hearths or woodstoves associated with the project. Use of consumer products and landscaping equipment is estimated based on land use. As with construction, an architectural coating VOC limit of 150 g/L was used for all coatings to reflect the requirements of SDAPCD, Rule 67.

Conveyor belts between the structures would emit minor quantities of fugitive dust. Fugitive dust emissions from conveyor belts primarily occur where the materials are dropped form one point to another. Rather than calculating emissions from the conveyance of materials, dust emissions from conveyor belts are commonly calculated for the more substantial emissions at loading, transfer, and drop points. This analysis models fugitive dust from the conveyor belt using methodology from the *U.S. EPA's Emission Factors & AP-42, Compilation of Air Pollutant Emission Factors 11.24 – Metallic Minerals Processing* (EPA 1995). This method identifies the applicable emission factor for each loading, unloading, and transfer point on a conveyor belt as 0.005 kilograms of fugitive dust per ton of material transferred. Use of this emission factor is considered conservative, as the project conveyor belt is not anticipated to have a loading, unloading, or transfer point where the belt runs on the exterior of the buildings. Additionally, this emission factor is also conservative because it was developed for conveyor belts carrying ground minerals rather than bulk waste.

In addition, the AD facility is an area source of emissions. Associated components include either the engine/generator used for the production of electricity or the industrial boiler used to pretreat natural gas for use in CNG collection vehicles. An Emissions Estimate, Organics Management Report was prepared for the facility to assess the potential air quality emissions from the AD facility and associated components for electricity or CNG production (Edgar & Associates 2014a). According to the report, processes and associated emissions would vary depending on whether natural gas from the AD facility is used to produce electricity or produce CNG for collection vehicles. If natural gas from the AD facility is used for electricity production, natural gas would be flared (burned) to produce electricity. If natural gas is used for CNG fueled collection vehicles, on-site emissions would result from flaring of waste gas and heating of the AD facility. Table 6 summarizes emissions that would occur under each AD facility output scenario.

TABLE 6
ANAEROBIC DIGESTER FACILITY AND ASSOCIATED COMPONENT EMISSIONS
(pounds per day)[1]

Pollutant	Facility Generation	
	Electricity	Vehicle-Fuel
ROG	15.0	6.4
NO_x	58.1	4.6
CO	132.1	13.7
SO_x	32.9	2.2
PM_{10}[2]	0	0.2
$PM_{2.5}$[2]	0	0.2

SOURCE: Edgar & Associates 2014a
[1]Emissions converted from tons per year to pounds per day assuming operation all year long.
[2]Report gives PM values. Conservatively assumed all PM is $PM_{2.5}$.

This analysis assumes the worst-case scenario (electricity or CNG production) for each criteria pollutant.

5.2.2 Carbon Monoxide (CO) Hot Spots

A CO hot spot is a localized area where CO standards are exceeded. CO hot spots typically occur as a result of severe vehicle congestion at signalized intersections of major roadways. An appropriate qualitative screening procedure is provided in the procedures and guidelines contained in *Transportation Project-Level Carbon Monoxide Protocol* (the Protocol) to determine whether a project poses the potential for a CO hot spot to occur (U. C. Davis Institute of Transportation Studies 1997).

According to the Protocol, a project may worsen air quality if it increases the percentage of vehicles in cold start modes significantly (2 percent or more), increases traffic volumes significantly over existing volumes (5 percent or more), or worsens traffic flow. Worsened traffic flow is defined for signalized intersections as an increased average delay at intersections operating at Level of Service (LOS) E or F or causing an intersection that would operate at LOS D or better without the project to operate at LOS E or F.

5.2.3 Toxic Air Contaminants

The EDI Recycling facility is not anticipated to emit TAC other than diesel particulate matter (DPM).

Diesel-exhaust particulate matter was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TAC statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific

issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TAC by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Vehicles (primarily heavy-duty trucks) emit diesel particulates through the combustion of diesel fuel. Potential health risks associated with DPM would be considered a significant impact if the worst-case incremental cancer risk is greater than or equal to 10 in one million, or if the worst-case total acute or chronic health hazard index is greater than or equal to one.

6.0 Air Quality Assessment

6.1 Conformance to the Regional Air Quality Strategy

Would the project obstruct or conflict with the implementation of the San Diego RAQS or applicable portions of the SIP?

The RAQS was developed pursuant to CCAA requirements and identifies feasible emission control measures to provide expeditious progress in the County toward attaining the state ozone standard. The pollutants addressed are ROG and oxides of nitrogen (NO_X), precursors to the photochemical formation of ozone, the primary component of smog. The RAQS does not address CO or particulates; however, the 2007 SIP includes a CO maintenance plan for the region (SDAPCD 2004). The RAQS control measures focus on emission sources under SDAPCD authority, specifically stationary sources and some area-wide sources. The RAQS identifies area-wide sources as mostly residential sources, including water heaters, furnaces, architectural coatings, and consumer products. It is noted that fireplaces are not included. Assumptions for land use development used in the RAQS are taken from local and regional planning documents, including general plan land use designations.

Consistency with the RAQS is determined by analyzing a project with the assumptions in the RAQS. Thus, the emphasis of this criterion is to compare the emission forecasts from the project's land uses with emission forecasts based on the land uses for the area included in the RAQS. Forecasts used in the RAQS are developed by SANDAG based on local general plans and other related documents that are used to develop population and traffic projections. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development that is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a

project proposes development that is greater than that anticipated in the City of Escondido General Plan and SANDAG's growth projections, the project would conflict with the RAQS and SIP, and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the project and the surrounding projects exceed the growth projections used in the RAQS for the specific subregional area.

The project would not change the land use of the existing Washington Avenue parcel (EDI Recycling Facility). The project would incorporate the West Mission Avenue parcel, which is zoned light industrial (M-1) and has a General Plan land use designation of light industrial (LI). The proposed land use is consistent with the existing zoning and land use designation. Thus, the project is accounted for in the City of Escondido General Plan and SANDAG's growth projections. As RAQS emissions forecasts are based on land use assumptions from the General Plan and SANDAG growth projections, the project is also accounted for in the RAQS. Therefore, the project would be consistent with the RAQS. Impacts would be considered ***less than significant***.

6.2 Conformance to National and State Ambient Air Quality Standards (NAAQS and CAAQS)

Would the project result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Project emissions would occur during both construction and operation.

As discussed in Section 5.1 Construction Assessment Methodology, construction would consist of four phases and would result in temporary, short-term sources of air emissions. Table 7 shows the total projected construction maximum daily emission levels for each criteria pollutant that would occur if all phases occurred simultaneously. The CalEEMod output files for construction emissions are contained in Attachment 1.

