LOS OSOS WASTEWATER PROJECT

Construction Activity Management Plan (Air Quality)

October 2012

County of San Luis Obispo

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Prepared by:

Environmental Programs Division
Department of Public Works
County of San Luis Obispo

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LOS OSOS WASTEWATER PROJECT

Construction Activity Management Plan (Air Quality)

1.0 Introduction

The County of San Luis Obispo (County) is proposing to construct a wastewater collection, treatment and recycled water reuse system in the community of Los Osos (Figure 1), and Project construction equipment with internal combustion engines (e.g. backhoes, excavators, bulldozers, cranes) and on-road vehicles will result in air emissions of carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), greenhouse gases (GHG) and particulate matter (PM_{10}). This Construction Activity Management Plan (CAMP), required by San Luis Obispo Air Pollution Control District (APCD), is designed to minimize the amount of large construction equipment operating during any given period of the Los Osos Wastewater Project (LOWWP or Project), in order to reduce PM_{10} and/or NO_X emissions to a level of insignificance (reference Coastal Development Permit Conditions of Approval No. 35-38). Specifically, the purpose of the CAMP is to define the mitigation measures that will be employed as the Project moves forward, in order to ensure all requirements are accounted for in the budget, included in the contractor bid specifications, and are fully implemented throughout Project construction.

1.1 Project Summary

The Los Osos Wastewater Project (LOWWP or Project) is a proposal by the County of San Luis Obispo to develop a wastewater collection, treatment and recycled water reuse system to serve the majority of the community of Los Osos (see overall project site plan).

The key objectives of the Los Osos Wastewater Project are:

1. Develop a community wastewater project that will comply with California Regional Water Quality Control Board Waste Discharge Requirements.
2. Alleviate groundwater contamination—primarily nitrates—that has occurred at least partially because of the use of septic systems throughout the community.

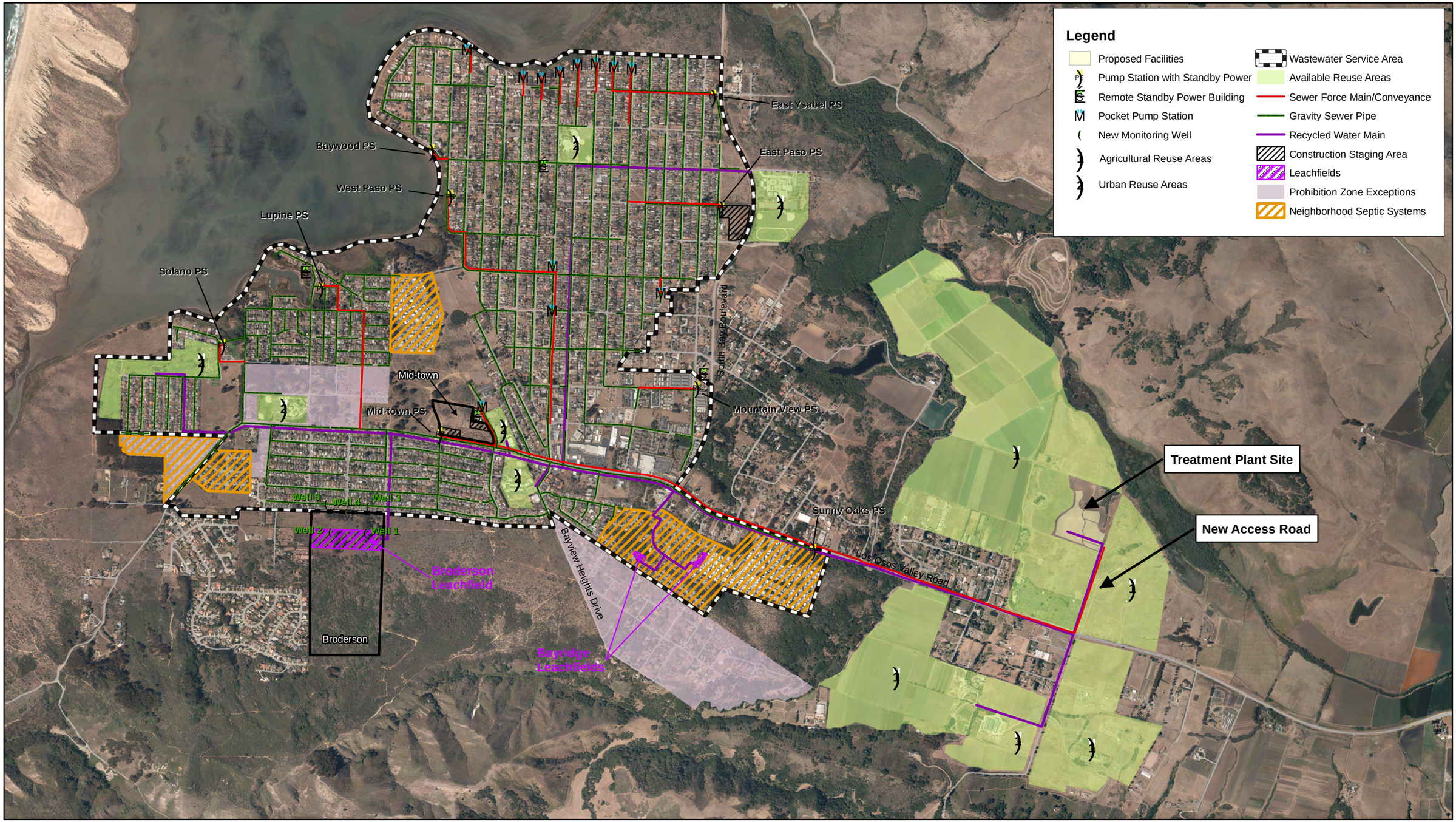
Los Osos is an unincorporated coastal community of approximately 15,000 residents located in San Luis Obispo County at the south end of Morro Bay, approximately twelve miles west of the City of San Luis Obispo, California.

Project construction will begin in early June, 2012, and will proceed continuously until completion, in about December 2014. Five construction contracts will be executed; these are listed below.

Contract	**Contractor**	**Construction Duration**
Mid-town Site Restoration	R. Burke Corporation	June 2012 – August 2012
Drainage Improvements	County crews	June 2012 – June 2014
Collection System Areas A & D	ARB, Inc.	September 2012 – September 2014[1]
Collection System Areas B & C	WA Rasic	October 2012 – October 2014[2]
Pump Stations	Mountain Cascade	October 2012 – October 2014[3]
Treatment Plant	TBD	May 2013 – May 2015[4]

A construction timeline graphic as well as narratives describing construction activities are attached as Appendix A.

[1] Includes: a) staging area site preparation/ mobilization, use and demobilization/restoration (detailed in August 15, 2012 letter from ARB, Inc. to Kate Ballantyne), b) individual segment construction, and c) pump station construction. See appendix B.
[2] Same as above
[3] Mountain Cascade will install the pumps and connect them to pipelines in vaults constructed by collection system contractors ARB, Inc. and WA Rasic
[4] Future update of CAMP will address treatment plant



Source: 2011 Pinnacles aerials, San Luis Obispo County GIS Data, Carollo Engineers, and MBA GIS Data.

2,000 1,000 0 2,000

Feet

Overall Project Site Plan

LOS OSOS WASTEWATER PROJECT 2012

Revised: 3/26/2012

1.2 Responsible Parties

County of San Luis Obispo
Public Works Department
County Government Center, Room 207
San Luis Obispo, CA 93408
Contact: John Waddell, Project Manager
jwaddell@co.slo.ca.us (805) 781-5252

James Brantley, Construction Management
HDR
2030 10th Street
Los Osos, CA 93402
(805)534-1432

ARB (Collection System Areas A and D)
Art Mercado, Superintendent
1333 Van Beurden Drive
Los Osos, CA 93402
(310)505-6258

WA Rasic (Collection System Areas B and C)
Jeff Ray, Superintendent
950 Los Osos Valley Road
Los Osos, CA 93402
(310)345-0266

Mountain Cascade (Pump Stations)
To be Determined

2.0 Existing Air Quality Conditions and Potential Impacts

This Project must satisfy all federal, state, and County air quality regulations.

2.1 San Luis Obispo County Air Quality Conditions

The County of San Luis Obispo is within the South Central Coast Air Basin which is comprised of three district subbasins: the Coastal Plateau, the Upper Salinas River Valley and the East County Plain. The LOWWP is located in the Coastal Plateau region. The local Mediterranean climate influenced by the Pacific Ocean, local winds and topography play a key role in the movement of air pollutants in the Los Osos area. Local temperature inversions can trap air pollutants for periods of time within the air basin, raising levels of criteria pollutants. Air quality in the area is largely influenced by vehicle emissions and the Morro Bay Power Plant. Local air emissions primarily include vehicle exhaust from local highways (State Highway 1), agricultural vehicles and local traffic.

San Luis Obispo County is in nonattainment with the State standard for respirable particulate matter (PM_{10}).

On April 28, 2005, the California Air Resources Board (ARB) approved the nation's most health protective ozone standard with special consideration for children's health. The new 8-hour-average standard at 0.070 ppm will further protect California's most vulnerable population from the adverse health effects associated with ground-level ozone. Based on monitoring data, San Luis Obispo County has been deemed nonattainment for the new ozone standard.

Use of project construction equipment with internal combustion engines (e.g. backhoes, excavators, bulldozers, and cranes) and on-road vehicles will result in air emissions of CO, NO_X, SO_2, reactive organic gases ROG, greenhouse gases (GHG) and PM_{10}. The CAMP is designed to address Project-related air emissions of ROG and NO_X,, diesel particulate matter and PM_{10}.

CO is formed primarily by the incomplete combustion of organic fuels, and its primary source in SLO County is light duty trucks and passenger cars. San Luis Obispo County is in attainment of the California and National 1-hour and 8-hour CO standards (APCD, 2010).

NO_X is the generic term for the various nitrogen oxides produced during fuel combustion. Project construction emissions of NO_X are estimated to be approximately 10 tons/quarter, significantly above APCD's mitigation threshold of 6.0 tons/quarter (Emissions Summary Tables – attached and MBA, 2008, Table 5.9-9). Air emissions above mitigation thresholds can require the implementation of Best Available Control Technologies (BACT) plus further mitigation, including off-site mitigation (APCD, 2009).

ROGs are primarily an output of mobile sources, such as light duty trucks and passenger cars. Quarterly ROG emissions (1.33 tons/quarter for 2013, 2014 and 2015) are within the range of APCD's significance criteria (6.0 tons/quarter), and could require mitigation.

SO_2 is a gas produced primarily from the combustion of sulfurous fuels by stationary and mobile sources. SLO County has been in attainment of the California and National SO_2 standards over the past ten years.

The two classes of particulate matter (PM) are PM_{10} (coarse particulate matter less than 10 microns in aerodynamic diameter), and $PM_{2.5}$ (fine particulate matter 2.5 microns or less in aerodynamic diameter). Both consist of many different types of particles that vary in their chemical activity and toxicity. $PM_{2.5}$ tends to be a greater health risk because it cannot be removed from the lungs once it is deeply inhaled. The largest PM emissions will most likely originate from soils (via roads, construction, agriculture, and natural windblown dust). Other sources of PM include sea salt, particulate matter released during combustion processes, such as those in gasoline and diesel vehicles, and wood burning. Also, NO_X and SO_X are precursors to the formation of secondary PM.

The appended Emissions table estimates that Project construction will result in approximately 1.6 tons/quarter of PM_{10}, which is below the APCD's significance criteria of 2.5 tons/quarter. In addition, San Luis Obispo County is in attainment for $PM_{2.5}$, but is designated as non-attainment of the California 24-hour PM_{10} standard.

And, in July of 1999 the California Air Resources Board (ARB) listed the PM emission from diesel-fueled engines as a toxic air contaminant with no identified threshold level below which there are no significant effects. If a project will result in release of diesel emissions in areas with potential human exposure, a finding of significance can be made, even if overall emissions are low. Factors that will be considered by APCD staff when determining significance of a project include the expected emissions from diesel equipment, location of the project, and distance to sensitive receptors (APCD, 2009).

2.2 Potential Project Impacts to San Luis Obispo County Air Quality

The LOWWP will result in air emissions from construction equipment with internal combustion engines (e.g., backhoes, excavators, bulldozers, cranes) and from offsite vehicles (e.g., construction employees' commute vehicles, and trucks which deliver equipment and materials). During construction along roadways with two lanes, only one lane would be available for traffic, the other lane would be closed, and traffic would be regulated according to a Traffic Control Plan. Additional emissions would be produced by vehicles idling on roads with lane closures.

Construction under each of the project's construction contracts will overlap with work being conducted under the other contracts. Major construction activity is expected to extend over three full years. The worst case scenario from the air emissions standpoint would occur when the collection system and treatment plant facility construction is occurring within the same time frame. Daily, quarterly, and annual anticipated emissions calculations are found in Appendix C.

In order to reduce air quality emissions, the District will implement several mitigation measures, described in Section 8.0, below. Specifically, Conditions 35 and 36 require the submittal of a

Construction Activity Management Plan (CAMP) for the review and approval of the APCD. The CAMP is designed to minimize the amount of large construction equipment operating during any given time period. This CAMP: (1) schedules construction trips during non-peak hours to reduce peak hour (6:30 am to 9 am and 4:30 pm to 6:30 pm) emissions; (2) limits the length of the construction work-day period, if necessary; and (3) phases construction activities, where appropriate.

2.3 Odors & Odor Control

Prior to commencement of grading activities, the LOWWP was required to submit for review and approval an Odor Control Plan (OCP) to the San Luis Obispo County Air Pollution Control District. The OCP identifies potential sources of odors and appropriate odor control techniques for minimizing off-site odors. The OCP also describes the process for receiving, handling and reporting odor complaints. The OCP was prepared and submitted to APCD, and approved on May 21, 2012. The project condition of approval, OCP and approval letter are in Appendix D.

2.4 Naturally Occurring Asbestos

Prior to any grading activities the LOWWP was required to ensure that a geologic evaluation was conducted to determine if Naturally Occurring Asbestos (NOA) is present within the area that will be disturbed. Because the evaluation demonstrated that NOA was not present, an exemption request was filed with the APCD. As a result, APCD issued an exemption on January 23, 2012 (Appendix E).

2.5 Hydrocarbon Contaminated Soil

Although unlikely, the project may encounter hydrocarbon contaminated soil. The following actions would be taken should contaminated soil be found during the construction phase:

- Should hydrocarbon contaminated soil be encountered during construction activities, the APCD must be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if an APCD Permit will be required. **The notification and permitting determination requirements shall be directed to the APCD Engineering Division at 781-5912.** In addition the following measures shall be implemented immediately after contaminated soil is discovered:
- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH – non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;
- The air quality impacts from the excavation and haul trips associated with removing the contaminated soil must be evaluated and mitigated if total emissions exceed the APCD's construction phase thresholds;

- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,
- Clean soil must be segregated from contaminated soil.

3.0 Proximity to Sensitive Receptors

Construction of the Project will expose sensitive receptors to dust and/or NO_X that leave the Project site. The trenching and backfill necessary to install approximately 235,000 feet of pipeline, and construction of pump stations and other collection system facilities will be in close proximity to sensitive receptors. Most of this infrastructure will be within the densely populated portion of the community.

The location for the wastewater treatment plant facility is known locally as the Giacomazzi site. The Giacomazzi site is a rectangular 38.2-acre portion of a larger parcel north of Los Osos Valley Road and west of Clark Valley Road. Although the treatment facility is in a more rural area of the community, sensitive receptors occur, including single family residences in the Sombrero Drive and Tapidero Avenue neighborhood, southwest of the site.

A goal of the CAMP is to locate construction staging areas at least 1000 feet from sensitive receptors. Due to the compact nature of the community, and limited areas suitable for staging, it is not possible to maintain this buffer.

The 4.7 acre Walker staging area is located at the southeast corner of Paso Robles Avenue and 18th Street. This area will be used for storage of construction materials prior to and during construction of the LOWWP. However, equipment will be stored at its "point of use" within the collection system (there will be no centralized staging area for large equipment). The site will be occupied for approximately 24 months and then restored to its original condition.