TABLE 7
MAXIMUM DAILY CONSTRUCTION EMISSIONS
(pounds per day)

Pollutant	Emissions	Significance Thresholds
ROG[1]	11.7	75
NO_x	72.2	250
CO	57.8	550
SO_x[2]	0.1	250
PM_{10}	7.5	100
$PM_{2.5}$	4.1	55

SOURCE: CalEEMod Version 2013.2.2
City of Escondido Municipal Code §33.924
[1]ROG and VOC are interchangeable in this context.

[2]Emissions calculated by CalEEMod 2013.2.2 are for SO_2.

Construction emissions do not exceed emissions screening criteria from the Escondido Environmental Quality Ordinance. Thus, construction emissions would not substantially contribute to an air quality violation.

As discussed in Section 5.2, Operations Assessment Methodology, emissions associated with the project would include emissions from traffic generated by the entire EDI Recycling Facility and emissions from area sources such as consumer products, architectural coatings, landscaping equipment, the AD facility, and associated components for electricity of CNG production. Table 8 shows the daily operational emissions associated with the project. The CalEEMod output files for operational emissions are contained in Attachment 2.

TABLE 8
DAILY OPERATIONAL EMISSIONS
(pounds per day)

Pollutant	Emission Source				Significance Thresholds
	Mobile	Area	AD Facility	Total	
ROG[1]	1.4	5.6	15.0	22.0	55
NO_x	2.9	0.7	58.1	61.6	250
CO	13.7	0.6	132.1	146.3	550
SO_x[2]	<0.1	<0.1	32.9	32.9	250
PM_{10}	2.6	36.2	0.2	38.9	100
$PM_{2.5}$	0.7	36.2	0.2	37.0	55

SOURCE: CalEEMod Version 2013.2.2, City of Escondido Municipal Code §33.924, and Edgar & Associates 2014a
[1]ROG and VOC are interchangeable in this context.
[2]Emissions calculated by CalEEMod 2013.2.2 are for SO_2.

As displayed in Table 8, project operational emissions are projected to be less than the significance thresholds for all criteria pollutants. Therefore, operation of the project would not substantially contribute to an air quality violation.

Construction and operation of the project would not substantially contribute to an air quality violation; therefore, impacts would be ***less than significant***.

6.3 Cumulatively Considerable Net Increase of Criteria Pollutants

Would the project 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 release emissions which exceed quantitative thresholds for ozone precursors)?

The region is classified as attainment for all criterion pollutants except ozone, PM_{10}, and $PM_{2.5}$. The SDAB is nonattainment for the 8-hour national and state ozone standards. Ozone is not emitted directly, but is a result of atmospheric activity on precursors. Nitrogen oxides and hydrocarbons (ROG) are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone.

As discussed in Issue 2 above, project emissions would be less than the significance threshold for ROG and NO_X. Thus, impacts would be ***less than significant***.

6.4 Impacts to Sensitive Receptors

Would the project expose sensitive receptors to substantial pollutant concentration including air toxics such as diesel particulates?

A sensitive receptor is a person in the population who is more susceptible to health effects due to exposure to an air contaminant than is the population at large. Examples include residences, schools, playgrounds, childcare centers, churches, athletic facilities, retirement homes, and long-term health care facilities. The project is located in an industrial area and the nearest sensitive receiver is approximately 1,200 feet from the northern edge of the project site.

6.4.1 Carbon Monoxide (CO) Hot Spots

In addition to a comparison with the City of Escondido significance thresholds (Sections 6.2 and 6.3), the project was evaluated to determine whether it has the potential to produce CO hot spots at intersections near the project site. As discussed in Section 5.2.3, Assessment Methodology TACs, the project could potentially result in impacts due to CO if it contributed substantial traffic to a signalized intersection. The project would not change the throughput of the existing EDI Recycling Facility. Thus, the project would not substantially affect the amount of traffic or the number of heavy trucks associated with the project. Because the project would not increase traffic volumes on local roads, the project would not result in significant concentrations of CO at any local intersections; the impact would be ***less than significant***.

6.4.2 Diesel Particulate Matter (DPM)

As discussed in Section 5.2.3, Assessment Methodology TACs, vehicles emit diesel particulates through the combustion of diesel fuel. During construction, diesel-fueled construction equipment would emit DPM. However, as construction is temporary and there are no sensitive receptors in the vicinity of the project site, construction would not result in impacts from DPM.

During operation, heavy trucks delivering waste would be diesel-fueled. As the project would not change the throughput of existing EDI Recycling Facility, it would not substantially affect the amount of heavy truck traffic generated by the project. Therefore, the project would not result in an increase of DPM emissions and would not result in impacts from DPM.

Construction and operation of the project would result in less than significant impacts from DPM.

6.5 Odor Impacts

Would the project create objectionable odors affecting a substantial number of people?

As discussed in Section 1.2, Project Description, the existing EDI Recycling Facility currently collects MSW, recyclables, and green waste for processing and transfer. To reduce potential odors from organics, the maximum allowable hold time for all MSW, green waste, and food waste is restricted to 48 hours. If an odor is detected, the site operator investigates the source of the odor and determines whether the odor is travelling beyond the site and whether onsite practices could remedy the problem. Roll-up doors to waste handling and separation areas are closed when the facility is not in operation. The project would reorganize the EDI Recycling Facility. Most of the existing odor minimization measures, with the exception of the hold time for organics sent to the AD facility, would remain in place. As such, the project would not result in increased odor from waste handling and separation areas.

As discussed in Section 1.2, Project Location and Description, the project would construction an AD facility that would recycle food waste and green waste into natural gas. This process would include retention of organics from MSW, green waste, and food waste streams in the AD facility for the approximately 21 days. During this time, the digestion process would decompose organics and generate odorous compounds. An Odor Impact Minimization Plan was prepared for the facility to assess the potential odors from the AD facility (Edgar & Associates 2014b). According to the plan, the entire AD facility components including the aeration bay where feedstock is received, the anaerobic digesters, other components would be enclosed. When doors to the AD facility are opened, the building will be placed on a negative air flow, which will draw any potential odors in and the captured air will be exhausted them through a biofilter system. Biofilters have been proven effective at removing odors from air that are caused by mixed organics, including ammonia and sulfur compounds, which are major sources of odor associated with green waste and food waste handling and processing. Thus, the AD facility would not generate substantial odors.