The ARB "Work Plan" includes using their Van Beurden field office and staging area as the primary assembly point for the crews. Crews will be required to park all personal vehicles at this location receive daily safety briefings then transported to the work area in crew vans or trucks. The field office staging area will also have containers (8'x 20') which will have incidental supplies and small equipment, which will also be transported to the site. This will be where ARB's crew vans and trucks will be parked at night and on weekends. ARB does not anticipate that any large equipment will be staged or stored at this location. This area will be the starting and ending point for each day's activities, eliminating personal vehicle use and also reducing the number of vehicles parked in work zones within the community. The field office staging area will have all of the same BMP's as the Walker site, and will be monitored accordingly.

The Andre staging area is located north of Los Osos Valley road immediately east of the Los Osos Cemetery and the LOWWP treatment plant site. Although the activities at this staging area are not well defined at this point, it is anticipated that intensive activities such as a batch plant would be sited here, rather than at the Walker staging area.

Please see Appendix F for maps of staging areas.

4.0 Air Quality Coastal Development Permit Conditions of Approval

35 Construction Activity Management Plan

Prior to commencement of grading activities, the applicant shall submit a Construction Activities Management Plan for the review and approval of the SLOAPCD. This plan shall include but not be limited to the following Best Available Control Technologies for construction equipment:

a. Minimize the number of large pieces of construction equipment operating during any given period.

b. Schedule construction related truck/equipment trips during non-peak hours to reduce peak-hour emissions and overall daily and quarterly emissions.

c. Properly maintain and tune all construction equipment according to manufacturer's specifications.

d. Fuel all off-road and portable diesel powered equipment including but not limited to: bulldozers, graders, cranes, loaders, scrapers, backhoes, generators, compressors, auxiliary power units, with ARB certified motor vehicle diesel fuel.

e. All diesel construction equipment shall meet ARB's Tier 3 standard for off-road heavy duty diesel engines.

f. All on-road heavy-duty trucks shall meet the ARB's 2007 or newer certification standard for on-road heavy-duty diesel engines.

g. All on and off-road diesel equipment shall not be allowed to idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit.

h. Electrify portable equipment where possible throughout the project area.

i. All diesel powered portable equipment used shall have tier 2 or tier 3 engines and retrofitted with an ARB level 3 verified diesel emissions control strategy (VEDEC).

j. Locate construction staging areas at least 1000 feet from sensitive receptors.

<u>Discussion</u>
Item g. above allows idling for up to 5 minutes. Contractors will be expected to comply with a "no idling" standard. "No idling" signs will be posted throughout the work zone and at the staging areas.

36 Construction Activity Management Plan

The Construction Activity Management Plan (CAMP) should include but not be limited to the following elements:

a. Schedule construction truck trips during non-peak hours to reduce peak hour emissions;

b. Limit the length of the construction work-day period, if necessary;

c. Phase construction activities to minimize overlapping emissions; and

d. Construction Equipment composition and schedule including:

1. Equipment Type
2. Equipment Model
3. Equipment Year
4. Engine Type
5. Engine Model
6. Engine Year
7. Engine Horsepower
8. Schedule of use

37 APCD Off-Site Mitigation Program

APCD and the County will establish an off-site mitigation program based on the ozone precursor, PM exceedence, and greenhouse gas emissions. The County may use the funding of this program to implement APCD approved emission reduction projects near the project site or may pay that funding level plus a 15 percent administration fee to the APCD for the APCD to implement emission reduction projects in close proximity to the project. The County will provide the funding at a time or schedule approved by the APCD to help facilitate emission offsets that are as timely.

38 Update CAMP Prior to Construction

Prior to commencement of grading activities, an updated air quality emissions analysis consistent with the CAMP and mitigation measures above will be submitted to determine if additional measures (e.g. off-site mitigation) are required to reduce the air quality impact below the levels of significance.

76 Dust Control

Project contract documents would include the following dust control measures:

a. Reduce the amount of the disturbed area where possible,

b. Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency will be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.

c. All dirt stockpile areas will be sprayed daily as needed,

d. Permanent dust control measures identified in the revegetation and landscape plans will be implemented as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading will be sown with a fast germinating native grass seed and watered until vegetation is established.

f. All disturbed soil areas not subject to revegetation will be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD. Any erosion and sedimentation control netting or other erosion and sedimentation control devises used for temporary or permanent

erosion and sedimentation control, shall be limited to biodegradable mesh or other biodegradable products.

g. All roadways, driveways, sidewalks, etc. to be paved will be completed as soon as possible. In addition, building pads will be laid as soon as possible after grading unless seeding or soil binders are used.

h. Vehicle speed for all construction vehicles will not exceed 15 mph on any unpaved surface at the construction site.

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or will maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

l. ~~If visible emissions of fugitive dust persist beyond a distance of 200 feet from the boundary of the construction site, all feasible measures shall be implemented to eliminate potential nuisance conditions at off-site receptors (e.g., increase frequency of watering or dust suppression, install temporary wind breaks where appropriate, suspend excavation and grading activity when winds exceed 25 mph).~~

m. The contractor will designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties will include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons will be provided to the SLOAPCD prior to the start of construction.

At the request of APCD, letter “l” will be replaced with: <u>water trucks or sprinklers shall be used in quantities sufficient to prevent visible airborne dust from exceeding 20% opacity for a period or periods aggregating more than three (3) minutes in any hour</u>.

77 Off-Site Mitigation for Emissions

If the above mitigation measures do not bring the construction emissions below the thresholds, off-site mitigation funds can be used to secure emission reductions from projects located in close proximity to this construction site. In this instance, emissions in excess of construction phase thresholds are multiplied by the cost effectiveness value defined in the State's current Carl Moyer Incentive Program Guidelines to determine the off-site mitigation amount associated with the construction period. Examples of off-site emission reduction measures are contained in Section 5.9 of the 2003 CEQA Air Quality Handbook. The actual mix of mitigation measures that would be required to meet the reduction in NO_X to less than a total of 185 lbs per day or 6.0 tons per quarter over the term of construction and would be finalized and mutually agreed to by the Applicant and appropriate staff of the SLOAPCD prior to commencement of construction of the project.

<u>Discussion</u>

The above mitigation measures may not bring the construction emissions below the thresholds, therefore off-site mitigation funds would be used to secure emission reductions from projects located in or near the community of Los Osos.

5.0 Mitigation

5.1 Mitigation Monitoring

For the duration of the Project, the following persons shall be the designated monitors for the CAMP implementation:

Contract	Name, Title	Telephone
ARB	Daniel Duke, Project Engineer	562-440-3949
ARB	Art Mercado, Superintendent	310-505-6258
ARB	Kenneth Crook, Safety Manager	949-613-1167
ARB	Paul Gallagher, Project Manager	949-813-0665
WA Rasic	Jeremy Juarez, Sr. Project Manager	310-345-0266
WA Rasic	Jeff Grubb, Project Manager	310-864-1217
WA Rasic	Jeff Ray, Superintendent	310-864-1957
WA Rasic	Cody Roller, Foreman	310-864-0084
Mountain Cascade	Jeremy Taylor, Project Manager	925-525-1666

The monitor's duties shall include holidays and weekend periods when work may not be in progress.

5.2 Mitigation of PM_{10} (Dust)

In 2004, San Luis Obispo County's greatest source of PM_{10} was unpaved road dust (APCD, 2005). Construction activities can generate fugitive dust, which could be a nuisance to nearby sensitive receptors as defined in Section 3.0 and businesses in close proximity to construction

activities. Dust complaints could result in a violation of the APCD's 402 "Nuisance" Rule. Condition of approval 76 of the Project's Coastal Development Permit has various measures which need to be implemented to reduce dust during construction. All PM_{10} mitigation measures are for the contractors to implement.

5.3 Mitigation of Construction Equipment Emissions (NO_X and PM)

5.3.1 Construction Scheduling

In addition to Condition of Approval 36 which requires the CAMP to address construction scheduling, the following mitigation measures shall be employed:

a) Construction activities shall be scheduled to reduce the peak loading of emissions, such that simultaneous large equipment operation is limited.

b) Where feasible, the amount of cut and fill shall be limited to 2,000 cubic yards per day.

c) When multiple pieces of large equipment are operating at once during periods with high pollutant levels (between 6:30 am and 9 am and 4:30 pm and 6:30 pm), and when feasible, the length of the construction workday shall be limited.

5.3.2 On-road Truck Management (NO_X and PM)

It is currently estimated that up to 600 materials deliveries may occur over the 24 month construction period. In order to reduce NO_X and PM emissions from on-road trucks operating during construction, the following mitigation measures shall be employed:

a) Proposed truck routes shall be evaluated to define routing patterns with the least impact to residential communities and sensitive receptors.

b) To the extent feasible, construction truck trips shall be scheduled during non-peak hours to reduce peak hour emissions.

c) If it is necessary to have queuing areas, haul truck, delivery trucks, and other construction equipment in loading and unloading queues shall be kept with the engine off when not in use, to reduce vehicle emissions. Signs shall be placed in queuing areas to remind drivers to limit idling to no longer than five minutes. Even if queuing is not required, idling shall be limited to five minutes, and in the case of activity near sensitive receptors, idling shall not be permitted.

d) Equipment shall be staged at "point of use." Other staging areas shall be primarily used for materials storage and soil stockpiling.

e) All on-road heavy-duty trucks shall meet the ARB's 2007 or newer certification standard for on-road heavy-duty diesel engines.

5.3.3 Best Available Control Technology (CBACT) Mitigation Measure for Construction Equipment

Construction equipment to be used is identified in the attached spreadsheet (Appendix B).

Condition of Approval 35 requires that all diesel construction equipment meet ARB's Tier 3 standard for off-road heavy duty diesel engines. In addition, the equipment that shall be used most often near sensitive receptors shall be: 1) equipped with either Tier 4 engines, 2) shall have ARB verified Level 3 exhaust retrofits, or 3) alternatively fueled engines. The BACT measures shall be agreed upon by the APCD, the County, and the contractors. Once the BACT measures are agreed to by these parties, the contractors will promptly implement the measures, and the equipment that is meeting the BACT requirement shall be utilized as a primary piece of equipment for the project and utilized throughout the duration of the project.

The finalized BACT agreement for each of the contractors shall be attached to the CAMP. These agreements can be in the form of a series of emails that formalize the agreement between the APCD, the County and each of the contractors. The APCD shall periodically spot check the contractor's fleets to ensure compliance with this agreement.

6.0 Permitting Requirements

Any equipment 50 hp or greater that require California Statewide portable equipment registration, or an APCD permit, shall not be operated on the site until the proper permits are secured.

Other permits required for the project include the following:

- Local Coastal Development Permit – County Board of Supervisors (September 29, 2009)
- Coastal Development Permit – California Coastal Commission (September 7, 2010)
- Streambed Alteration Agreement for crossing Los Osos Creek (July 26, 2012)
- Compliance with Construction Stormwater General Permit (WDID numbers issued to date: 42502-83120 for collection system and 3 40C363670 for Broderson leachfield)

7.0 Complaints

a) All complaints regarding NO_X and PM emissions related to construction activity shall be addressed to the Community Liaison, Michelle Houser at (805) 242-6815 and resolved by the Construction Management team.

b) A hotline telephone number shall be established and publicized to help facilitate rapid complaint identification and resolution. In addition, Prop 65 notification with regard to toxic diesel emissions shall be made. The hotline number is (805) 242-6815, Michelle Houser, Community Liaison.

c) Contractors shall to post the complaint number such that the public that is near the construction activity can see the number to call or website to visit in case they have concerns.

d) In the event of complaints, additional measures or modifications to existing mitigation measures shall be adopted with approval from the APCD.

e) All complaints shall be reported immediately to the APCD Enforcement Division at (805) 781-5912.

8.0 Authors and References

8.1 Report Authors

Environmental Programs Division
Department of Public Works
County of San Luis Obispo
County Government Center Room 207
San Luis Obispo, CA 93408

Report Preparation: Eric Wier and Kate Ballantyne with technical assistance from SWCA, Inc.

8.2 References

Michael Brandman Associates (MBA). 2008. Expanded Air Quality Analysis Prepared for the Draft EIR County of San Luis Obispo Los Osos Wastewater Project.

San Luis Obispo Air Pollution Control District (APCD). July 2005. Particulate Matter Report – Implementation of SB 656 Requirements.

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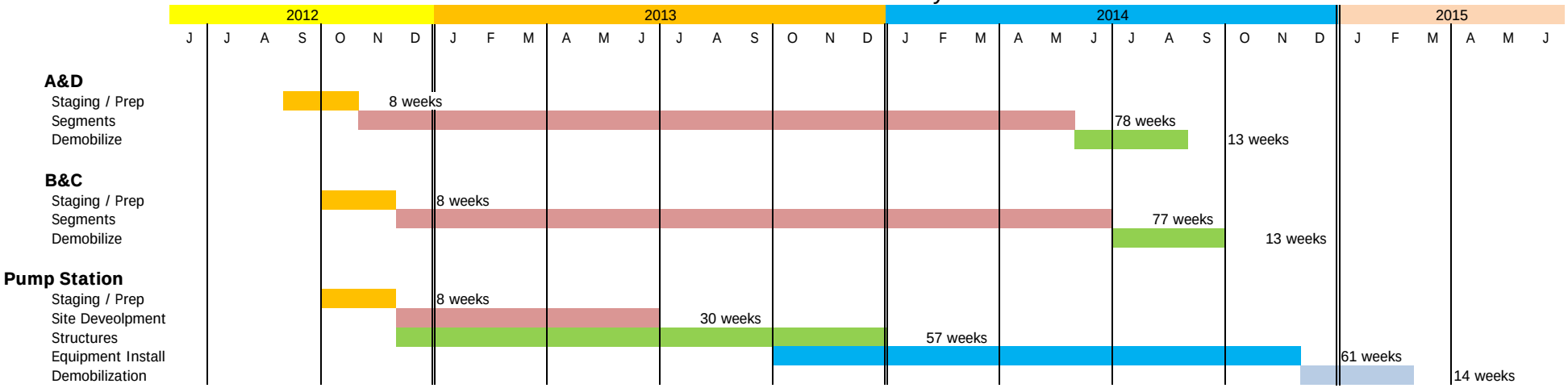
Appendix A
Construction Timeline and Activities

Los Osos Wastewater Collection System



Attention: Kate Ballantyne
Environmental Resource Specialist
Room 207
County Government Center
San Luis Obispo. CA 93408

RE: ARB Field Office and Staging Areas
Los Osos Waste Water Collection Project Segments A&B

The following plan has been developed based on the ARB review of the Los Osos Project Specifications and Site Conditions at the Walker Staging Area and also the ARB Field Office, located at 1333 Van Beurden Drive in Los Osos. ARB is very committed to try and minimize the overall impact of the project construction on the community and the environment, and have planned our work accordingly.

Van Beurden Staging Area:

The ARB "Work Plan" includes using our Field Office and Staging Area as the primary assembly point for the crews, they will be required to park all personnel vehicles at this location and then be briefed on the daily on Jobsite Safety and then transported to the work area in "Crew Vans or Trucks. The Field Office Staging Area will also have small containers 8'x 20' which will have incidental supplies and small equipment, which will also be transported to the site. This will be where our Crew Vans and Trucks will be parked at night and on the weekends. We do not anticipate at this time any large equipment being staged or stored at this location. This area will be the starting and ending point for each day's activities; this eliminates personnel vehicle use and also reduces the number of vehicles parked in the "Work Zones" within the community. The Field Office Staging Yard will have all of the same BMP's as the Walker Site, and will be monitored accordingly.

Walker Staging Area:

The Walker Staging Area as shown in Section 01500 in Figure A is located at the intersection of Paso Robles Avenue and 18th Street. This will be ARB's Primary Staging Area and will be used for the storage and laydown of materials and equipment. The site is approximately 2.9 Acres, and will be occupied for approximately 24 months and then restored to its original condition.

Scope of Work to be performed at the Staging Areas:

Site Preparation & Mobilization:

The Staging Areas may need to be cleared and grubbed and the appropriate BMP's installed before they can be utilized. This work should be considered Site Preparation and will be done with small equipment and field crews. We anticipate the site preparation to be completed in 3 to 4 days (with equipment in operation approximately 4 hours per day), and will include placement of approved construction entrances and fencing, before the site can be utilized.