In the scenario where natural gas from the AD facility is used for electrical generation, all operations would occur within the enclosed AD facility. In the scenario where natural gas

in compressed for use a fuel for collection vehicles, natural would be routed to a storage tank and compressed for eventual distribution to CNG fueled vehicles. CNG fuel would be treated by two air pre-treatment technologies prior to distribution to vehicles. First, an acid scrubber would remove ammonia from exhaust air generated from digester shutdown operations and in-vessel composting tunnels that would be optimized for the removal of ammonia. After air is treated in the acid scrubber it would be moisturized in an automated humidifier to assure proper process conditions are maintained for biological oxidation. Thus, the CNG fuel would not be odorous and CNG fueled vehicles would not generate odors.

CNG fueled collection vehicles would replace diesel-fueled collection vehicles. Thus, the project would reduce odors from diesel exhaust. CEQA does not include an impact designation class for significant positive impacts. Thus, under CEQA definitions the project operational emissions to sensitive receptors would be considered ***less than significant***.

7.0 Conclusions and Recommendations

The EDI Master Plan project would reorganize the existing EDI Recycling Facility to provide for more efficient and effective operations and add an AD facility capable of converting organic waste into natural gas. Natural gas would be used to either generate of electricity or fuel 40 to 50 collection vehicles powered by CNG.

As discussed in Chapter 4.0, Significance Criteria, the project was assessed against significance criteria identified in the CEQA Guidelines and the City Municipal Code. Following these criteria, the project would have air quality impacts if it conflicted with the RAQS, contributed to an air quality violation, resulted in a considerable net increase of ozone, exposed sensitive receptors to air toxics, or exposed a significant number of people to objectionable odors.

As the project is consistent with SANDAG growth projections, the project would also be accounted for in RAQS. Emissions were calculated using CalEEMod following methodology outlined in Chapter 5.0, Assessment Methodology. As demonstrated in this analysis, emissions would be below the significance thresholds and would not constitute a considerable increase of ozone. TAC emitted by the project would include CO and DP; however, they would not result in significant impacts because the project is not near a sensitive receptor and does not increase traffic generated by the EDI Recycling Facility. As discussed in Section 6.5, Odor Impacts, the project would not emit objectionable odors because the AD facility is completely enclosed, and exhaust would be treated by biofilters to remove odors.

This analysis concludes that all project impacts would be below a level of significance and no mitigation measures would be required.

8.0 References Cited

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ATTACHMENTS

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ATTACHMENT 1

CalEEMod Output Files - Construction

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Construction Emissions

	ROG	NOx	CO	SO2	PM10	PM2.5
Summer	11.6751	70.8554	49.2551	0.1307	7.4686	4.0885
Winter	11.7183	72.1788	57.7571	0.1305	7.4702	4.0899
MAX	**11.7**	**72.2**	**57.8**	**0.1**	**7.5**	**4.1**

Proposed Project Construction

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	114.03	1000sqft	2.62	114,030.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	150
tblConstructionPhase	NumDays	10.00	220.00

tblConstructionPhase	PhaseEndDate	10/18/2017	12/14/2016
tblConstructionPhase	PhaseStartDate	12/15/2016	2/11/2016
tblGrading	MaterialExported	0.00	7,000.00
tblProjectCharacteristics	OperationalYear	2014	2015

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	11.6751	70.8554	49.2551	0.1307	9.3395	2.2261	11.5656	4.1099	2.0479	6.1578	0.0000	13,217.2553	13,217.2553	0.7516	0.0000	13,233.0382
Total	**11.6751**	**70.8554**	**49.2551**	**0.1307**	**9.3395**	**2.2261**	**11.5656**	**4.1099**	**2.0479**	**6.1578**	**0.0000**	**13,217.2553**	**13,217.2553**	**0.7516**	**0.0000**	**13,233.0382**

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	11.6751	70.8554	49.2551	0.1307	5.2426	2.2261	7.4686	2.0406	2.0479	4.0885	0.0000	13,217.2553	13,217.2553	0.7516	0.0000	13,233.0382
Total	**11.6751**	**70.8554**	**49.2551**	**0.1307**	**5.2426**	**2.2261**	**7.4686**	**2.0406**	**2.0479**	**4.0885**	**0.0000**	**13,217.2553**	**13,217.2553**	**0.7516**	**0.0000**	**13,233.0382**

	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	43.87	0.00	35.42	50.35	0.00	33.60	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	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/2/2016	5	3	
3	Grading	Grading	2/3/2016	2/10/2016	5	6	
4	Building Construction	Building Construction	2/11/2016	12/14/2016	5	220	
5	Architectural Coating	Architectural Coating	2/11/2016	12/14/2016	5	220	
6	Paving	Paving	12/15/2016	12/28/2016	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 171,045; Non-Residential Outdoor: 57,015 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40

Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	5	13.00	0.00	260.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	48.00	19.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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					2.8495	0.0000	2.8495	0.4315	0.0000	0.4315			0.0000			0.0000
Off-Road	2.9066	28.2579	21.4980	0.0245		1.7445	1.7445		1.6328	1.6328		2,487.1296	2,487.1296	0.6288		2,500.3343
Total	**2.9066**	**28.2579**	**21.4980**	**0.0245**	**2.8495**	**1.7445**	**4.5940**	**0.4315**	**1.6328**	**2.0643**		**2,487.1296**	**2,487.1296**	**0.6288**		**2,500.3343**

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	0.2548	3.6430	2.6006	9.7200e-003	0.2265	0.0498	0.2763	0.0620	0.0458	0.1078		979.7805	979.7805	6.9700e-003		979.9270
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	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		112.9092	112.9092	5.6600e-003		113.0280
Total	**0.3002**	**3.6964**	**3.1822**	**0.0111**	**0.3333**	**0.0506**	**0.3839**	**0.0904**	**0.0465**	**0.1369**		**1,092.6897**	**1,092.6897**	**0.0126**		**1,092.9549**

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					1.1113	0.0000	1.1113	0.1683	0.0000	0.1683			0.0000			0.0000

Off-Road	2.9066	28.2579	21.4980	0.0245		1.7445	1.7445		1.6328	1.6328	0.0000	2,487.1296	2,487.1296	0.6288		2,500.3343
Total	**2.9066**	**28.2579**	**21.4980**	**0.0245**	**1.1113**	**1.7445**	**2.8558**	**0.1683**	**1.6328**	**1.8010**	**0.0000**	**2,487.1296**	**2,487.1296**	**0.6288**		**2,500.3343**

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	0.2548	3.6430	2.6006	9.7200e-003	0.2265	0.0498	0.2763	0.0620	0.0458	0.1078		979.7805	979.7805	6.9700e-003		979.9270
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	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		112.9092	112.9092	5.6600e-003		113.0280
Total	**0.3002**	**3.6964**	**3.1822**	**0.0111**	**0.3333**	**0.0506**	**0.3839**	**0.0904**	**0.0465**	**0.1369**		**1,092.6897**	**1,092.6897**	**0.0126**		**1,092.9549**

3.3 Site Preparation - 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					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	2.6992	30.8238	18.0600	0.0239		1.5116	1.5116		1.3907	1.3907		2,480.1000	2,480.1000	0.7481		2,495.8099
Total	**2.6992**	**30.8238**	**18.0600**	**0.0239**	**1.5908**	**1.5116**	**3.1024**	**0.1718**	**1.3907**	**1.5625**		**2,480.1000**	**2,480.1000**	**0.7481**		**2,495.8099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0280	0.0328	0.3579	8.3000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.4826	69.4826	3.4800e-003		69.5557
Total	**0.0280**	**0.0328**	**0.3579**	**8.3000e-004**	**0.0657**	**4.9000e-004**	**0.0662**	**0.0174**	**4.5000e-004**	**0.0179**		**69.4826**	**69.4826**	**3.4800e-003**		**69.5557**

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					0.6204	0.0000	0.6204	0.0670	0.0000	0.0670			0.0000			0.0000
Off-Road	2.6992	30.8238	18.0600	0.0239		1.5116	1.5116		1.3907	1.3907	0.0000	2,480.1000	2,480.1000	0.7481		2,495.8099
Total	**2.6992**	**30.8238**	**18.0600**	**0.0239**	**0.6204**	**1.5116**	**2.1320**	**0.0670**	**1.3907**	**1.4577**	**0.0000**	**2,480.1000**	**2,480.1000**	**0.7481**		**2,495.8099**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0280	0.0328	0.3579	8.3000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.4826	69.4826	3.4800e-003		69.5557
Total	**0.0280**	**0.0328**	**0.3579**	**8.3000e-004**	**0.0657**	**4.9000e-004**	**0.0662**	**0.0174**	**4.5000e-004**	**0.0179**		**69.4826**	**69.4826**	**3.4800e-003**		**69.5557**

3.4 Grading - 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					6.7163	0.0000	6.7163	3.3923	0.0000	3.3923			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337		2,139.2742	2,139.2742	0.6453		2,152.8251
Total	**2.8530**	**29.9470**	**19.6345**	**0.0206**	**6.7163**	**1.6671**	**8.3834**	**3.3923**	**1.5337**	**4.9261**		**2,139.2742**	**2,139.2742**	**0.6453**		**2,152.8251**

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	2.8582	40.8674	29.1732	0.1091	2.5411	0.5584	3.0994	0.6958	0.5136	1.2094		10,991.1279	10,991.1279	0.0782		10,992.7705
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	0.0350	0.0410	0.4474	1.0400e-003	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		86.8532	86.8532	4.3500e-003		86.9446
Total	**2.8932**	**40.9084**	**29.6206**	**0.1101**	**2.6232**	**0.5590**	**3.1822**	**0.7176**	**0.5142**	**1.2318**		**11,077.9811**	**11,077.9811**	**0.0826**		**11,079.7151**

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					2.6194	0.0000	2.6194	1.3230	0.0000	1.3230			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337	0.0000	2,139.2742	2,139.2742	0.6453		2,152.8251
Total	**2.8530**	**29.9470**	**19.6345**	**0.0206**	**2.6194**	**1.6671**	**4.2865**	**1.3230**	**1.5337**	**2.8567**	**0.0000**	**2,139.2742**	**2,139.2742**	**0.6453**		**2,152.8251**

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	2.8582	40.8674	29.1732	0.1091	2.5411	0.5584	3.0994	0.6958	0.5136	1.2094		10,991.1279	10,991.1279	0.0782		10,992.7705
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	0.0350	0.0410	0.4474	1.0400e-003	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		86.8532	86.8532	4.3500e-003		86.9446
Total	**2.8932**	**40.9084**	**29.6206**	**0.1101**	**2.6232**	**0.5590**	**3.1822**	**0.7176**	**0.5142**	**1.2318**		**11,077.9811**	**11,077.9811**	**0.0826**		**11,079.7151**

3.5 Building 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	3.6984	24.6320	16.7166	0.0249		1.6257	1.6257		1.5569	1.5569		2,352.2239	2,352.2239	0.5420		2,363.6057
Total	**3.6984**	**24.6320**	**16.7166**	**0.0249**		**1.6257**	**1.6257**		**1.5569**	**1.5569**		**2,352.2239**	**2,352.2239**	**0.5420**		**2,363.6057**

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	0.1982	1.8007	2.1136	4.5200e-003	0.1261	0.0272	0.1533	0.0360	0.0250	0.0610		453.3181	453.3181	3.5000e-003		453.3916
Worker	0.1678	0.1969	2.1474	5.0000e-003	0.3943	2.9600e-003	0.3973	0.1046	2.7200e-003	0.1073		416.8953	416.8953	0.0209		417.3340
Total	**0.3660**	**1.9976**	**4.2610**	**9.5200e-003**	**0.5204**	**0.0302**	**0.5506**	**0.1406**	**0.0278**	**0.1683**		**870.2134**	**870.2134**	**0.0244**		**870.7256**

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	3.6984	24.6320	16.7166	0.0249		1.6257	1.6257		1.5569	1.5569	0.0000	2,352.2239	2,352.2239	0.5420		2,363.6057

Total	**3.6984**	**24.6320**	**16.7166**	**0.0249**		**1.6257**	**1.6257**		**1.5569**	**1.5569**	**0.0000**	**2,352.2239**	**2,352.2239**	**0.5420**		**2,363.6057**

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	0.1982	1.8007	2.1136	4.5200e-003	0.1261	0.0272	0.1533	0.0360	0.0250	0.0610		453.3181	453.3181	3.5000e-003		453.3916
Worker	0.1678	0.1969	2.1474	5.0000e-003	0.3943	2.9600e-003	0.3973	0.1046	2.7200e-003	0.1073		416.8953	416.8953	0.0209		417.3340
Total	**0.3660**	**1.9976**	**4.2610**	**9.5200e-003**	**0.5204**	**0.0302**	**0.5506**	**0.1406**	**0.0278**	**0.1683**		**870.2134**	**870.2134**	**0.0244**		**870.7256**