Site Preparation:

Equipment to be used

1. Water Truck
2. Skip Loader
3. Cat 950 Loader
4. Small Trencher or Backhoe

The Walker Staging Yard will be used to store all of the pipe materials and appurtenances; the materials will be delivered in large quantities using Common Carriers. The materials will be off-loaded utilizing a 10,000 lbs. Forklift or Cat Loader with Forks. This operation will be ongoing for the first month with multiple loads per/day. Once the yard is set up and construction is ongoing this traffic will be reduced to a few trucks per week. The Staging will also have Storage Vans and Secured Containers for tools and appurtenances, these Vans and Containers (they are non-motorized) will be delivered to the site and will be stationary for the duration of the project.

The Van Beurden Staging Yard is mainly to facilitate the parking of employee vehicles and be the rallying point for the daily safety meetings. There will also be staging of smaller high value pieces of equipment and materials. The main benefit of this yard is that it is located within a business district and allows for the crews to have a place to park and meet with minimal to no impact on the surrounding community.

Day to Day Operations at the Staging Yard:

A day in the life of the Staging Yard, we say this because each day the same crews will go to the yard in the morning to pick up the materials needed for that day's activities. This work will be done by using a Crew Truck, we have anticipated 3 to 4 crews working on the project concurrently and it is a requirement that each crew pre-plan their work to reduce the number of trips to the staging yard. The construction equipment used for the "Dig, Lay and Backfill" Operation will be delivered and staged at the "Point of Use" and not the Staging Area. We have anticipated there will be a 10,000 lbs. Forklift or Cat 950 Loader w/forks in the Staging Yard to unload materials as needed (estimated at 4 hours per day). There will be periodic trips with the Water Truck for Dust Control within the staging yard and project work areas. The Walker Staging Yard could also be used for temporary storage of surplus soil and backfill material; this material would be transported to from the work areas to staging area utilizing 10 Wheel Dump Trucks. The number of trips for this operation is estimated to be 3 loads per day, 2 to 3 days per week. Each load delivered would consist of the dump truck being at the site less than one hour total per day.

The Walker Staging Area is not intended to be used for field office operations, crew assembly or dispatch, equipment storage or equipment maintenance yard. The primary use will be materials storage and material handling. There will be a posted no idling policy at the Staging Area, for all equipment (both on and of road).

The Staging Area Demobilization and Restoration:

The ARB Staging Areas will be utilized for approximately 18 to 24 months for material storage and staging. The sites will be restored to their original condition. The site restoration will include the removal of site BMP's and fencing- this will include minor grading. The site will then be stabilized appropriately as required.

The equipment we have anticipated for the Staging Yard Restoration will include the following:

1. Skip Loader
2. Water Truck
3. Loader
4. Ten Wheel Dump Truck, for off haul of rock and debris
5. 2 Crew Trucks with small tools

The Field Office Staging Yard and the Walker Staging Yard will be monitored daily as part of the Project SWPPP and BMP's and the actual amount of work performed in these areas may be amended to facilitate a more efficient operation for crews and equipment.

Pump Stations

Attention: Kate Ballantyne
Environmental Resource Specialist
Room 207
County Government Center
San Luis Obispo. CA 93408

RE: Collection System Pump Station Narrative
Los Osos Waste Water Project

The following plan has been developed based on the necessary construction activities required to complete the pump stations and standby power buildings. The plan is developed on two generic facilities. One generic facility (of 9 total) is constructing a typical pumping plant and standby power building. The other is completing one (of 12 total) pocket pump station.

Scope of Work to be performed at a Typical Pump Station with Standby Power Building:

The typical pump station with sand-by power building requires 5 major activities:

1. Grade the site, install conduit and excavate the standby power building foundation.
2. Build forms, set concrete reinforcement and place concrete foundation.
3. Construct Standby Power Building.
4. Install Engine/Generator & Controls
5. Place Aggregate Base & Asphalt Paving

Scope of Work to be performed completing a Typical Pocket Pump Station:

There are 12 pocket pump stations to complete that consist of installing the submersible pump and piping into the existing (installed by collection system contract) facility. After the pump/ piping installation, the electrical wiring and controls will be installed and connected.

1. Install pump and piping.
2. Install electrical service and connect control system.

Appendix B

Equipment List – ARB

ONSITE EQUIPMENT SHEET

PROJECT #: 1331-209
DESCRIPTION: LOS OSOS WASTEWATER COLLECTION PROJECT

ESTIMATED PROJECT COMPLETION: 6/30/2014

	Estimated Working Days	Location	ARB EQUIP. #	DESCRIPTION	ATTACHMENTS	*CARB / PERP / Exemption #	Engine Serial #	Engine Manufacturer	Engine Model	Engine Model Year	Engine Horse Power	Fuel Type	**Emission Control	Tier Engine	Estimated Usage per Day
1		Staging Area	QUINN (R4A00647)	Cat 950K Loader	GP bucket, forks and AC zipper (FUSION COUPLER BUCKET)		C7R02828	CATERPILLAR, INC.	C21	2012	239.4	Diesel	TC	T4i	4.0
2		Staging Area		Storage Container		n/a						None	n/a	n/a	-
3		Staging Area		Storage Container		n/a						None	n/a	n/a	-
4		Staging Area		Storage Container		n/a						None	n/a	n/a	-
5		Heading 1 / Heading 2	QUINN (D8A00146)	Cat 255E Trench Paving Machine			CYP01755	CATERPILLAR, INC.	C2.2	2012	45.7	Diesel	AC	T4i	4.0
6		Heading 1 / Heading 2	431011	John Deere 210LJ Skip Loader	Gannon box to work with paving crew	BX5V96	PE4045L126090	JOHN DEERE POWER SYSTEMS	4045HT	2010	84	Diesel	TC	T3	4.0
7		Heading 1 / Heading 2	553068	Laymor Broom Sweeper		CL4K59	YG1095	KUBOTA CORPORATION	V250E	2000	36	Diesel	AC	T1	4.0
8		Heading 1 / Heading 2	QUINN	Smooth Double Drum Paving Roller 3-5 ton (CB14XW)				CATERPILLAR, INC.		2012	100	Diesel	AC	T4i	6.0
9		Heading 1 / Heading 2	197004	2,000 Gallon Water Truck		n/a				2007	190	Diesel	TC	n/a	6.0
10		Heading 1 / Heading 2		Emulsion or Bitch Pot		n/a						None	n/a	n/a	4.0
11		Potholing	382069	Vac Trailer		n/a			25	2000		Gas	n/a	n/a	6.0
12		Potholing	216001	Sterling Mud Dog (Vac Truck)		n/a		Sterling	6M60	2006	360	Diesel	TC	n/a	6.0
13		Heading 1		Low Clearance Drill Rig with Auger	24" auger that can drill to 30 ft.										4.0
14		Heading 1	363028	Cat 330DL Excavator	32" bucket, 24" compaction wheel	RJ8D87	THX09002	CATERPILLAR, INC.	C-9	2007	268	Diesel	TC	T3	6.0
15		Heading 1	QUINN (MPG00446)	Cat 321EL Excavator	32" bucket, 24" compaction wheel (24" & 30" BUCKETS)		GDC68601	CATERPILLAR, INC.		2012	148	Diesel	TC	T4i	6.0
16		Heading 1	QUINN	Cat 450E Backhoe	12", 24" bucket; compaction wheel (MP BUCKET; 24" BUCKET)			CATERPILLAR, INC.		2012	124	Diesel	TC	T4i	6.0
17		Heading 1	QUINN	Cat 450E Backhoe	4 in 1 bucket, 24" bucket, compaction wheel (MP BUCKET; 24" BUCKET)			CATERPILLAR, INC.		2012	124	Diesel	TC	T4i	6.0
18		Heading 1	QUINN (RHN01147)	Cat 930K Loader	Side dump bucket, forks (SIDE DUMP BUCKET)			CATERPILLAR, INC.		2012	154	Diesel	TC	T4i	6.0
19		Heading 1	QUINN (JAY06902)	Cat 246C Skid Steer	Small AC grinder like Encinitas project, with broom and bucket		CYM36602	CATERPILLAR, INC.		2012	73	Diesel	TC	T4i	4.0
20		Heading 2	363034	Cat 336DL Excavator	32" bucket, 24" compaction wheel	DS7W38	THX26779	CATERPILLAR, INC.	C-9	2010	268	Diesel	TC	T3	6.0
21		Heading 2	QUINN (MPG00448)	Cat 321EL Excavator	32" bucket, 24" compaction wheel (24" & 30" BUCKETS)		GDC68719	CATERPILLAR, INC.		2012	148	Diesel	TC	T4i	6.0
22		Heading 2	QUINN	Cat 450E Backhoe	12", 24" bucket; compaction wheel (MP BUCKET; 24" BUCKET)			CATERPILLAR, INC.		2012	124	Diesel	TC	T4i	6.0
23		Heading 2	QUINN	Cat 450E Backhoe	5 in 1 bucket, 24" bucket, compaction wheel (MP BUCKET; 24" BUCKET)			CATERPILLAR, INC.		2012	124	Diesel	TC	T4i	6.0
24		Heading 2	QUINN (RHN01151)	Cat 930K Loader	Side dump bucket, forks (SIDE DUMP BUCKET)			CATERPILLAR, INC.		2012	154	Diesel	TC	T4i	6.0
25		Heading 2	QUINN (JAY06902)	Cat 246C Skid Steer	Small AC grinder like Encinitas project, with broom and bucket		CYM38430	CATERPILLAR, INC.		2012	73	Diesel	TC	T4i	4.0

ONSITE EQUIPMENT SHEET

PROJECT #: 1331-209 **ESTIMATED PROJECT COMPLETION: 6/30/2014**

DESCRIPTION: LOS OSOS WASTEWATER COLLECTION PROJECT

	Estimated Working Days	Location	ARB EQUIP. #	DESCRIPTION	ATTACHMENTS	*CARB / PERP / Exemption #	Engine Serial #	Engine Manufacturer	Engine Model	Engine Model Year	Engine Horse Power	Fuel Type	**Emission Control	Tier Engine	Estimated Usage per Day
26		All		Ford F-650 2 Ton Flatbed		n/a		CUMMINS ENGINE CO., INC.		2012	250	Diesel	TC	n/a	4.0
27		All		Ford F-650 2 Ton Flatbed		n/a		CUMMINS ENGINE CO., INC.		2012	250	Diesel	TC	n/a	4.0
28		All		Utility Trailer		n/a						None	n/a	n/a	-
29		All	482210	Air Compressor (185CFM)	Jack hammer	n/a		CATERPILLAR, INC.	2.2	2011	49.5	Diesel	None	n/a	4.0
30		All	482209	Air Compressor (185CFM)	Jack hammer	n/a		CATERPILLAR, INC.	2.2	2011	49.5	Diesel	None	n/a	4.0
31		All		Arrow Board (Solar)		n/a						None	n/a	n/a	10.0
32		All		Arrow Board (Solar)		n/a						None	n/a	n/a	10.0
33		All		Arrow Board (Solar)		n/a						None	n/a	n/a	10.0
34		All		Arrow Board (Solar)		n/a						None	n/a	n/a	10.0
35		All		Arrow Board (Solar)		n/a						None	n/a	n/a	10.0
36		All		Arrow Board (Solar)		n/a						None	n/a	n/a	10.0
37		All		Message Boards (Solar)		n/a						None	n/a	n/a	24.0
38		All		Vibro Plates 1,000 lb. (Hydraulic)		n/a						None	n/a	n/a	4.0
39		All		Vibro Plates 1,000 lb. (Hydraulic)		n/a						None	n/a	n/a	4.0

*Specify Statewide Portable Equipment Registration number, Self-Propelled or <50 HP for diesel or <100 HP for gasoline engines.Must provide Statewide Portable Equipment Registration Certification (CARB Cert) for all PERP equipment.

** Degree of timing retard at least 4 degrees (TR); Turbo-charged (TC); Air-cooled (AC); Catalytic converters for gasoline engines (CC); or NONE

Appendix C
Project Specific Emissions Calculations

CalEEMod Assumptions

Van Beurden Staging Area

Assumed no construction necessary - already paved surfaces.

Transportation emissions from commuting already accounted for in on-road commuting calcuations in other sections.

CalEEMod not used as possible emissions accounted for in other sections.

Walker Yard Construction/Operation

Project Characteristics - Used default values (San Luis Obispo County) for windspeed, precipitation, climate zone, and land use.

Land Use - Walker Staging Area: 4.7 acres of disturbed area.

Construction Phase - Site Preparation & Mobilization (Site Preparation phase type) activites anticipated to take 4 days.
Staging Yard Operations (Building Construction phase type) expected to take place over 24 months (519 working days).
Demobilization & Restoration (Paving phase type) anticipated to take 4 days.
Material Import/Export from segment construction is calculated for the same timeframe as the Staging Yard Operations (24 months - 519 working days).

Off-road Equipment - Site Preparation & Mobilization (equipment type, hours/day (hr/d), horsepower (HP), and load factor (LF) in paranthesis): JD210LJ Skip Loader (Rubber Tired Dozer, 4 hr/d, 84 HP, 0.40 LF), 2,000-gallon Water Truck (Off-Highway Trucks, 6 hr/d, 190 HP, 0.38 LF), Backhoe (Tractors/Loaders/Backhoes, 6 hr/d, 124 HP, 0.37 LF), CAT950K Loader (Rubber Tired Loaders, 4 hr/d, 240 HP, 0.40 LF).

Off-road Equipment - Staging Yard Operations: 4 F-650 Crew Trucks (Off-Highway Trucks, 2 hr/d, 250 HP, 0.38 LF), 2,000-gallon Water Truck (Off-Highway Trucks, 2 hr/d, 190 HP, 0.38 LF).

Off-road Equipment - Demobilization & Restoration: D210LJ Skip Loader (Rubber Tired Dozer, 4 hr/d, 84 HP, 0.40 LF), 2,000-gallon Water Truck (Off-Highway Trucks, 6 hr/d, 190 HP, 0.38 LF), 10-wheel Dump Truck (Off-Highway Trucks, 6 hr/d, 190 HP, 0.38 LF), Catepillar 950K Loader (Rubber Tired Loaders, 4 hr/d, 240 HP, 0.36 LF), 2 F-650 Crew Trucks (Off-Highway Trucks, 4 hr/d, 250 HP, 0.38 LF).

Off-road Equipment - Material Import/Export: accounts for 110,000 cubic yards of fill material brought to the site for all construction activities. Catepillar 950K Loader (Rubber Tired Dozer, 4 hr/d, 240 HP, 0.40 LF).

Grading - Assumed 110,000 cubic yards of material imported/exported to and from the site total during Material Import/Export phase. Assumed phased transport. Assumed default values (7.1 mph mean vehicle speed, 12% material moisture content truck loading, 6.9% material silt content).

Trips and VMT - As worker-trips to other construction phases all originate out of one of the staging areas, used a facility-wide, average number worker trips per day aggregated from all activities of 30 worker-trips per day. Assumed CalEEMod default distance of 13 miles to reach staging areas for workers. Assumed approximately 600 vendor trips to the staging area over the course of construction/operation, with most of the vendor trips front-loaded to the first quarter of construction/operation, and default distance of 5 miles.. Assumed CalEEMod default haul trip number of 13,750 and average distance of 2 miles to and from staging area and construction area.

On-road Fugitive Dust - Assumed site vehicle transport only on paved roads (project does not utilize unpaved roads to reach site). Used default values for road silt loading (0.1 g/m^2), average vehicle weight (2.4 tons), and mean vehicle speed (40 mph).
Assumed default average vehicle weight (2.4 tons) and mean vehicle speed (40 mph).

Construction Off-road Equipment Mitigation - Rubber Tired Dozers, Loaders, and Tractors/Loaders/Backhoes use Tier 4 Interim engines. All others use Tier 3 engines. Assumed watering frequency of 3 times per day.

Segment Construction

Project Characteristics - Used default values (San Luis Obispo County) for windspeed, precipitation, climate zone, and land use.

Land Use - 1,000 foot linear segment by ~50 feet disturbed side surface = 50,000 square feet area per section = ~1.1 acres per segment.

Construction Phase - 1,000' segment expected to take 45 days with a single operating crew, with activities broken down as follows (anticipated days and input phase type in paranthesis): Segment Preparation & Mobilization (Site Preparation; 2 days), Typical Segment Operations (Building Construction; 40 days), Segment Demobilization & Restoration (Paving; 3 days).