3.6 Architectural Coating - 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					
Archit. Coating	7.2072					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**7.5757**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0350	0.0410	0.4474	1.0400e-003	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		86.8532	86.8532	4.3500e-003		86.9446
Total	**0.0350**	**0.0410**	**0.4474**	**1.0400e-003**	**0.0822**	**6.2000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**86.8532**	**86.8532**	**4.3500e-003**		**86.9446**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.2072					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**7.5757**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0350	0.0410	0.4474	1.0400e-003	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		86.8532	86.8532	4.3500e-003		86.9446
Total	**0.0350**	**0.0410**	**0.4474**	**1.0400e-003**	**0.0822**	**6.2000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**86.8532**	**86.8532**	**4.3500e-003**		**86.9446**

3.7 Paving - 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	1.7811	17.9300	12.1433	0.0176		1.1252	1.1252		1.0363	1.0363		1,804.8600	1,804.8600	0.5344		1,816.0828
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7811**	**17.9300**	**12.1433**	**0.0176**		**1.1252**	**1.1252**		**1.0363**	**1.0363**		**1,804.8600**	**1,804.8600**	**0.5344**		**1,816.0828**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		130.2798	130.2798	6.5300e-003		130.4169
Total	**0.0524**	**0.0615**	**0.6711**	**1.5600e-003**	**0.1232**	**9.2000e-004**	**0.1242**	**0.0327**	**8.5000e-004**	**0.0335**		**130.2798**	**130.2798**	**6.5300e-003**		**130.4169**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7811	17.9300	12.1433	0.0176		1.1252	1.1252		1.0363	1.0363	0.0000	1,804.8600	1,804.8600	0.5344		1,816.0828
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7811**	**17.9300**	**12.1433**	**0.0176**		**1.1252**	**1.1252**		**1.0363**	**1.0363**	**0.0000**	**1,804.8600**	**1,804.8600**	**0.5344**		**1,816.0828**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		130.2798	130.2798	6.5300e-003		130.4169
Total	**0.0524**	**0.0615**	**0.6711**	**1.5600e-003**	**0.1232**	**9.2000e-004**	**0.1242**	**0.0327**	**8.5000e-004**	**0.0335**		**130.2798**	**130.2798**	**6.5300e-003**		**130.4169**

Proposed Project Construction

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	114.03	1000sqft	2.62	114,030.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	150
tblConstructionPhase	NumDays	10.00	220.00

tblConstructionPhase	PhaseEndDate	10/18/2017	12/14/2016
tblConstructionPhase	PhaseStartDate	12/15/2016	2/11/2016
tblGrading	MaterialExported	0.00	7,000.00
tblProjectCharacteristics	OperationalYear	2014	2015

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	11.7183	72.1788	57.7571	0.1305	9.3395	2.2277	11.5671	4.1099	2.0494	6.1592	0.0000	13,186.1918	13,186.1918	0.7516	0.0000	13,201.9747
Total	**11.7183**	**72.1788**	**57.7571**	**0.1305**	**9.3395**	**2.2277**	**11.5671**	**4.1099**	**2.0494**	**6.1592**	**0.0000**	**13,186.1918**	**13,186.1918**	**0.7516**	**0.0000**	**13,201.9747**

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	11.7183	72.1788	57.7571	0.1305	5.2426	2.2277	7.4702	2.0406	2.0494	4.0899	0.0000	13,186.1918	13,186.1918	0.7516	0.0000	13,201.9747
Total	**11.7183**	**72.1788**	**57.7571**	**0.1305**	**5.2426**	**2.2277**	**7.4702**	**2.0406**	**2.0494**	**4.0899**	**0.0000**	**13,186.1918**	**13,186.1918**	**0.7516**	**0.0000**	**13,201.9747**

	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	43.87	0.00	35.42	50.35	0.00	33.60	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	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/2/2016	5	3	
3	Grading	Grading	2/3/2016	2/10/2016	5	6	
4	Building Construction	Building Construction	2/11/2016	12/14/2016	5	220	
5	Architectural Coating	Architectural Coating	2/11/2016	12/14/2016	5	220	
6	Paving	Paving	12/15/2016	12/28/2016	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 171,045; Non-Residential Outdoor: 57,015 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40

Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	5	13.00	0.00	260.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	48.00	19.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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					2.8495	0.0000	2.8495	0.4315	0.0000	0.4315			0.0000			0.0000
Off-Road	2.9066	28.2579	21.4980	0.0245		1.7445	1.7445		1.6328	1.6328		2,487.1296	2,487.1296	0.6288		2,500.3343
Total	**2.9066**	**28.2579**	**21.4980**	**0.0245**	**2.8495**	**1.7445**	**4.5940**	**0.4315**	**1.6328**	**2.0643**		**2,487.1296**	**2,487.1296**	**0.6288**		**2,500.3343**

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	0.2836	3.7606	3.3596	9.7100e-003	0.2265	0.0499	0.2764	0.0620	0.0459	0.1079		977.4827	977.4827	7.0600e-003		977.6310
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	0.0482	0.0598	0.5650	1.2700e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		106.0373	106.0373	5.6600e-003		106.1561
Total	**0.3318**	**3.8204**	**3.9246**	**0.0110**	**0.3333**	**0.0507**	**0.3840**	**0.0904**	**0.0467**	**0.1370**		**1,083.5200**	**1,083.5200**	**0.0127**		**1,083.7871**

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					1.1113	0.0000	1.1113	0.1683	0.0000	0.1683			0.0000			0.0000

Off-Road	2.9066	28.2579	21.4980	0.0245		1.7445	1.7445		1.6328	1.6328	0.0000	2,487.1296	2,487.1296	0.6288		2,500.3343
Total	**2.9066**	**28.2579**	**21.4980**	**0.0245**	**1.1113**	**1.7445**	**2.8558**	**0.1683**	**1.6328**	**1.8010**	**0.0000**	**2,487.1296**	**2,487.1296**	**0.6288**		**2,500.3343**

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	0.2836	3.7606	3.3596	9.7100e-003	0.2265	0.0499	0.2764	0.0620	0.0459	0.1079		977.4827	977.4827	7.0600e-003		977.6310
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	0.0482	0.0598	0.5650	1.2700e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		106.0373	106.0373	5.6600e-003		106.1561
Total	**0.3318**	**3.8204**	**3.9246**	**0.0110**	**0.3333**	**0.0507**	**0.3840**	**0.0904**	**0.0467**	**0.1370**		**1,083.5200**	**1,083.5200**	**0.0127**		**1,083.7871**

3.3 Site Preparation - 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					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	2.6992	30.8238	18.0600	0.0239		1.5116	1.5116		1.3907	1.3907		2,480.1000	2,480.1000	0.7481		2,495.8099
Total	**2.6992**	**30.8238**	**18.0600**	**0.0239**	**1.5908**	**1.5116**	**3.1024**	**0.1718**	**1.3907**	**1.5625**		**2,480.1000**	**2,480.1000**	**0.7481**		**2,495.8099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0368	0.3477	7.8000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		65.2537	65.2537	3.4800e-003		65.3268
Total	**0.0296**	**0.0368**	**0.3477**	**7.8000e-004**	**0.0657**	**4.9000e-004**	**0.0662**	**0.0174**	**4.5000e-004**	**0.0179**		**65.2537**	**65.2537**	**3.4800e-003**		**65.3268**

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					0.6204	0.0000	0.6204	0.0670	0.0000	0.0670			0.0000			0.0000
Off-Road	2.6992	30.8238	18.0600	0.0239		1.5116	1.5116		1.3907	1.3907	0.0000	2,480.1000	2,480.1000	0.7481		2,495.8099
Total	**2.6992**	**30.8238**	**18.0600**	**0.0239**	**0.6204**	**1.5116**	**2.1320**	**0.0670**	**1.3907**	**1.4577**	**0.0000**	**2,480.1000**	**2,480.1000**	**0.7481**		**2,495.8099**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0368	0.3477	7.8000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		65.2537	65.2537	3.4800e-003		65.3268
Total	**0.0296**	**0.0368**	**0.3477**	**7.8000e-004**	**0.0657**	**4.9000e-004**	**0.0662**	**0.0174**	**4.5000e-004**	**0.0179**		**65.2537**	**65.2537**	**3.4800e-003**		**65.3268**

3.4 Grading - 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					6.7163	0.0000	6.7163	3.3923	0.0000	3.3923			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337		2,139.2742	2,139.2742	0.6453		2,152.8251
Total	**2.8530**	**29.9470**	**19.6345**	**0.0206**	**6.7163**	**1.6671**	**8.3834**	**3.3923**	**1.5337**	**4.9261**		**2,139.2742**	**2,139.2742**	**0.6453**		**2,152.8251**

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	3.1815	42.1858	37.6880	0.1089	2.5411	0.5599	3.1010	0.6958	0.5151	1.2108		10,965.3505	10,965.3505	0.0792		10,967.0145
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	0.0371	0.0460	0.4346	9.8000e-004	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		81.5671	81.5671	4.3500e-003		81.6585
Total	**3.2185**	**42.2318**	**38.1226**	**0.1099**	**2.6232**	**0.5606**	**3.1838**	**0.7176**	**0.5156**	**1.2332**		**11,046.9176**	**11,046.9176**	**0.0836**		**11,048.6731**

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					2.6194	0.0000	2.6194	1.3230	0.0000	1.3230			0.0000			0.0000
Off-Road	2.8530	29.9470	19.6345	0.0206		1.6671	1.6671		1.5337	1.5337	0.0000	2,139.2742	2,139.2742	0.6453		2,152.8251
Total	**2.8530**	**29.9470**	**19.6345**	**0.0206**	**2.6194**	**1.6671**	**4.2865**	**1.3230**	**1.5337**	**2.8567**	**0.0000**	**2,139.2742**	**2,139.2742**	**0.6453**		**2,152.8251**

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	3.1815	42.1858	37.6880	0.1089	2.5411	0.5599	3.1010	0.6958	0.5151	1.2108		10,965.3505	10,965.3505	0.0792		10,967.0145
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	0.0371	0.0460	0.4346	9.8000e-004	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		81.5671	81.5671	4.3500e-003		81.6585
Total	**3.2185**	**42.2318**	**38.1226**	**0.1099**	**2.6232**	**0.5606**	**3.1838**	**0.7176**	**0.5156**	**1.2332**		**11,046.9176**	**11,046.9176**	**0.0836**		**11,048.6731**

3.5 Building 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	3.6984	24.6320	16.7166	0.0249		1.6257	1.6257		1.5569	1.5569		2,352.2239	2,352.2239	0.5420		2,363.6057
Total	**3.6984**	**24.6320**	**16.7166**	**0.0249**		**1.6257**	**1.6257**		**1.5569**	**1.5569**		**2,352.2239**	**2,352.2239**	**0.5420**		**2,363.6057**

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	0.2293	1.8443	2.8445	4.5000e-003	0.1261	0.0275	0.1536	0.0360	0.0253	0.0613		449.8425	449.8425	3.5900e-003		449.9179
Worker	0.1779	0.2209	2.0862	4.6900e-003	0.3943	2.9600e-003	0.3973	0.1046	2.7200e-003	0.1073		391.5223	391.5223	0.0209		391.9609
Total	**0.4072**	**2.0652**	**4.9307**	**9.1900e-003**	**0.5204**	**0.0305**	**0.5509**	**0.1406**	**0.0280**	**0.1686**		**841.3648**	**841.3648**	**0.0245**		**841.8789**

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	3.6984	24.6320	16.7166	0.0249		1.6257	1.6257		1.5569	1.5569	0.0000	2,352.2239	2,352.2239	0.5420		2,363.6057

Total	**3.6984**	**24.6320**	**16.7166**	**0.0249**		**1.6257**	**1.6257**		**1.5569**	**1.5569**	**0.0000**	**2,352.2239**	**2,352.2239**	**0.5420**		**2,363.6057**

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	0.2293	1.8443	2.8445	4.5000e-003	0.1261	0.0275	0.1536	0.0360	0.0253	0.0613		449.8425	449.8425	3.5900e-003		449.9179
Worker	0.1779	0.2209	2.0862	4.6900e-003	0.3943	2.9600e-003	0.3973	0.1046	2.7200e-003	0.1073		391.5223	391.5223	0.0209		391.9609
Total	**0.4072**	**2.0652**	**4.9307**	**9.1900e-003**	**0.5204**	**0.0305**	**0.5509**	**0.1406**	**0.0280**	**0.1686**		**841.3648**	**841.3648**	**0.0245**		**841.8789**

3.6 Architectural Coating - 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					
Archit. Coating	7.2072					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**7.5757**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0460	0.4346	9.8000e-004	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		81.5671	81.5671	4.3500e-003		81.6585
Total	**0.0371**	**0.0460**	**0.4346**	**9.8000e-004**	**0.0822**	**6.2000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**81.5671**	**81.5671**	**4.3500e-003**		**81.6585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	7.2072					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**7.5757**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0371	0.0460	0.4346	9.8000e-004	0.0822	6.2000e-004	0.0828	0.0218	5.7000e-004	0.0224		81.5671	81.5671	4.3500e-003		81.6585
Total	**0.0371**	**0.0460**	**0.4346**	**9.8000e-004**	**0.0822**	**6.2000e-004**	**0.0828**	**0.0218**	**5.7000e-004**	**0.0224**		**81.5671**	**81.5671**	**4.3500e-003**		**81.6585**