Off-road Equipment - Segment Preparation & Mobilization: CAT450E Backhoe (Tractors/Loaders/Backhoes,6 hr/d, 124 HP, 0.37 LF), CAT930K Loader (Rubber Tired Dozer, 6 hr/d, 154 HP, 0.40 LF), 2 F-650 Crew Trucks (Off-Highway Trucks, 4 hr/d, 250 HP, 0.38 LF).

Off-road Equipment - Typical Segment Operations: 2000-gallon Water Truck (Off-Highway Trucks, 6 hr/d, 190 HP, 0.38 LF), 2 CAT450E Backhoes (Tractors/Loaders/Backhoes, 6 hr/d, 124 HP, 0.37 LF), CAT321 Excavator (Excavator, 6 hr/d, 148 HP, 0.38 LF), CAT330 Excavator (Excavator, 6 hr/d, 268 HP, 0.38 LF), CAT930K Loader (Rubber Tired Dozer, 6 hr/d, 154 HP, 0.40 LF), 2 F-650 Crew Trucks (Off-Highway Trucks, 4 hr/d, 250 HP, 0.38 LF).

Off-road Equipment - Demobilization & Restoration: 2000-gallon Water Truck (Off-Highway Trucks, 6 hr/d, 190 HP, 0.38 LF), 2 F-650 Crew Trucks (Off-Highway Trucks, 4 hr/d, 250 HP, 0.38 LF), JD210LJ Skip Loader (Rubber Tired Dozer, 4 hr/d, 84 HP, 0.40 LF), CAT255E Paver (Paver, 4 hr/d, 46 HP, 0.42 LF), Tack Sprayer (Paving Equipment, 4 hr/d, 82 HP, 0.36 LF), 5-ton Roller (Roller, 6 hr/d, 100 HP, 0.38 LF), 185CFM Compressor (Air Compressor, 4 hr/d, 50 HP, 0.43 LF).

Grading - Dust from material import/export accounted for in Walker Staging Area calculations.

Trips and VMT - Removed worker-trips; aggregated under Walker Yard emissions.

On-road Fugitive Dust - Assumed worker/site vehicle transport only on paved roads (worker transport to and from site segments accounted for in off-road crew truck emission calculations). Used default values for road silt loading (0.1 g/m^2), average vehicle weight (2.4 tons), and mean vehicle speed (40 mph).
Construction Off-road Equipment Mitigation - Pavers, Rollers, Rubber Tired Loaders, Tractors/Loaders/Backhoes use Tier 4 Interim engines. All others use Tier 3 engines. All others use program default. Assumed watering frequency of 3 times per day.

Pump Station Construction

Project Characteristics - Used default values (San Luis Obispo County) for windspeed, precipitation, climate zone, and land use.

Land Use - assumed 0.5 acres of disturbed area (~1,000 square foot construction footprint per site; 21 sites)

Construction Phase - As mobilization, construction, and demobilization work overlaps as multiple stations are worked on simultaneously, equipment days of use was normalized over entire construction schedule (2 years).

Off-road Equipment - Broom Sweeper (Sweepers/Scrubbers, 0.5 h/d, 36 HP, 0.42 LF), CAT246C Skid Steer (Skid Steer Loaders, 1.4 h/d, 73 HP, 0.37 LF), Case Backhoe (Tractors/Loaders/Backhoes, 1.4 hr/d, 124 HP, 0.37 LF), 2 F-650 Trucks (Off-Highway Trucks, 0.8 hr/d, 250 HP, 0.38 LF), 2 185CFM Compressor (Air Compressor, 1.5 hr/d, 50 HP, 0.42 LF), CAT450E Backhoe (Tractors/Loaders/Backhoes, 2.2 hr/d, 124 HP, 0.37 LF), JD210LJ Skip Loader (Rubber Tired Dozer, 2.2 hr/d, 84 HP, 0.40 LF), 2,000-gallon Water Truck (Off-Highway Trucks, 1.1 hr/d, 190 HP, 0.38 LF), CAT950K Loader (Rubber Tired Dozer, 2.2 hr/d, 240 HP, 0.40 LF), 2 F-350 Utility Trucks (Off-Highway Trucks, 1.1 hr/d, 250 HP, 0.38 LF).

Trips and VMT - Removed worker-trips; aggregated under Walker Yard emissions.

Construction Off-road Equipment Mitigation - Rubber Tired Loaders and Tractors/Loaders/Backhoes use Tier 4 Interim engines. All others use Tier 3 engines. Assumed watering frequency of 3 times per day.

Mid-Town Restoration

Project Characteristics - Used default values (San Luis Obispo County) for windspeed, precipitation, climate zone, and land use.

Land Use - assumed approximately 15 acres of disturbed area.

Construction Phase - Project construction took place from 5/21/2012 to 9/7/2012.

Off-road Equipment - Used actual equipment roster. Categorized equipment by type, calculated hours of equipment usage per day by dividing total number of hours for all equipment in a type by total number of work days. Used CalEEMod default horsepower rating and ARB 2011 default load factors for equipment types.

Trips and VMT - Assumed 5 worker-trips a day and CalEEMod default trip length (13 miles).

Construction Off-road Equipment Mitigation - Assumed use of Tier 3 engines (CalEEMod default). Assumed watering frequency of 3 times per day.

Drainage Improvements

Project Characteristics - Used default values (San Luis Obispo County) for windspeed, precipitation, climate zone, and land use.

Land Use - assumed 0.05 acres of disturbed area per site.

Construction Phase - Used actual equipment roster and hours of equipment use for the construction of a single drainage improvement (20 total to be constructed). Assumed construction would take place on average over 4 days per improvement.

Off-road Equipment - Case 580L Backhoe (Tractors/Loaders/Backhoes, 12 hr/d, 82 HP, 0.37 LF), Freightliner FL70 Truck (Off-Highway Trucks, 1 hr/d, 250 HP, 0.38 LF), Volvo WG Truck (Off-Highway Trucks, 2.5 hr/d, 395 HP, 0.38 LF), 2 Volvo Trucks (Off-Highway Trucks, 6 hr/d, 260 HP, 0.38 LF).

Trips and VMT - Removed worker-trips; aggregated under Walker Yard emissions.

Construction Off-road Equipment Mitigation - Assumed no mitigation measures employed.

Emission Summary Tables

Construction Area	Year	Construction Annual Emissions (tons/year) [1]							
		ROG	NO_x	ROG+NO_x	CO	SO_2	PM_{10} [2]	$PM_{2.5}$ [2]	CO_2e [3]
Walker Yard Construction / Operation	2012	0.04	0.27	0.31	0.42	0.00	1.19	0.18	57.71
	2013	0.17	1.04	1.21	1.59	0.00	3.98	0.21	227.13
	2014	0.14	0.79	0.93	1.18	0.00	3.07	0.20	175.27
Mid-Town Restoration	2012	0.09	0.79	0.88	0.33	0.00	0.06	0.05	83.31
	2013	-	-	-	-	-	-	-	-
	2014	-	-	-	-	-	-	-	-
Drainage Improvements (LID) [4]	2012	0.00	0.16	0.16	0.08	0.00	0.00	0.00	18.36
	2013	0.00	0.48	0.48	0.24	0.00	0.00	0.00	55.08
	2014	0.00	0.16	0.16	0.08	0.00	0.00	0.00	18.36
Collection System Construction [5]	2012	1.25	9.75	11.00	12.25	0.00	0.50	0.25	2,089.00
	2013	5.00	39.00	44.00	49.00	0.00	2.00	1.00	8,356.00
	2014	3.75	29.25	33.00	36.75	0.00	1.50	0.75	6,267.00
Pump Station Construction	2012	0.04	0.21	0.25	0.19	0.00	0.18	0.10	34.74
	2013	0.15	0.82	0.97	0.76	0.00	0.21	0.13	137.38
	2014	0.11	0.60	0.71	0.57	0.00	0.20	0.12	102.62
Total by Year	2012	1.42	11.18	12.60	13.27	0.00	1.93	0.58	2,283.12
	2013	5.32	41.34	46.66	51.59	0.00	6.19	1.34	8,775.59
	2014	4.00	30.80	34.80	38.58	0.00	4.77	1.07	6,563.25
Project-wide Cumulative Emissions		**10.74**	**83.32**	**94.06**	**103.44**	**0.00**	**12.89**	**2.99**	**17,621.96**

[1] Emissions calculated using California Emissions Estimator Model (CalEEMod); see attached.
[2] Aggregated fugitive and exhaust emissions.
[3] Value is in metric tons per year.
[4] Vemissions were calculated for construction per drainage improvement. A total of 20 drainage improvements were estimated, with construction of one drainage improvement beginning in the third quarter of 2012, continuing with 3 per quarter thereafter.
[5] Emissions were calculated in 1,000 linear foot segments; it is assumed that approximately 25 segments (25,000 linear feet) would be constructed per quarter, beginning in the fourth quarter of 2012.

Pollutant	Construction Emissions by Quarter (tons/year)									
	2012 [1]		2013 [2]				2014 [3]			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ROG	0.09	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	-
NO_x	0.83	10.35	10.34	10.34	10.34	10.34	10.33	10.25	10.21	-
ROG+NO_x	0.92	11.68	11.67	11.67	11.67	11.67	11.67	11.59	11.55	-
CO	0.33	12.92	12.90	12.90	12.90	12.90	12.89	12.85	12.83	-
SO_2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
PM_{10}	0.06	1.87	1.55	1.55	1.55	1.55	1.59	1.59	1.59	-
$PM_{2.5}$	0.05	0.53	0.34	0.34	0.34	0.34	0.36	0.36	0.36	-
CO_2e	87.90	2,195.22	2,193.90	2,193.90	2,193.90	2,193.90	2,195.40	2,186.22	2,181.63	-

[1] Emissions for Q3 of 2012 include all of the Mid-Town Restoration improvement emissions and construction emissions of one LID. Emissions for Q4 include the Walker Yard Construction / Operation emissions, remaining LID emissions for the year, the Collection System Construction and Pump Station Construction emissions.
[2] Emissions for each quarter of 2013 include the Walker Yard Construction / Operation, LID, Collection System Construction, and Pump Station Construction emissions.

[3] Emissions for Q1 of 2014 include Walker Yard Construction / Operation, LID, Collection System Construction, and Pump Station Construction emissions. Emissions for Q2 include Walker Yard Construction / Operation, Collection System Construction, and Pump Station Construction emissions, and construction of one LID. Emissions for Q3 include Walker Yard Construction / Operation, Collection System Construction, and Pump Station Construction emissions.

Los Osos Wastewater Project - Yard Construction

San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	1	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Utility Company**
Climate Zone	4	**Precipitation Freq (Days)**	44	

1.3 User Entered Comments

Project Characteristics -

Land Use - *

Construction Phase - *

Off-road Equipment - *

Off-road Equipment - *

Off-road Equipment - *

Off-road Equipment - *

Trips and VMT - *

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.07	0.51	0.35	0.00	1.67	0.02	1.69	0.44	0.02	0.46	0.00	57.60	57.60	0.01	0.00	57.71
2013	0.26	1.90	1.29	0.00	4.43	0.07	4.49	0.44	0.07	0.50	0.00	226.72	226.72	0.02	0.00	227.13
2014	0.19	1.35	0.93	0.00	3.53	0.05	3.57	0.44	0.05	0.48	0.00	174.98	174.98	0.01	0.00	175.27
Total	**0.52**	**3.76**	**2.57**	**0.00**	**9.63**	**0.14**	**9.75**	**1.32**	**0.14**	**1.44**	**0.00**	**459.30**	**459.30**	**0.04**	**0.00**	**460.11**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.04	0.27	0.42	0.00	1.18	0.01	1.19	0.17	0.01	0.18	0.00	57.60	57.60	0.01	0.00	57.71
2013	0.17	1.04	1.59	0.00	3.94	0.04	3.98	0.17	0.04	0.21	0.00	226.72	226.72	0.02	0.00	227.13
2014	0.14	0.79	1.18	0.00	3.04	0.03	3.07	0.17	0.03	0.20	0.00	174.98	174.98	0.01	0.00	175.27
Total	**0.35**	**2.10**	**3.19**	**0.00**	**8.16**	**0.08**	**8.24**	**0.51**	**0.08**	**0.59**	**0.00**	**459.30**	**459.30**	**0.04**	**0.00**	**460.11**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation & Mobilization - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.02	0.01	0.00		0.00	0.00		0.00	0.00	0.00	2.39	2.39	0.00	0.00	2.40
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.39**	**2.39**	**0.00**	**0.00**	**2.40**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67	0.00	0.00	0.67
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.58	0.00	0.00	0.58
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.25**	**1.25**	**0.00**	**0.00**	**1.25**

3.2 Site Preparation & Mobilization - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	2.39	2.39	0.00	0.00	2.40
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.39**	**2.39**	**0.00**	**0.00**	**2.40**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67	0.00	0.00	0.67
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.58	0.00	0.00	0.58
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.25**	**1.25**	**0.00**	**0.00**	**1.25**

3.3 Material Import/Export - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.80	0.00	0.80	0.43	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.18	0.06	0.00		0.01	0.01		0.01	0.01	0.00	13.51	13.51	0.00	0.00	13.55
Total	**0.02**	**0.18**	**0.06**	**0.00**	**0.80**	**0.01**	**0.81**	**0.43**	**0.01**	**0.44**	**0.00**	**13.51**	**13.51**	**0.00**	**0.00**	**13.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.01	0.08	0.10	0.00	0.85	0.00	0.85	0.00	0.00	0.00	0.00	7.44	7.44	0.00	0.00	7.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.08**	**0.10**	**0.00**	**0.85**	**0.00**	**0.85**	**0.00**	**0.00**	**0.00**	**0.00**	**7.44**	**7.44**	**0.00**	**0.00**	**7.45**

3.3 Material Import/Export - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.31	0.00	0.31	0.17	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.04	0.07	0.00		0.00	0.00		0.00	0.00	0.00	13.51	13.51	0.00	0.00	13.55
Total	**0.00**	**0.04**	**0.07**	**0.00**	**0.31**	**0.00**	**0.31**	**0.17**	**0.00**	**0.17**	**0.00**	**13.51**	**13.51**	**0.00**	**0.00**	**13.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.01	0.08	0.10	0.00	0.85	0.00	0.85	0.00	0.00	0.00	0.00	7.44	7.44	0.00	0.00	7.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.08**	**0.10**	**0.00**	**0.85**	**0.00**	**0.85**	**0.00**	**0.00**	**0.00**	**0.00**	**7.44**	**7.44**	**0.00**	**0.00**	**7.45**

3.3 Material Import/Export - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.80	0.00	0.80	0.43	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.08	0.71	0.23	0.00		0.03	0.03		0.03	0.03	0.00	56.89	56.89	0.01	0.00	57.03
Total	**0.08**	**0.71**	**0.23**	**0.00**	**0.80**	**0.03**	**0.83**	**0.43**	**0.03**	**0.46**	**0.00**	**56.89**	**56.89**	**0.01**	**0.00**	**57.03**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.04	0.31	0.40	0.00	3.57	0.01	3.58	0.00	0.01	0.01	0.00	31.73	31.73	0.00	0.00	31.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.04**	**0.31**	**0.40**	**0.00**	**3.57**	**0.01**	**3.58**	**0.00**	**0.01**	**0.01**	**0.00**	**31.73**	**31.73**	**0.00**	**0.00**	**31.77**

3.3 Material Import/Export - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.31	0.00	0.31	0.17	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.02	0.17	0.29	0.00		0.00	0.00		0.00	0.00	0.00	56.89	56.89	0.01	0.00	57.03
Total	**0.02**	**0.17**	**0.29**	**0.00**	**0.31**	**0.00**	**0.31**	**0.17**	**0.00**	**0.17**	**0.00**	**56.89**	**56.89**	**0.01**	**0.00**	**57.03**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.04	0.31	0.40	0.00	3.57	0.01	3.58	0.00	0.01	0.01	0.00	31.73	31.73	0.00	0.00	31.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.04**	**0.31**	**0.40**	**0.00**	**3.57**	**0.01**	**3.58**	**0.00**	**0.01**	**0.01**	**0.00**	**31.73**	**31.73**	**0.00**	**0.00**	**31.77**

3.3 Material Import/Export - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.80	0.00	0.80	0.43	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.06	0.50	0.17	0.00		0.02	0.02		0.02	0.02	0.00	42.72	42.72	0.00	0.00	42.82
Total	**0.06**	**0.50**	**0.17**	**0.00**	**0.80**	**0.02**	**0.82**	**0.43**	**0.02**	**0.45**	**0.00**	**42.72**	**42.72**	**0.00**	**0.00**	**42.82**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.03	0.23	0.29	0.00	2.68	0.00	2.69	0.00	0.00	0.01	0.00	24.12	24.12	0.00	0.00	24.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.23**	**0.29**	**0.00**	**2.68**	**0.00**	**2.69**	**0.00**	**0.00**	**0.01**	**0.00**	**24.12**	**24.12**	**0.00**	**0.00**	**24.15**

3.3 Material Import/Export - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.31	0.00	0.31	0.17	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.12	0.22	0.00		0.00	0.00		0.00	0.00	0.00	42.72	42.72	0.00	0.00	42.82
Total	**0.01**	**0.12**	**0.22**	**0.00**	**0.31**	**0.00**	**0.31**	**0.17**	**0.00**	**0.17**	**0.00**	**42.72**	**42.72**	**0.00**	**0.00**	**42.82**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.03	0.23	0.29	0.00	2.68	0.00	2.69	0.00	0.00	0.01	0.00	24.12	24.12	0.00	0.00	24.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.23**	**0.29**	**0.00**	**2.68**	**0.00**	**2.69**	**0.00**	**0.00**	**0.01**	**0.00**	**24.12**	**24.12**	**0.00**	**0.00**	**24.15**

3.4 Staging Yard Operations - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.21	0.06	0.00		0.01	0.01		0.01	0.01	0.00	23.54	23.54	0.00	0.00	23.58
Total	**0.02**	**0.21**	**0.06**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**23.54**	**23.54**	**0.00**	**0.00**	**23.58**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Worker	0.01	0.01	0.10	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	8.95	8.95	0.00	0.00	8.96
Total	**0.01**	**0.01**	**0.10**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.47**	**9.47**	**0.00**	**0.00**	**9.48**

3.4 Staging Yard Operations - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.12	0.12	0.00		0.01	0.01		0.01	0.01	0.00	23.54	23.54	0.00	0.00	23.58
Total	**0.02**	**0.12**	**0.12**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**23.54**	**23.54**	**0.00**	**0.00**	**23.58**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.52	0.00	0.00	0.52
Worker	0.01	0.01	0.10	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	8.95	8.95	0.00	0.00	8.96
Total	**0.01**	**0.01**	**0.10**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.47**	**9.47**	**0.00**	**0.00**	**9.48**

3.4 Staging Yard Operations - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.81	0.25	0.00		0.03	0.03		0.03	0.03	0.00	99.08	99.08	0.01	0.00	99.24
Total	**0.09**	**0.81**	**0.25**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**99.08**	**99.08**	**0.01**	**0.00**	**99.24**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.19	2.19	0.00	0.00	2.19
Worker	0.04	0.04	0.39	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	36.83	36.83	0.00	0.00	36.90
Total	**0.04**	**0.05**	**0.40**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**39.02**	**39.02**	**0.00**	**0.00**	**39.09**

3.4 Staging Yard Operations - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.08	0.50	0.50	0.00		0.03	0.03		0.03	0.03	0.00	99.08	99.08	0.01	0.00	99.24
Total	**0.08**	**0.50**	**0.50**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**99.08**	**99.08**	**0.01**	**0.00**	**99.24**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.19	2.19	0.00	0.00	2.19
Worker	0.04	0.04	0.39	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	36.83	36.83	0.00	0.00	36.90
Total	**0.04**	**0.05**	**0.40**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**39.02**	**39.02**	**0.00**	**0.00**	**39.09**

3.4 Staging Yard Operations - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.07	0.54	0.19	0.00		0.02	0.02		0.02	0.02	0.00	74.41	74.41	0.01	0.00	74.52
Total	**0.07**	**0.54**	**0.19**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**74.41**	**74.41**	**0.01**	**0.00**	**74.52**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	0.00	0.00	1.65
Worker	0.02	0.03	0.26	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	27.05	27.05	0.00	0.00	27.09
Total	**0.02**	**0.04**	**0.27**	**0.00**	**0.04**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**28.70**	**28.70**	**0.00**	**0.00**	**28.74**

3.4 Staging Yard Operations - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.38	0.38	0.00		0.02	0.02		0.02	0.02	0.00	74.41	74.41	0.01	0.00	74.52
Total	**0.06**	**0.38**	**0.38**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**74.41**	**74.41**	**0.01**	**0.00**	**74.52**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	0.00	0.00	1.65
Worker	0.02	0.03	0.26	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	27.05	27.05	0.00	0.00	27.09
Total	**0.02**	**0.04**	**0.27**	**0.00**	**0.04**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**28.70**	**28.70**	**0.00**	**0.00**	**28.74**

3.5 Demobilization & Restoration - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.04	0.01	0.00		0.00	0.00		0.00	0.00	0.00	4.48	4.48	0.00	0.00	4.48
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.04**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.48**	**4.48**	**0.00**	**0.00**	**4.48**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.55	0.00	0.00	0.55
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.55**	**0.55**	**0.00**	**0.00**	**0.55**

3.5 Demobilization & Restoration - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00	0.00	4.48	4.48	0.00	0.00	4.48
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.02**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.48**	**4.48**	**0.00**	**0.00**	**4.48**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.55	0.00	0.00	0.55
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.55**	**0.55**	**0.00**	**0.00**	**0.55**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
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
Parking Lot	13.00	5.00	5.00	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	tons/yr										MT/yr					
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Los Osos Wastewater Project - Mid-Town Restoration

San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	1	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Utility Company**
Climate Zone	4	**Precipitation Freq (Days)**	44	

1.3 User Entered Comments

Project Characteristics -

Land Use - *

Construction Phase - *

Off-road Equipment - *

Grading - *

Trips and VMT - *

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.09	0.79	0.33	0.00	0.08	0.03	0.11	0.03	0.03	0.07	0.00	83.15	83.15	0.01	0.00	83.31
Total	**0.09**	**0.79**	**0.33**	**0.00**	**0.08**	**0.03**	**0.11**	**0.03**	**0.03**	**0.07**	**0.00**	**83.15**	**83.15**	**0.01**	**0.00**	**83.31**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.09	0.79	0.33	0.00	0.03	0.03	0.06	0.01	0.03	0.05	0.00	83.15	83.15	0.01	0.00	83.31
Total	**0.09**	**0.79**	**0.33**	**0.00**	**0.03**	**0.03**	**0.06**	**0.01**	**0.03**	**0.05**	**0.00**	**83.15**	**83.15**	**0.01**	**0.00**	**83.31**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.07	0.00	0.07	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.79	0.31	0.00		0.03	0.03		0.03	0.03	0.00	81.22	81.22	0.01	0.00	81.38
Total	**0.09**	**0.79**	**0.31**	**0.00**	**0.07**	**0.03**	**0.10**	**0.03**	**0.03**	**0.06**	**0.00**	**81.22**	**81.22**	**0.01**	**0.00**	**81.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	1.92	0.00	0.00	1.93
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.92**	**1.92**	**0.00**	**0.00**	**1.93**

3.2 Site Preparation - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.03	0.00	0.03	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.79	0.31	0.00		0.03	0.03		0.03	0.03	0.00	81.22	81.22	0.01	0.00	81.38
Total	**0.09**	**0.79**	**0.31**	**0.00**	**0.03**	**0.03**	**0.06**	**0.01**	**0.03**	**0.04**	**0.00**	**81.22**	**81.22**	**0.01**	**0.00**	**81.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	1.92	0.00	0.00	1.93
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.92**	**1.92**	**0.00**	**0.00**	**1.93**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
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
Parking Lot	13.00	5.00	5.00	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	tons/yr										MT/yr					
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Los Osos Wastewater Project - LID

San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	1	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Utility Company**
Climate Zone	4	**Precipitation Freq (Days)**	44	

1.3 User Entered Comments

Project Characteristics -

Land Use - *

Construction Phase - *

Off-road Equipment - *

Trips and VMT - *

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.59
Total	**0.00**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.59**	**4.59**	**0.00**	**0.00**	**4.59**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.59
Total	**0.00**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.59**	**4.59**	**0.00**	**0.00**	**4.59**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.59
Total	**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.59**	**4.59**	**0.00**	**0.00**	**4.59**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.2 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.59
Total	**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.59**	**4.59**	**0.00**	**0.00**	**4.59**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Industrial	13.00	5.00	5.00	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Los Osos Wastewater Project - Segment Construction

San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	1	

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Utility Company**
Climate Zone	4	**Precipitation Freq (Days)**	44	

1.3 User Entered Comments

Project Characteristics -

Land Use - *

Construction Phase - *

Off-road Equipment - *

Off-road Equipment - *

Off-road Equipment - *

Grading - *

Trips and VMT - *

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.09	0.72	0.34	0.00	0.01	0.03	0.04	0.00	0.03	0.03	0.00	83.41	83.41	0.01	0.00	83.56
Total	**0.09**	**0.72**	**0.34**	**0.00**	**0.01**	**0.03**	**0.04**	**0.00**	**0.03**	**0.03**	**0.00**	**83.41**	**83.41**	**0.01**	**0.00**	**83.56**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.05	0.39	0.49	0.00	0.00	0.01	0.02	0.00	0.01	0.01	0.00	83.41	83.41	0.01	0.00	83.56
Total	**0.05**	**0.39**	**0.49**	**0.00**	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**	**0.00**	**83.41**	**83.41**	**0.01**	**0.00**	**83.56**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Segment Preparation & Mobilization - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.02	0.01	0.00		0.00	0.00		0.00	0.00	0.00	1.59	1.59	0.00	0.00	1.60
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.59**	**1.59**	**0.00**	**0.00**	**1.60**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.2 Segment Preparation & Mobilization - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	1.59	1.59	0.00	0.00	1.60
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.59**	**1.59**	**0.00**	**0.00**	**1.60**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.3 Typical Segment Operations - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.08	0.67	0.32	0.00		0.03	0.03		0.03	0.03	0.00	78.15	78.15	0.01	0.00	78.29
Total	**0.08**	**0.67**	**0.32**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**78.15**	**78.15**	**0.01**	**0.00**	**78.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.3 Typical Segment Operations - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.04	0.36	0.46	0.00		0.01	0.01		0.01	0.01	0.00	78.15	78.15	0.01	0.00	78.29
Total	**0.04**	**0.36**	**0.46**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**78.15**	**78.15**	**0.01**	**0.00**	**78.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.4 Segment Demobilization & Restoration - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.67	3.67	0.00	0.00	3.68
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**3.67**	**3.67**	**0.00**	**0.00**	**3.68**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.4 Segment Demobilization & Restoration - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.02	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.67	3.67	0.00	0.00	3.68
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.02**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**3.67**	**3.67**	**0.00**	**0.00**	**3.68**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
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

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	tons/yr										MT/yr					
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Los Osos Wastewater Project - Pump Station Construction

San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	1	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Utility Company**
Climate Zone	4	**Precipitation Freq (Days)**	44	

1.3 User Entered Comments

Project Characteristics -

Land Use - *

Construction Phase - *

Off-road Equipment - *

Off-road Equipment - *

Grading - *

Trips and VMT - *

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.05	0.35	0.16	0.00	0.43	0.02	0.45	0.24	0.02	0.25	0.00	34.66	34.66	0.00	0.00	34.74
2013	0.18	1.29	0.62	0.00	0.43	0.06	0.49	0.24	0.06	0.30	0.00	137.06	137.06	0.02	0.00	137.38
2014	0.13	0.89	0.45	0.00	0.43	0.04	0.47	0.24	0.04	0.28	0.00	102.40	102.40	0.01	0.00	102.62
Total	**0.36**	**2.53**	**1.23**	**0.00**	**1.29**	**0.12**	**1.41**	**0.72**	**0.12**	**0.83**	**0.00**	**274.12**	**274.12**	**0.03**	**0.00**	**274.74**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.04	0.21	0.19	0.00	0.17	0.01	0.18	0.09	0.01	0.10	0.00	34.66	34.66	0.00	0.00	34.74
2013	0.15	0.82	0.76	0.00	0.17	0.04	0.21	0.09	0.04	0.13	0.00	137.06	137.06	0.02	0.00	137.38
2014	0.11	0.60	0.57	0.00	0.17	0.03	0.20	0.09	0.03	0.12	0.00	102.40	102.40	0.01	0.00	102.62
Total	**0.30**	**1.63**	**1.52**	**0.00**	**0.51**	**0.08**	**0.59**	**0.27**	**0.08**	**0.35**	**0.00**	**274.12**	**274.12**	**0.03**	**0.00**	**274.74**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Station Construction - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.43	0.00	0.43	0.24	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.35	0.16	0.00		0.02	0.02		0.02	0.02	0.00	34.66	34.66	0.00	0.00	34.74
Total	**0.05**	**0.35**	**0.16**	**0.00**	**0.43**	**0.02**	**0.45**	**0.24**	**0.02**	**0.26**	**0.00**	**34.66**	**34.66**	**0.00**	**0.00**	**34.74**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.2 Station Construction - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.17	0.00	0.17	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.21	0.19	0.00		0.01	0.01		0.01	0.01	0.00	34.66	34.66	0.00	0.00	34.74
Total	**0.04**	**0.21**	**0.19**	**0.00**	**0.17**	**0.01**	**0.18**	**0.09**	**0.01**	**0.10**	**0.00**	**34.66**	**34.66**	**0.00**	**0.00**	**34.74**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.2 Station Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.43	0.00	0.43	0.24	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.29	0.62	0.00		0.06	0.06		0.06	0.06	0.00	137.06	137.06	0.02	0.00	137.38
Total	**0.18**	**1.29**	**0.62**	**0.00**	**0.43**	**0.06**	**0.49**	**0.24**	**0.06**	**0.30**	**0.00**	**137.06**	**137.06**	**0.02**	**0.00**	**137.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.2 Station Construction - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.17	0.00	0.17	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.15	0.82	0.76	0.00		0.04	0.04		0.04	0.04	0.00	137.06	137.06	0.02	0.00	137.38
Total	**0.15**	**0.82**	**0.76**	**0.00**	**0.17**	**0.04**	**0.21**	**0.09**	**0.04**	**0.13**	**0.00**	**137.06**	**137.06**	**0.02**	**0.00**	**137.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.2 Station Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.43	0.00	0.43	0.24	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.13	0.89	0.45	0.00		0.04	0.04		0.04	0.04	0.00	102.40	102.40	0.01	0.00	102.62
Total	**0.13**	**0.89**	**0.45**	**0.00**	**0.43**	**0.04**	**0.47**	**0.24**	**0.04**	**0.28**	**0.00**	**102.40**	**102.40**	**0.01**	**0.00**	**102.62**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.2 Station Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.17	0.00	0.17	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.11	0.60	0.57	0.00		0.03	0.03		0.03	0.03	0.00	102.40	102.40	0.01	0.00	102.62
Total	**0.11**	**0.60**	**0.57**	**0.00**	**0.17**	**0.03**	**0.20**	**0.09**	**0.03**	**0.12**	**0.00**	**102.40**	**102.40**	**0.01**	**0.00**	**102.62**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Industrial	13.00	5.00	5.00	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Appendix D
Odor Control Documentation

Condition 40	Odor Control Plan

An Odor Control Plan shall be submitted for review and approval of the San Luis Obispo County Air Pollution Control District prior to commencement of grading activities which shall be incorporated as conditions of the permit issued by the County for the construction and operation of the Los Osos wastewater project. The Odor Control Plan shall contain a Complaint Response Plan to address at least the following:

a. A public outreach plan, including operator training in the handling of complaints; a program for informing the public regarding the complaint process; periodic neighborhood surveys of performance and responsiveness to complaints; and, a complaint hotline phone number. This public outreach plan shall be in place upon startup;

b. An odor point identification map, which will aid the wastewater system operators and the SLOAPCD by identifying potential odor sources, a description of the odor point. This identification map and related information shall be completed within the first 3 months of startup;

c. A list of immediate responses or actions to be taken to complaints, including, but not limited to:
   1. The upstream addition of ferrous chloride (or other) injection system adjustments;
   2. On-site odor checks to identify odor sources or system malfunctions, neighborhood complaint patrol and actions to be taken;

d. A Contingency Action Plan detailing the methods to which odor sources will be studied and a response action plan to control odors over the long term. This Plan shall be in place upon startup. Possible responses include, but are not limited to, the following:

   1. Providing additional "negative air" containment or recovery system areas;
   2. Additional treatment containment enclosure;
   3. Additional or improved odor control, dispersal and/or air movement at pump stations, wet wells and the wastewater treatment plant;
   4. Additional study of odor sources and possible solutions, which may include a dilution to threshold measurement for each potential odor source using the Bay Area Air Quality Management District's procedure outlined in their Regulation 7 "Odor Substances" 7-400 et seq and "Manual for Procedures", Volume IV, ST-I, ST-8, ST-il, 51-16 and ST-22 or SLOAPCD equivalent

Evidence of compliance:

The ODOR CONTROL AND COMPLAINT RESPONSE PLAN was generated for this project and approved by the APCD.