3.7 Paving - 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	1.7811	17.9300	12.1433	0.0176		1.1252	1.1252		1.0363	1.0363		1,804.8600	1,804.8600	0.5344		1,816.0828
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7811**	**17.9300**	**12.1433**	**0.0176**		**1.1252**	**1.1252**		**1.0363**	**1.0363**		**1,804.8600**	**1,804.8600**	**0.5344**		**1,816.0828**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		122.3507	122.3507	6.5300e-003		122.4878
Total	**0.0556**	**0.0690**	**0.6519**	**1.4700e-003**	**0.1232**	**9.2000e-004**	**0.1242**	**0.0327**	**8.5000e-004**	**0.0335**		**122.3507**	**122.3507**	**6.5300e-003**		**122.4878**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7811	17.9300	12.1433	0.0176		1.1252	1.1252		1.0363	1.0363	0.0000	1,804.8600	1,804.8600	0.5344		1,816.0828
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7811**	**17.9300**	**12.1433**	**0.0176**		**1.1252**	**1.1252**		**1.0363**	**1.0363**	**0.0000**	**1,804.8600**	**1,804.8600**	**0.5344**		**1,816.0828**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		122.3507	122.3507	6.5300e-003		122.4878
Total	**0.0556**	**0.0690**	**0.6519**	**1.4700e-003**	**0.1232**	**9.2000e-004**	**0.1242**	**0.0327**	**8.5000e-004**	**0.0335**		**122.3507**	**122.3507**	**6.5300e-003**		**122.4878**

ATTACHMENT 2

CalEEMod Output Files - Operations

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Anaerobic Digestion Facility Emissions

		ROG	NOx	CO	SO2	PM10	PM2.5
AD Facility (TPY)	Vehicle Fuel	1.16	0.84	2.50	0.40	0.03	0.03
	Electricity	2.74	10.60	24.10	6.00	0.00	0.00
AD Facility (lbs/day)	Vehicle Fuel	6.4	4.6	13.7	2.2	**0.2**	**0.2**
	Electricity	**15.0**	**58.1**	**132.1**	**32.9**	0.0	0.0

Conveyor Belt - Fugitive Dust Emissions

Material Conveyed	3223	Imperial tons/day
Emission Factor	0.005	kg/metric ton
Emission Factor	0.011	lbs/imperical ton
Fugitive Dust Emissions	**36.1**	lbs PM10/day
Fugitive Dust Emissions	**36.1**	lbs PM2.5/day

CalEEMod Operational Emissions

		ROG	NOx	CO	SO2	PM10	PM2.5
Summer (lbs/day)	Area	5.5462	0.0002	0.0227	0.0000	0.0001	0.0001
	Energy	0.0727	0.6611	0.5553	0.0040	0.0502	0.0502
	Mobile	1.2995	2.6829	13.0451	0.0383	2.6222	0.7275
	Total	6.9184	3.3441	13.6231	0.0422	2.6725	0.7778
Winter (lbs/day)	Area	5.5462	0.0002	0.0227	0.0000	0.0001	0.0001
	Energy	0.0727	0.6611	0.5553	0.0040	0.0502	0.0502
	Mobile	1.3765	2.8521	13.6927	0.0364	2.6224	0.7276
	Total	6.9954	3.5134	14.2707	0.0403	2.6727	0.7779
Max (lbs/day)	Area	**5.6**	**0.7**	**0.6**	**0.0**	**0.1**	**0.1**
	Mobile	**1.4**	**2.9**	**13.7**	**0.0**	**2.6**	**0.7**
	Total	**7.0**	**3.5**	**14.3**	**0.0**	**2.7**	**0.8**

Total Operational Emissions

	ROG	NOx	CO	SO2	PM10	PM2.5
Total (lbs/day)	**22.0**	**61.6**	**146.3**	**32.9**	**38.9**	**37.0**

Proposed EDI Recycling Facility

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	10.40	1000sqft	0.24	10,400.00	0
General Heavy Industry	210.50	1000sqft	4.83	210,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	150

tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	150
tblGrading	MaterialExported	0.00	7,000.00
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

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	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Energy	0.0837	0.7607	0.6390	4.5600e-003		0.0578	0.0578		0.0578	0.0578		912.8338	912.8338	0.0175	0.0167	918.3892
Mobile	1.2995	2.6829	13.0451	0.0383	2.5802	0.0420	2.6222	0.6888	0.0387	0.7275		2,920.9234	2,920.9234	0.1083		2,923.1979
Total	**6.9294**	**3.4438**	**13.7067**	**0.0428**	**2.5802**	**0.0999**	**2.6801**	**0.6888**	**0.0966**	**0.7854**		**3,833.8055**	**3,833.8055**	**0.1259**	**0.0167**	**3,841.6382**

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	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Energy	0.0727	0.6611	0.5553	3.9700e-003		0.0502	0.0502		0.0502	0.0502		793.2719	793.2719	0.0152	0.0145	798.0996
Mobile	1.2995	2.6829	13.0451	0.0383	2.5802	0.0420	2.6222	0.6888	0.0387	0.7275		2,920.9234	2,920.9234	0.1083		2,923.1979

Total	**6.9184**	**3.3441**	**13.6231**	**0.0422**	**2.5802**	**0.0923**	**2.6725**	**0.6888**	**0.0891**	**0.7778**		**3,714.2436**	**3,714.2436**	**0.1236**	**0.0145**	**3,721.3486**

	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	**0.16**	**2.89**	**0.61**	**1.38**	**0.00**	**7.58**	**0.28**	**0.00**	**7.83**	**0.96**	**0.00**	**3.12**	**3.12**	**1.83**	**13.14**	**3.13**

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	1.2995	2.6829	13.0451	0.0383	2.5802	0.0420	2.6222	0.6888	0.0387	0.7275		2,920.9234	2,920.9234	0.1083		2,923.1979
Unmitigated	1.2995	2.6829	13.0451	0.0383	2.5802	0.0420	2.6222	0.6888	0.0387	0.7275		2,920.9234	2,920.9234	0.1083		2,923.1979

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	315.75	315.75	315.75	921,836	921,836
Office Park	118.77	17.06	7.90	221,552	221,552
Total	434.52	332.81	323.65	1,143,388	1,143,388