The conditions above were addressed in the various sections of the PLAN summarized as follows:

a. "Section 10 Notifications"; and "Section 11 Complaints" along with "Odor Complaint and Investigation Form"
b. "Section 1" – states "a complete odor point map will be completed 3 months before start up of the entire system"

c. Responses to complaints are address in the various sections:
    1. "Section 8 Chemical Additives" - discusses addition of ferric chloride among other odor control chemical additives,
    2. "Section 2 Odor Measurement"; "Section 4 Identification of Odor Sources"; "Section 6 Operational Plan for Maintenance and Monitoring"; "Section 10 Notifications"; and "Section 11 Complaints"
d. Contingency action plan responses addressed in the following sections:
    1. "Section 1" – discusses an odor control vault as on of our facilities
    2. "Section 1" – discusses headworks and bar screens will be enclosed in a building with odor control
    3. "Section 1" – discusses odor control vaults and carbon canisters
    4. "Section 2, Table 3" has a good summary list of odor compounds; "Section 5" has a summary of odor sources

Attachments:
- Final Odor Control Plan Approval letter from APCD
- ODOR CONTROL AND COMPLAINT RESPONSE PLAN

Condition Satisfied

Jason H. Giffen

Director, SLO County Planning

MAY 22, 2012

Date

100% Post Consumer Recycled Paper

SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

May 21, 2012

Ray Dienzo, P.E.
Project Engineer - Los Osos Wastewater Project
County of San Luis Obispo Public Works
County Government Center Room 207
San Luis Obispo, CA 93408

SUBJECT: Final Odor Control Plan Approval: Los Osos Wastewater Treatment Facility

Dear Mr. Dienzo:

Thank you for your submittal of the Final Odor Control Plan (OCP) for the Los Osos Wastewater Treatment Facility. This submittal is intended to comply with the applicable Development Conditions and District Rules and Regulations.

Based upon the most recent submittal dated May 16, 2012, please consider this as written approval of the Final OCP. The District understands that the following revisions will be submitted as stated below:

1. Public Works staff will submit an Odor Point Identification map, which will aid the wastewater system operators and the SLOAPCD by identifying potential odor sources. This map and related information, including additional details relating to the Treatment Plant, shall be completed within the first three (3) months of startup.
2. Description of specific plant equipment and any applicable monitoring procedures.
3. Description of frequency of monitoring for efficiency and breakthrough for any applicable odor control equipment.

As discussed, the project will require the submittal of an Authority to Construct and subsequent District approval application prior to the construction of the system and components. If you have any questions, please contact me at (805) 781-5912.

Sincerely,

KAREN BROOKS
Manager, Compliance and Monitoring

TJF/lmg

cc: Kate Ballantyne, Public Works
Eric Wier, Public Works
Paul Reitz, San Luis Obispo County Air Pollution Control District

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T 805.781.5912 F 805.781.1002 W slocleanair.org 3433 Roberto Court, San Luis Obispo, CA 93401

LOS OSOS WASTEWATER PROJECT

ODOR CONTROL AND COMPLAINT RESPONSE PLAN

May 16, 2012 Final

This plan is intended to comply with the San Luis County Planning Department and San Luis Obispo County Air Pollution Control District requirements for an odor control and complaint response plan for the Los Osos Wastewater Project. The plan identifies potential sources of odors and appropriate odor control techniques for minimizing off-site odors. It describes the process for receiving, handling, and reporting odor complaints.

After adoption, the plan will be communicated to the public through multiple public outreach channels including mailers, press releases, public meetings, and website postings. The public will be informed of the odor complaint handling process.

Operations and lab staff will receive initial training on this plan with periodic (annual) review. Periodic "customer surveys" of performance and responsiveness to complaints will be conducted. The plan will be reviewed annually and updated as needed.

1. DESCRIPTION OF FACILITIES

The Los Osos wastewater treatment plant provides tertiary treatment of domestic and commercial wastewater for the Los Osos wastewater service area (see attachment Exhibit A). The plant is located at *a parcel about 1500-ft north of the Los Osos Valley Road and Clark Valley Road intersection.* Bordering properties west, north, and east of the facility are used for agriculture. A cemetery is located south of the facility. The prevailing westerly winds carry any odor generated at the treatment plant towards agricultural and open space lands to the east.

The Sewer Collection system consists of following major components:

- Approximately forty-five (45) miles of gravity sanitary sewer pipes. – either SDR 35 or C900 PVC, minimum 8" diameter
- Sewer manholes – spaced 300-ft to 500-ft
- The sewer pump stations and wet wells are located throughout the community (see Table 1). Ranging from 9 gpm to 2,300gpm
- Main sewer force mains – pressure clean outs at 1,500-ft intervals, all combination air and release valves will be housed in precast vaults with activated carbon canisters for odor control
- Three (3) odor control system vaults: one at the Midtown pump station, and in two locations along Los Osos Valley Road for the 16" sewer force main that will convey all the flows to the Treatment plant (see the description of these locations on Table 2).

A complete odor point map will be completed 3 months before start up of the entire system.

Table 1 - List of Sewer Pump Station and Wet Well		
Name of Pump Station	**Location**	**Pump Station Capacity (gpm)**
East Paso	18th St and Paso Robles Ave	213
East Ysabel	South Bay Blvd and Santa Ysabel Ave	168
West Paso	3rd St and Paso Robles Ave	1,549
Baywood	2nd St near El Moro	380
Lupine	Doris Ave near Lupine St	623
Solano	Solano St near Skyline Dr	168
Mid-town	Los Osos Valley Rd between Palisades and Ravenna	2,322
Mountain View	Santa Ynez Ave and Mountain View Dr	54
Sunny Oaks	Los Osos Valley Rd, near Sunny Oaks MHP	153
04A	north end of 4th St	28
07A	north end of 7th St	9
08A	north end of 8th St	13
09A	north end of 9th St	18
09B	9th St near Ramona Ave	16
09C	9th St near San Luis Ave	45
10A	north end of 10th St	22
11A	north end of 11th St	22
12A	north end of 12th St	22
13A	north end of 13th St	20
15B	15th St near Ramona Ave	17
Palisades	Palisades Ave near Library	51

Table 2 - Locations of Odor Control System Vault
1. At the Midtown Pump Station site - at LOVR between Palisades Ave and Ravenna Ave
2. At south side of LOVR about 250-ft west of Willow Road
3. At north side of LOVR near Cemetery

Septic tank decommissioning

As each residence connects to the sewer system, the existing septic tank needs to be decommissioned.

- There are approximately 4,800 sewer lateral connections to the new sewer system each with associated septic tanks.
- There are also some large community septic tanks: schools, mobile home parks, business complexes, and Bayridge Estates
- Typical decommissioning would require pumping tank and filling with sand
- Odor mitigation measures for septic tank decommissioning are summarized as follows:
    - EXPEDITED WORK. In order to minimize the duration of odor potential, pump out, demolition, and backfill should occur on the same day

- EXHAUST VENT CARBON CANNISTER. During pump out, the septic tank pumper truck shall be equipped with a carbon canister.
- ODOR NEUTRALIZING CHEMICALS. Septic tank decommissioning contractor shall have lime, liquid bleach, or other appropriate chemicals on hand to neutralize the odor potential of septic waste in the event of unforeseen problems
- NOTIFICATIONS. Residents or businesses within 300-ft of the septic tank will be notified prior to decommissioning of systems
- PERMITTING. All septic tank decommissioning work shall be permitted through the sewer lateral connection work and shall comply with this odor control plan. All future permits for septage pumping and handling shall also comply with this odor control plan.

The Wastewater Treatment Plant process will consist of the following:

- Headworks and bar screens, enclosed in a building with odor control.
- Extended aeration secondary treatment process consisting of parallel oxidation ditches and secondary clarification, designed to meet 30-day average total nitrogen limit of 7 mg/L and maximum day nitrogen limit of 10 mg/L.
- Tertiary filtration and ultraviolet disinfection designed to meet California Title 22 standards for tertiary recycled water.
- Chlorination to provide a chlorine residual for the recycled water.
- Mechanical sludge thickening and dewatering enclosed in a building with odor control.

2. DESCRIPTION AND MEASUREMENT OF ODOR

Odor Description

The major categories of offensive odors and compounds often associated with wastewater facilities are listed in Table 3. Any or all of these compounds may be found in domestic wastewater, depending on the local conditions.

Table 3 Odors Commonly Associated with Wastewater Facilities

Compound	Typical Formula	Odor Quality
Hydrogen Sulfide	H_2S	Rotten Eggs
Organic Sulfides	$(OCH_3)_2S, CH_3SSCH_3$	Rotten Cabbage
Mercaptans	$CH_3SH, CH_3(CH_2)_3SH$	Skunk
Skatole	$C_8H_5NHCH_3$	Fecal, Nauseating
Amines	$CH_3NH_2, (CH_3)_3N$	Fishy
Ammonia	NH_3	Sharp, Pungent
Diamines	$NH_2(CH_2)_4NH_2, NH_2(CH_2)_5NH_2$	Decayed Flesh

The odor causing components of wastewater are small, relatively volatile molecules. These molecules are typically produced during the anaerobic decomposition of organic matter by

bacteria. The odor thresholds for the compounds listed in Table 3 vary individually. Of the compounds listed, hydrogen sulfide has the lowest odor threshold and is the easiest to identify and quantify. Because the same conditions that favor hydrogen sulfide production also favor the production of the other compounds, reducing hydrogen sulfide generation often results in a reduction in the other compounds. By investigating the conditions that favor hydrogen sulfide generation, and correcting those conditions, problems from other odors may also be eliminated.

Odor Measurement

There are various methods or techniques for odor measurement. Since most odors associated with municipal wastewater treatment plants are related to hydrogen sulfide, specific chemical measurements of hydrogen sulfide concentrations are useful in determining appropriate odor control techniques. Gas monitoring equipment (ex. Draeger portable gas monitor or Draeger tubes) are available for use, but typically are not as sensitive as the human nose. The results of specific chemical measurements of hydrogen sulfide, ammonia and mercaptans are reported in parts per million by volume (ppmV). However, since the perception of odor is subjective, these specific measurements do not always correlate directly with odor complaints. Never the less, they can be useful in locating odor sources and assessing the efficacy of corrective actions.

3. ODOR MANAGEMENT INCORPORATED IN THE FACILITY DESIGN AND SEPTIC TANK DECOMMISSIONING

Odor control and management systems incorporated into the design of the project are summarized below for Collection System, Septic Tank Decommissioning, and Wastewater Treatment Plant:

A. COLLECTION SYSTEM:

FRESH WASTEWATER. The wastewater collection system consists of gravity sewer mains that are designed with sufficient slopes to insure a minimum conveyance velocity that will prevent the deposition of solids. The estimated travel time to reach the WWTF is not expected to exceed 8 hours depending upon the travel distance and the time of day. Furthermore, the Los Osos climate is moderate and the wastewater temperature will not reach high temperatures that accelerate decomposition. Consequently, the wastewater will arrive at the wastewater treatment facility in a fresh condition with minimal decomposition of organic material.

AIR RELEASES. Submersible pump stations are provided to collect the wastewater contributed by drainage areas within the collection system and deliver the wastewater to other portions of the collection system and ultimately to the WWTF. The wastewater that arrives at the pump station wet well is expected to be fresh as previously described. The vent pipe for the wet well

is interconnected to an odor control canister (activated carbon or approved equal) to treat any potential odors that may be liberated from the pump station.

Transition manholes, where the discharges from force mains transition to gravity sewer mains and at air release vaults, where the accumulation of air at high points in force mains is released, are also equipped with odor control canisters.

B. SEPTIC TANK DECOMMISSIONING

EXPEDITED WORK. In order to minimize the duration of odor potential, pump out, demolition, and backfill should occur on the same day

EXHAUST VENT CARBON CANNISTER. During pump out, the septic tank pumper truck shall be equipped with a carbon canister.

ODOR NEUTRALIZING CHEMICALS. Septic tank decommissioning contractor shall have lime, liquid bleach, or other appropriate chemicals on hand to neutralize the odor potential of septic waste in the event of unforeseen problems

NOTIFICATIONS. Residents or businesses within 300-ft of the septic tank will be notified prior to decommissioning of systems

PERMITTING. All septic tank decommissioning work shall be permitted through the sewer lateral connections and shall comply with this odor control plan. All future permits for septage pumping and handling shall also comply with this odor control plan.

DECOMMISSIONING OF LARGE, CENTRALIZED SEPTIC SYSTEMS

Certain areas of Los Osos are served by single, large-scale septic systems that will be decommissioned as the community-wide system is completed. These systems currently serve the Baywood Heights neighborhood, as well as Sunny Oaks trailer park, among others.

1. Timeline for Decommissioning_

The conversion from centralized septic systems serving multiple properties to a community-wide sewer system is expected to occur incrementally following completion of the treatment plant as the collection systems is constructed throughout the service area. By December 2014 the entire wastewater collection and treatment system, and all associated pipelines and other fixtures, are expected to be completed. The centralized septic systems will be decommissioned immediately following connection of all previously served properties to the community system when it becomes ready to receive effluent. Each parcel served by the community-wide system will be billed thereafter for usage in accordance with the fee schedule established by the COUNTY.

2. Process of Decommissioning.

As the collection system becomes available to serve areas currently served by centralized septic systems, each individual property will be required to connect via lateral within 6 months of the collection line becoming available. Inspectors authorized by the COUNTY will inspect each parcel to determine compliance with relevant provisions of the Project permit. Once all properties are connected to the community-wide system, the centralized septic tank serving these properties will be decommissioned. The same odor mitigation measures described in Section 3.B above shall be used.

4. IDENTIFICATION OF ODOR SOURCES

Odorous air samples can be collected and analyzed as needed. The compounds and sites selected for analysis will be based on experience at the wastewater treatment plant and a review of plant operation practices. Compounds typically selected include hydrogen sulfide, methyl mercaptan, and ammonia.

Odorous compounds in the air can be evaluated in the field using Draeger portable air testing equipment and the operator's nose. This plan focuses on the collection system and septic tank decommissioning separately from the wastewater treatment facility. Separate locations throughout the WWTP will be evaluated for odor. A detailed inspection will be performed to identify the sites having the greatest potential for the generation of odors that could result in an off-site nuisance. The odor sampling will then focus on those sites. Typical sites are listed below.

Collection System

- Pump Station and Wetwells
- Sewer Manholes
- Combination Air and Release Valves
- Odor control vaults
- Construction process – unexpected trenching over odor causing areas
    - If hydrocarbon/volatile organic compound type soils are uncovered during the trenching/construction process, notify APCD and County Environmental Health immediately
    - At a minimum, cover existing stock piles and follow the procedures given by APCD and County Environmental Health

Septic Tank Decommissioning

- Each residence septic tank during the decommissioning process
- Community septic tanks: mobile home parks, schools, business complexes, and Bayridge estates

Wastewater Treatment Facility

- Grit Dumpsters

- Screenings Hopper
- Grit Basin
- Sludge Holding Tank
- Dewatering Building
- Solids Storage Area

5. SUMMARY OF ODOR SOURCES

A site inspection will be performed to identify potential odor sources. Many types of odors resulting from anaerobic activity in the wastewater are not as prevalent during cooler temperatures.

The results of the odor survey and experience at similar facilities, it appears that potential odors at the Los Osos WWTP are attributable to gaseous compounds from the influent sewage and solids treatment processes. However, these odors would be in measurable concentrations only in the local atmosphere and not likely to drift off-site.

Other potential odor sources are less likely to create an off-site nuisance, but should be managed to avoid local area odors and provide the best working conditions for exposed plant personnel. Table 4 presents a pre-construction qualitative ranking of the odor sources identified in this odor control plan assuming normal operation of unit processes. This table will be updated once the system is operational.

Table 4 Odor Sources and Qualitative Ranking Odor Study

Source Location	Occurrence(1)	Strength(2)	Volume(2)	Overall Ranking(2)	Off Site Potential(3)
Collection System and Septic Tank Decommissioning					
Pump Stations and Wetwells	C	H	H	H	H
Sewer Manholes	I	M	L	L	L
Combination Air and Release Valves	I	L	L	L	L
Odor Control Vaults	I	L	L	L	L
Septic Tank Pumping	I	H	H	H	H
Unexpected trenching of odor causing materials	I	L	L	L	L
Wastewater Treatment Facility					
Grit Dumpsters	C	L	L	L	N
Screenings Hopper	C	L	L	L	N
Grit Basin	C	L	L	L	N
Sludge Holding Tank	C	L	L	L	N
Dewatering Building	I	M	L	L	N
Solids Storage Area	I	L	L	L	L

(1) C= Continuous, I = Intermittent

(2) H = High, M = Moderate, L=Low

(3) H = High priority odor, M = Moderate, L=Low, N = Negligible off-site odor potential

6. OPERATIONAL PLAN FOR MAINTENANCE AND MONITORING

System operators will continually maintain the system and will conduct a full-system assessment at least once every 6 months to ensure optimal performance. Off-site odor samples shall be collected a minimum of four times per year in areas of highest concern (see Table 1 and 2). Samples will be collected on the following four dates: September 12 (Fall season); December 12 (Winter season); March 19 (Spring season); and August I (Summer season).

7. ODORS DURING CONSTRUCTION ACTIVITIES

During construction activities in previously undisturbed areas, all encounters with odor causing materials must be reported to the County's construction inspector, through the hotline (see section 10), and directly to APCD.

8. ODOR CONTROL ALTERNATIVES

For this plan, odor control alternatives are broken down into three major categories: source control, cover and contain, and exhaust and treat. Source control includes operational changes, chemical addition, pH adjustment, bacterial addition, or oxygen addition to reduce the concentrations of the odorous compounds at the source. Cover and containment, includes enclosing the odor source to prevent the odors from escaping to the atmosphere in significant quantities. Exhaust and treatment, includes enclosing the odor source and exhausting and treating the odorous air.

Source Control

Operational Changes

Sometimes changes in the way certain treatment processes are operated or maintained can substantially reduce odors produced. Operational changes are usually the first step in mitigating odors because the changes are cost effective and relatively easy to implement.

Cleaning and Removing Solids

"Jetting" problematic collection system sewer lines with insufficient slope can remove odiferous solids that accumulate at low points and eddies.

Chemical Additives

Numerous chemicals can be added to the liquid treatment stream to control odors including chlorine, sodium hypochlorite, calcium chloride, hydrogen peroxide, potassium permanganate, ferrous or ferric chloride, ozone and sodium hydroxide. These chemicals control the release of hydrogen sulfide to the atmosphere in three ways: 1) by increasing the pH of the wastewater and thereby keeping the acidic hydrogen sulfide in solution, 2) by chemically oxidizing the hydrogen sulfide in the wastewater to sulfate and elemental sulfur, 3) by reducing the potential for additional hydrogen sulfide by killing the hydrogen sulfide producing bacteria.

pH Adjustment

Adjustment of pH is practiced for reduction of slime layers in sewer collection systems. Sodium hydroxide is added to collection system and headworks areas to increase the pH of the wastewater and keep the acidic hydrogen sulfide in solution. Also, high slug doses of sodium hydroxide are used to kill the slime layer in sewer lines, preventing the conversion of hydrogen sulfide to sulfuric acid. This also helps to prevent corrosion of the sewer pipe.

Bacterial Addition

Few wastewater treatment plants successfully use bacterial augmentation for odor control. Because this technology does not have proven successful experience, bacterial addition is not considered an alternative.

Oxygen Addition

Oxygen can be added to the gravity sewer upstream of the wastewater treatment plant. Usually this is accomplished by producing a high concentration of oxygen in a side stream under pressure and then releasing it to the main flow. Although technically viable, the capital and operating costs do not justify the consideration of oxygen addition as an alternative.

Cover and Contain

It is common practice to cover and contain relatively small volume, but higher strength sources of odor, at wastewater treatment plants. This type of odor control can be implemented as a short-term or long-term odor management strategy. However, there is usually some form of protection required for concrete or metal structures that are being covered, to prevent rapid and severe corrosion caused by increased hydrogen sulfide concentrations that are contained.

Odor Treatment

Absorption and Oxidation

A common method of scrubbing air with odorous compounds is to pass the air through packed tower scrubbers where it is contacted and absorbed, and reacted with a liquid scrubbing agent.

Another absorption device is the mist tower, where odorous air contacts very small droplets of scrubbing agent. Both of these systems are very effective with high removal efficiencies. However, these systems use a significant amount of chemicals and require operator attention for efficient operation.

Carbon Adsorption

Carbon adsorption is a common method for odor control. Air passes through a bed of activated carbon, and the odorous compounds are adsorbed on the carbon. This is only a physical phenomenon as the compounds are not oxidized or destroyed, only captured on the surface of the carbon. Carbon is not effective at removing all sulfur and nitrogen based compounds. Due to its limited capacity and high cost, activated carbon is usually not applied to air streams with high concentrations of hydrogen sulfide.

Soil Bed Scrubbing

Soil bed scrubbing uses biological activity that naturally occurs in soil to remove odor compounds. Air passes through a soil bed where bacteria digest contaminants and oxidize odorous chemical compounds. These systems require a large area, but have lowest operating and maintenance costs for air scrubbing. They also avoid using hazardous chemicals for oxidation of odor compounds. Several have been installed and successfully operated at wastewater facilities in California in recent years.

9. OTHER ODOR CONTROL MEASURES

Additional study of odor sources and possible solutions will be performed as needed. Viable odor control alternatives reviewed are presented below and are available for implementation, should odors develop in the future that contribute to off-site impacts. Methods to minimize in-plant, nuisance odor sources that are not likely to leave the site have also been included. The odor sources with the greatest potential for off-site impacts are related to the solids handling processes. Good housekeeping practices minimize the potential for local and off-site odors under most conditions. However, an upset in any of the solids treatment processes can result in significant odors leaving the WWTP boundary.

Grit Dumpsters - The grit dumpsters should be covered to contain odors. Additionally, calcium chloride pellets can be added as needed to minimize odor.

Screenings Hoppers - The screenings hoppers should be covered and calcium chloride pellets added to the screenings as needed to minimize odor.

Dewatering Building - The existing building ventilation system appears to be adequate to maintain the required air changes. If needed, a package odor scrubbing system or soil bed scrubber unit with point source air ducting could also be installed. This would eliminate the potential for off-site odor impacts and improve environmental conditions for operators working in the dewatering building.

Centrifuges - If hydrogen sulfide becomes a problem, chemical addition to the solids feed to reduce the hydrogen sulfide concentrations should prevent potential off-site odor impacts. Either ferrous or ferric chloride can be used. These chemicals may provide additional solids conditioning and enhance the dewatering process performance, and limit the corrosion damage to equipment and structures in the building because of hydrogen sulfide release.

Solids Storage Area - Monitor daily for odors and haul dewatered solids offsite more frequently if necessary.

Collection System - If odors are detected in the sewer collection system, the trunk lines should be dosed with sodium hydroxide. This can also be performed monthly as a preventative maintenance item in the warmer spring and summer months when anaerobic activity increases in the wastewater. Ferric chloride can also be fed to the collection system on a continuous basis to control hydrogen sulfide gas.

Odor Monitoring - Monitor gaseous hydrogen sulfide concentrations periodically throughout the WWTP, especially at the moderate and high potential off-site odor sources.

10. NOTIFICATIONS

Public Information and Notification Procedures

A. Hotline and Website. A public complaint/comment telephone hotline and website with

an online form shall be established upon startup of the system. An example of a complaint form is provided in section 11. Both the hotline and website will be dedicated to informing residents of the odor complaint process and allowing them to voice concerns or problems with the sewer system. Information regarding the hotline shall be posted on the website, and will be toll-free. Both hotline and website shall be accessible twenty-four hours per day. Users of either will be able to leave emergency complaints or general comments about odors and the system as a whole. Operators will be e-mailed information from the online forms and will respond in the same manner as complaints received from the hotline. All operators will be trained to effectively handle public complaints and respond to the needs of the residents. All complaints will be documented as described above in section 11.

B. Survey. To ensure proper operation of the system, and to ensure responsiveness of operator personnel, periodic surveys of area residences and businesses will be conducted. The survey will, at a minimum, measure the level of satisfaction with complaint response and overall system and personnel performance.

11. COMPLAINTS

The following procedure is used when responding to an odor complaint in any of the Department's wastewater systems.

During normal work hours, odor complaints should be made to the Water Quality Lab, 805-781-5111. After hours, the complaint should be made to Advantage Alarm Company ###-###-####. If the odor complaint is received at another number (e.g. Public Works switchboard) during normal working hours, direct the complainant to the Water Quality Lab. After hours, complainants should call Advantage Answering Plus who will contact the operator on call. Lab (or Operations) staff will take the following actions:

1. Initiate an "Odor Complaint and Investigation Form" (see attached). Record:
    - Name of person receiving complaint
    - Date and time of complaint
    - Name of complainant
    - Complainant contact information
    - Date, time, and location where odor was noted
    - Description of the odor
2. Immediately (within 4 hours) notify the APCD by phone. If no one answers, leave a message on the APCD's answering machine or fax a copy of the complaint to the APCD's fax machine.
    - APCD phone number: (805) 781-5912

- APCD fax number: (805) 781-1002

Note on the Odor Complaint and Investigation Form the name of the person making contact with the APCD and well as the date, time, and type of APCD contact made. If voice contact was made, record the name of the person contacted.

Notification of the APCD within four hours is critical, even if it is after normal work hours, on a weekend, or on a holiday, as it potentially provides us with some regulatory relief.

3. If not already done, inform the appropriate Wastewater Systems Superintendent, Assistant Superintendent, or operator on duty of the complaint. The operator on duty is listed on the daily operations schedule.
4. If not already done, notify John Beaton or Ken Pang at the Water Quality Lab and Dean Benedix or Doug Bird at the Utilities Office.
5. Ensure that the Lab and the affected North, South, or Coastal Operations office have a copy of the complaint. Fax copies as needed.
6. Referencing the complainant information, Operations personnel investigate the complaint.
   - Is the odor still evident? If so, is the odor emanating from this facility? If so, what is the likely cause of the odor?
   - If the odor is no longer present, could it have come from the facility? If so, what was the likely cause of the odor?
7. Identify the problem, and coordinate corrective actions with the Wastewater System Superintendent or Assistant Superintendent as appropriate. Corrective actions may include (but are not limited to):
   - Aeration and/or flow adjustment
   - Modification of a treatment process or adjustment of treatment equipment
   - Placing additional aeration basins, clarifiers, ponds or other treatment facilities on-line
   - Recycling flows for additional treatment as needed
   - pH adjustment
   - Chemical injection of ferrous chloride, calcium chloride or other chemical upstream (or at the site) of the odor
   - Increased chlorination
   - Removal of sludge
   - Repair or replacement of broken equipment
   - Cleaning facilities
   - Installation of an odor filter on sludge pumping truck
   - Covering odor source
   - Adjustment of ventilation
   - Providing additional negative air containment or recovery system areas
   - Replacement of odor control media
   - Notifying APCD and County Environmental Health immediately during encounters with unexpected odor causing materials during construction
8. Record investigation results and corrective actions on the complaint form.
9. Route a copy of the completed form to the Water Quality Lab for follow-up reporting to the APCD and the complainant.

Wastewater Facility Odor Complaint and Investigation Form

Date Complaint Received: _____

Time Complaint Received: _____

Complaint Received By: _____

Complainant Name: _____

Complainant Address: _____

Follow instructions as listed in the Wastewater Facility Odor Response Plan. Send a copy of the completed report to the Water Quality Lab for final reporting. Use back of form as necessary.

Complainant requests follow-up report? ☐ No ☐ Yes

If yes, follow-up date: _____

Follow-up by: _____

Description of Odor:

Wastewater Facility:
- ☐ CSA-18, Country Club Estates (South County Operations)
- ☐ CSA-7, Oak Shores (North County Operations)
- ☐ Los Osos WWTP (Coastal Operations)

The Air Pollution Control District (APCD) must be notified by phone or fax within <u>four hours</u> of receipt of odor complaint!

APCD Notified By: _____

APCD Notification Date: _____

APCD Notification Time: _____

Name of APCD Person Notified: _____

Type of Notification: ☐ Phone (781-5912) ☐ Fax (781-1002)

Public Works Staff Notification and Investigation - Notify and fax copy of complaint to Lab and Utilities Offices.

Notify and fax copy to Operations staff. (Original complaint form can go to Operations.)

Water Quality Lab (Fax 781-1068)

- John Beaton ☐ Phone 781-5109 Cell 235-4085
- Ken Pang ☐ Phone 781-1575
- Other _____

Utilities Office (Fax 788-2182)

- Dean Benedix ☐ Phone 781-5267 Cell 441-1237
- Doug Bird ☐ Phone 781-5116 Cell 459-1230
- Other _____

South County Operations (Fax 473-7154)

- Ron Coleman (Superintendent) ☐ Phone 473-7153 Cell 710-2020
- Joe Phillips (South County) ☐ Phone 473-7175 Cell 710-2021
- Other _____

North County Operations (Fax 438-5014)

- Charlie Bernal (North County) ☐ Phone 438-5349 Cell 678-3811
- LOWWTP Chief Operator (Coastal) ☐ Phone ###-#### Cell ###-####

Coastal Operations (Fax ###-####)

Investigation Findings: (Note weather, wind speed and direction, unusual operating conditions, etc.)

Corrective Actions:

Date of final report to APCD: _____

Final report completed by: _____

WQL V:\WQV\Forms and Templates\Odor Complaint Form 2013-02-14, 6/28/13, JEB

Appendix E

Naturally Occurring Asbestos Exemption

Condition 39	Naturally Occurring Asbestos
Prior to any grading activities associated with the project, the project proponent shall ensure that a geologic evaluation is conducted to determine if Naturally Occurring Asbestos (NOA) is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the District. If NOA is found at the site, the applicant must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD. Please refer to the APCD web page at http://www.slocleanair.org/business/asbestos.asp for more information or contact the APCD Enforcement Division at 781-5912.	
Evidence of compliance: Please refer to the attached letter from APCD providing a geologic exemption for the Los Osos Wastewater Project, based on no known naturally occurring asbestos in the project area.	

Condition Satisfied

Jason H. Giffen

Director, SLO County Planning

2-9-2012

Date

100% Post Consumer Recycled Paper

SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

January 23, 2012

Kate Ballantyne
Environmental Resource Specialist
County of San Luis Obispo – Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408

SUBJECT: Naturally Occurring Asbestos ATCM – Geologic Exemption Request Granted for Los Osos Wastewater Treatment Facility

Dear Ms. Ballantyne:

Thank you for your submittal for exemption from California Code of Regulations Section 93105 (Naturally Occurring Asbestos ATCM) dated January 20, 2012. After review of the documentation, the District agrees with the geological evaluation and grants your request for exemption for the scope of evaluations for the Los Osos Wastewater Treatment Facility.

Expiration of the Geologic Exemption: If the County of San Luis Obispo or its contractors subsequently discover any naturally occurring asbestos, serpentine, or ultramafic rock in the area to be disturbed, then:

1. County of San Luis Obispo or operator must comply with the requirements of CCR 93105;
2. County of San Luis Obispo or operator must report the discovery of the naturally-occurring asbestos, serpentine, or ultramafic rock to the APCO no later than the next business day; and
3. The exemption under CCR 93105 subsection (c) (1) shall expire and cease to be effective.