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
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0727	0.6611	0.5553	3.9700e-003		0.0502	0.0502		0.0502	0.0502		793.2719	793.2719	0.0152	0.0145	798.0996
NaturalGas Unmitigated	0.0837	0.7607	0.6390	4.5600e-003		0.0578	0.0578		0.0578	0.0578		912.8338	912.8338	0.0175	0.0167	918.3892

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					
Office Park	959.649	0.0104	0.0941	0.0790	5.6000e-004		7.1500e-003	7.1500e-003		7.1500e-003	7.1500e-003		112.8999	112.8999	2.1600e-003	2.0700e-003	113.5870

General Heavy Industry	6799.44	0.0733	0.6666	0.5600	4.0000e-003		0.0507	0.0507		0.0507	0.0507		799.9339	799.9339	0.0153	0.0147	804.8022
Total		**0.0837**	**0.7607**	**0.6390**	**4.5600e-003**		**0.0578**	**0.0578**		**0.0578**	**0.0578**		**912.8338**	**912.8338**	**0.0175**	**0.0167**	**918.3892**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	6.01396	0.0649	0.5896	0.4953	3.5400e-003		0.0448	0.0448		0.0448	0.0448		707.5243	707.5243	0.0136	0.0130	711.8301
Office Park	0.728855	7.8600e-003	0.0715	0.0600	4.3000e-004		5.4300e-003	5.4300e-003		5.4300e-003	5.4300e-003		85.7476	85.7476	1.6400e-003	1.5700e-003	86.2695
Total		**0.0727**	**0.6611**	**0.5553**	**3.9700e-003**		**0.0502**	**0.0502**		**0.0502**	**0.0502**		**793.2719**	**793.2719**	**0.0152**	**0.0145**	**798.0996**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	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	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511

Unmitigated	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511

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	0.8168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1400e-003	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Total	**5.5462**	**2.1000e-004**	**0.0227**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0483**	**0.0483**	**1.3000e-004**		**0.0511**

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	0.8168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1400e-003	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Total	**5.5462**	**2.1000e-004**	**0.0227**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0483**	**0.0483**	**1.3000e-004**		**0.0511**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

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

Proposed EDI Recycling Facility

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	10.40	1000sqft	0.24	10,400.00	0
General Heavy Industry	210.50	1000sqft	4.83	210,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	150

tblGrading	MaterialExported	0.00	7,000.00
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

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	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Energy	0.0837	0.7607	0.6390	4.5600e-003		0.0578	0.0578		0.0578	0.0578		912.8338	912.8338	0.0175	0.0167	918.3892
Mobile	1.3765	2.8521	13.6927	0.0364	2.5802	0.0421	2.6224	0.6888	0.0389	0.7276		2,781.5166	2,781.5166	0.1084		2,783.7932
Total	**7.0064**	**3.6130**	**14.3543**	**0.0409**	**2.5802**	**0.1000**	**2.6802**	**0.6888**	**0.0968**	**0.7855**		**3,694.3988**	**3,694.3988**	**0.1260**	**0.0167**	**3,702.2335**

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	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Energy	0.0727	0.6611	0.5553	3.9700e-003		0.0502	0.0502		0.0502	0.0502		793.2719	793.2719	0.0152	0.0145	798.0996
Mobile	1.3765	2.8521	13.6927	0.0364	2.5802	0.0421	2.6224	0.6888	0.0389	0.7276		2,781.5166	2,781.5166	0.1084		2,783.7932
Total	**6.9954**	**3.5134**	**14.2707**	**0.0403**	**2.5802**	**0.0924**	**2.6727**	**0.6888**	**0.0892**	**0.7779**		**3,574.8368**	**3,574.8368**	**0.1237**	**0.0145**	**3,581.9439**

	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	**0.16**	**2.76**	**0.58**	**1.44**	**0.00**	**7.57**	**0.28**	**0.00**	**7.82**	**0.96**	**0.00**	**3.24**	**3.24**	**1.82**	**13.14**	**3.25**

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	1.3765	2.8521	13.6927	0.0364	2.5802	0.0421	2.6224	0.6888	0.0389	0.7276		2,781.5166	2,781.5166	0.1084		2,783.7932
Unmitigated	1.3765	2.8521	13.6927	0.0364	2.5802	0.0421	2.6224	0.6888	0.0389	0.7276		2,781.5166	2,781.5166	0.1084		2,783.7932

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	315.75	315.75	315.75	921,836	921,836
Office Park	118.77	17.06	7.90	221,552	221,552
Total	434.52	332.81	323.65	1,143,388	1,143,388

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
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0727	0.6611	0.5553	3.9700e-003		0.0502	0.0502		0.0502	0.0502		793.2719	793.2719	0.0152	0.0145	798.0996
NaturalGas Unmitigated	0.0837	0.7607	0.6390	4.5600e-003		0.0578	0.0578		0.0578	0.0578		912.8338	912.8338	0.0175	0.0167	918.3892

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					
Office Park	959.649	0.0104	0.0941	0.0790	5.6000e-004		7.1500e-003	7.1500e-003		7.1500e-003	7.1500e-003		112.8999	112.8999	2.1600e-003	2.0700e-003	113.5870
General Heavy Industry	6799.44	0.0733	0.6666	0.5600	4.0000e-003		0.0507	0.0507		0.0507	0.0507		799.9339	799.9339	0.0153	0.0147	804.8022

Total		**0.0837**	**0.7607**	**0.6390**	**4.5600e-003**		**0.0578**	**0.0578**		**0.0578**	**0.0578**		**912.8338**	**912.8338**	**0.0175**	**0.0167**	**918.3892**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	6.01396	0.0649	0.5896	0.4953	3.5400e-003		0.0448	0.0448		0.0448	0.0448		707.5243	707.5243	0.0136	0.0130	711.8301
Office Park	0.728855	7.8600e-003	0.0715	0.0600	4.3000e-004		5.4300e-003	5.4300e-003		5.4300e-003	5.4300e-003		85.7476	85.7476	1.6400e-003	1.5700e-003	86.2695
Total		**0.0727**	**0.6611**	**0.5553**	**3.9700e-003**		**0.0502**	**0.0502**		**0.0502**	**0.0502**		**793.2719**	**793.2719**	**0.0152**	**0.0145**	**798.0996**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	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	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Unmitigated	5.5462	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511

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	0.8168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1400e-003	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Total	**5.5462**	**2.1000e-004**	**0.0227**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0483**	**0.0483**	**1.3000e-004**		**0.0511**

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	0.8168					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.7273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1400e-003	2.1000e-004	0.0227	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0483	0.0483	1.3000e-004		0.0511
Total	**5.5462**	**2.1000e-004**	**0.0227**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0483**	**0.0483**	**1.3000e-004**		**0.0511**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

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