As you know, there are additional requirements in place (i.e. Construction Activity Management Plan) and the potential for California statewide portable equipment registration (issued by the California Air Resources Board) or a District permit for certain equipment. Please contact the District's Engineering Division at (805) 781-5912 for specific information regarding registration or permitting requirements.

If you have any questions, please contact me at (805) 781-5918.

Sincerely,

TIM FUHS
Air Quality Specialist

TJF/lmg

cc: Andy Mutziger SLO Air Pollution Control District
Aaron LaBarre, SLO County Environmental Health

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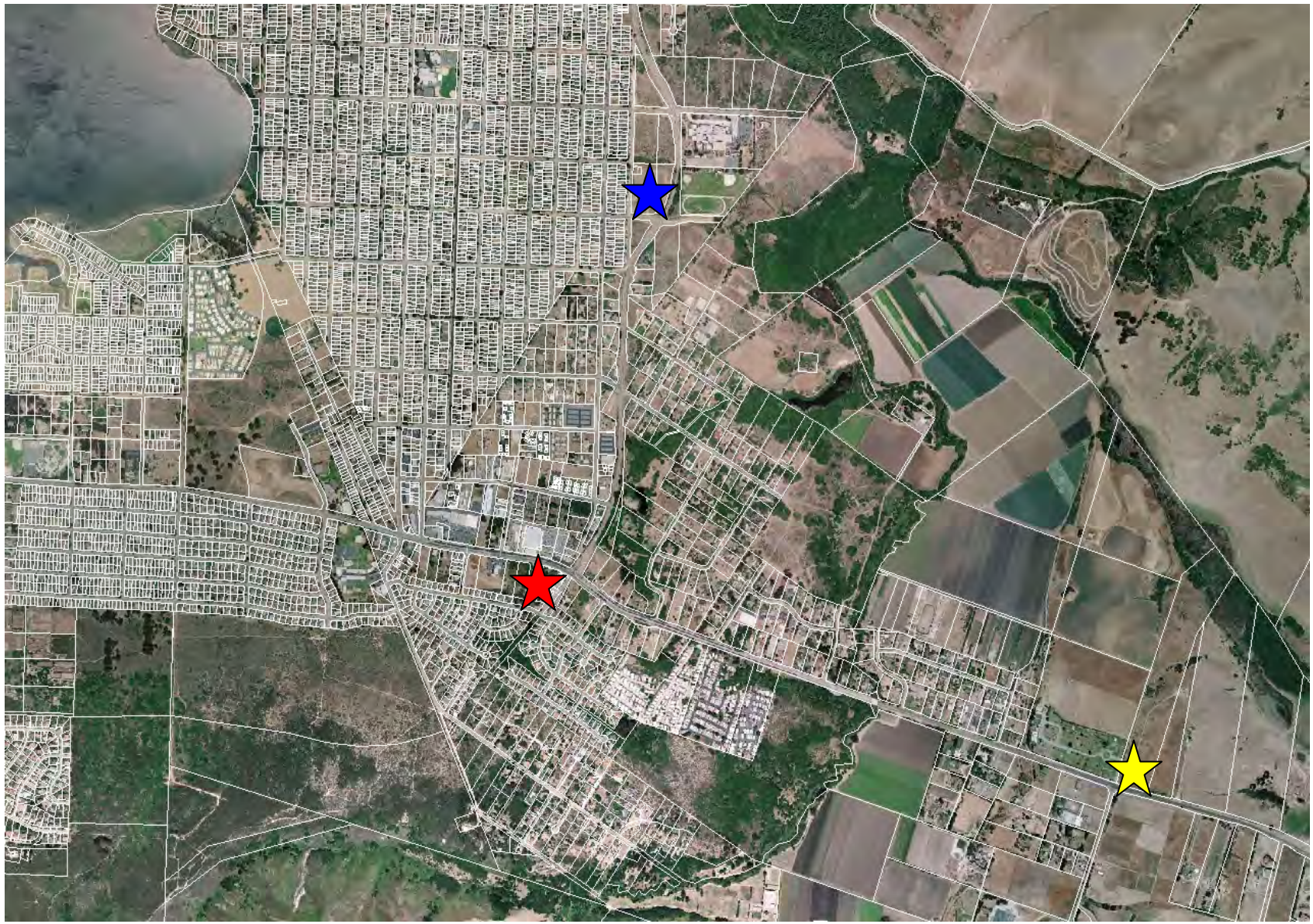
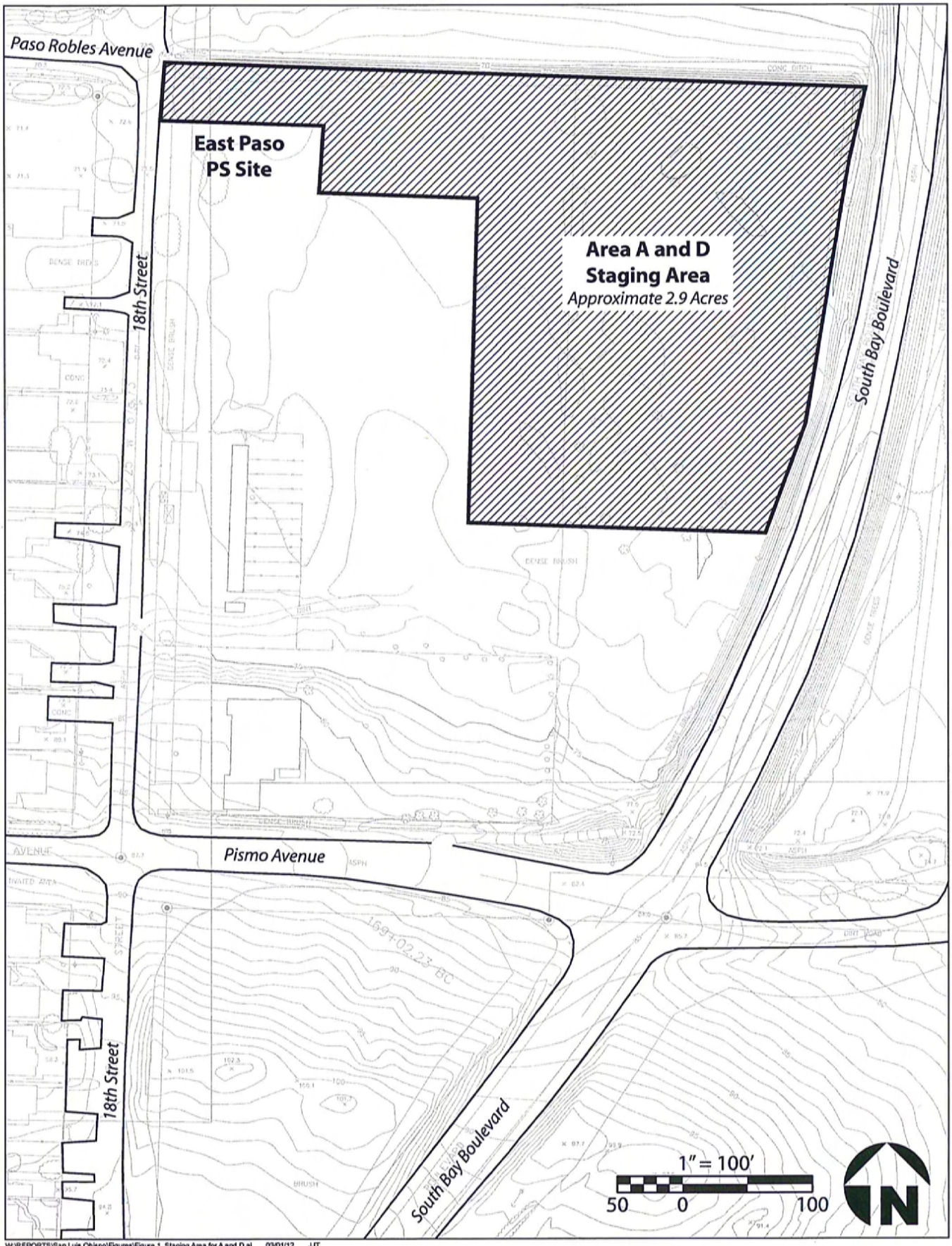
Appendix F
Staging Area Graphics



Staging Area General Locations: Van Beurden (red), Walker (blue), Andre (yellow).

Van Beurden parking/storage area.

Walker staging area.



W:\REPORTS\San Luis Obispo\Figures\Figure 1_Staging Area for A and D.ai 03/01/12 JJT

CDM Smith

Figure 1
Staging Area for A and D

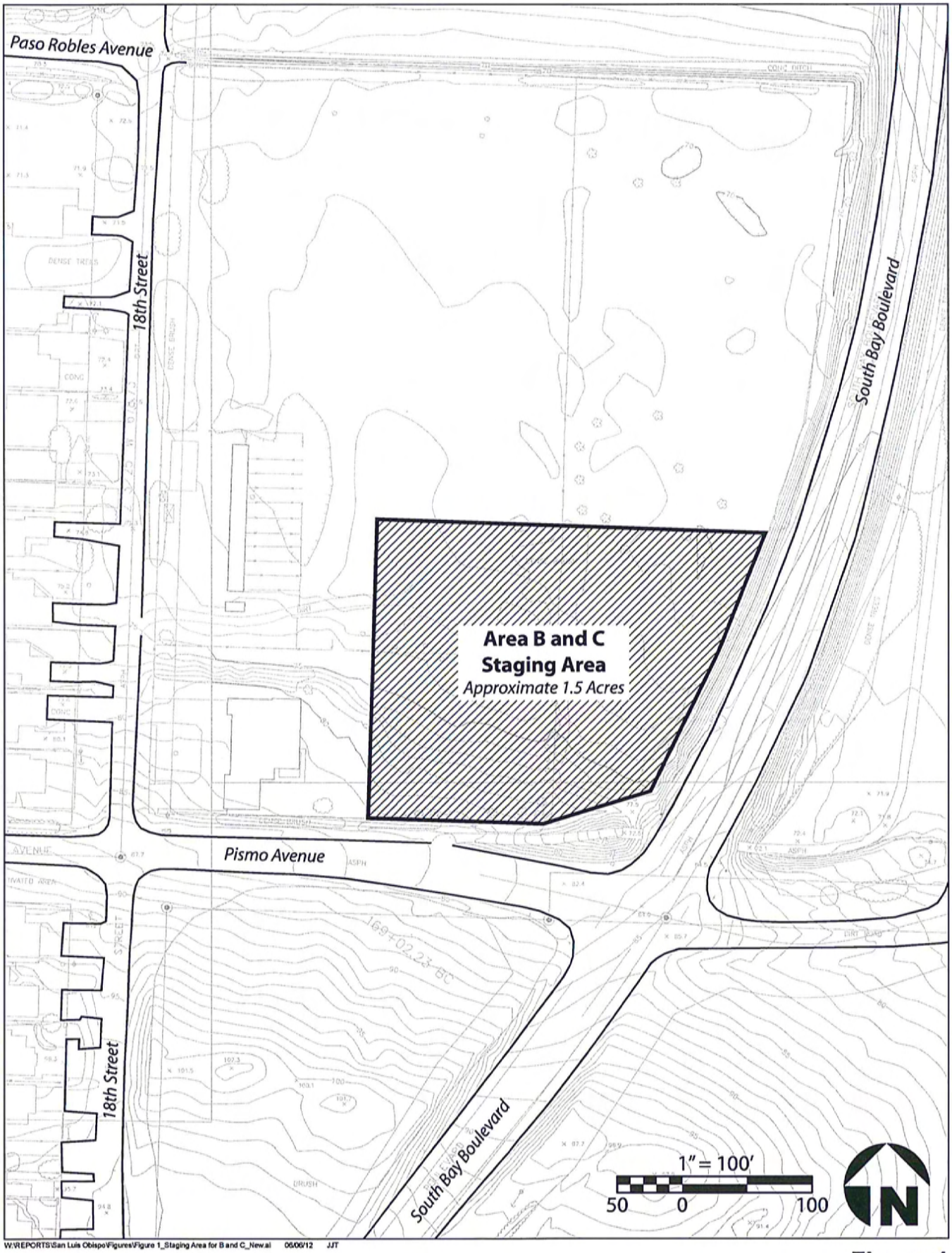


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Figure 1
Staging Area for B and C

CDM Smith

Andre staging area.

Appendix G

Letter to APCD – June 5, 2012 (“mini-CAMP”)

SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS
Paavo Ogren, Director

County Government Center, Room 207 • San Luis Obispo, CA 93408 • (805) 781-5252
Fax (805) 781-1229 email address: pwd@co.slo.ca.us

June 5, 2012

Meghan Field
San Luis Obispo County APCD
3433 Roberto Court
San Luis Obispo, CA 93401

Subject: Air Quality Measures for the Los Osos Wastewater Project, Mid-town Site Restoration and one Low Impact Development Drainage Project

Dear Ms. Field:

The Los Osos Wastewater Project (LOWWP) was approved and the Final Environmental Impact Report certified by the San Luis Obispo County Board of Supervisors on September 29, 2009. The LOWWP was approved by the California Coastal Commission on September 7, 2010. One of the conditions of approval required the preparation of a Construction Activity Management Plan (CAMP). We are in the process of preparing the CAMP, and have been coordinating with the San Luis Obispo County Air Pollution Control District (APCD) in that effort. The LOWWP will be built by the County of San Luis Obispo using several construction contractors (shown in the table below):

Contract	**Contractor**	**Construction Duration**
Mid-town Site Restoration	R. Burke Corporation	June 4, 2012 – June 29, 2012
Collection System Areas A & D	TBD	June 2012 – June 2014
Collection System Areas B & C	TBD	July 2012 – June 2014
Pump Stations	TBD	Aug. 2012 – Dec. 2014
Treatment Plant	TBD	Dec. 2013 – Dec. 2014

The Mid-town Site Restoration was the first construction contract to be awarded, and work will begin in early June. The work involved at this location is not similar to the bulk of the project, is a relatively small part of the overall project, and needs to commence as soon as possible. For these reasons, emissions information for the Mid-town Site Restoration is being submitted separate from the bulk of the LOWWP. Included in this analysis is one of many Low Impact Development (LID) drainage projects that will be constructed by County crews in conjunction with the LOWWP. The project included here is located at Santa Ynez Avenue & 8th Street, and began construction on May 29, 2012. A complete CAMP will be submitted for the LOWWP as a whole, including the other LID drainage projects.

Attached is a comprehensive list of all construction equipment operating at Mid-town from June 4 through June 29, 2012, and a separate list for the LID drainage project. The list includes the engine tier, horsepower, make, model, etc. of each piece of equipment.

Our contract environmental consultant used CALEEMOD to generate an emissions estimate for Mid-town restoration and the one LID drainage project (see attached report and emissions summary table).

The following dust control measures will be implemented for the projects:

a. Reduce the amount of the disturbed area where possible.

b. Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency will be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.

c. All dirt stockpile areas will be sprayed daily as needed.

d. Permanent dust control measures identified in the revegetation and landscape plans will be implemented as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading will be sown with a fast germinating native grass seed and watered until vegetation is established.

f. All disturbed soil areas not subject to revegetation will be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD. Any erosion and sedimentation control netting or other erosion and sedimentation control devises used for temporary or permanent erosion and sedimentation control, shall be limited to biodegradable mesh or other biodegradable products.

g. All roadways, driveways, sidewalks, etc. to be paved will be completed as soon as possible. In addition, building pads will be laid as soon as possible after grading unless seeding or soil binders are used.

h. Vehicle speed for all construction vehicles will not exceed 15 mph on any unpaved surface at the construction site.

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or will maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

l. If visible emissions of fugitive dust persist beyond a distance of 200 feet from the boundary of the construction site, all feasible measures shall be implemented to eliminate potential nuisance conditions at off-site receptors (e.g., increase frequency of watering or dust suppression, install temporary wind breaks where appropriate, suspend excavation and grading activity when winds exceed 25 mph).

m. The contractor will designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties will include holidays and weekend periods when work may not be in progress. The

name and telephone number of such persons will be provided to the SLOAPCD prior to the start of construction.

For Mid-town, the County's Resident Engineer, Michael Boyce, will be on-site and will field any dust complaint calls. Mr. Boyce's mobile number is (805) 235-3333. Increased watering will take place in the event dust becomes problematic.

For the LID drainage project, Mike Tabares is the on-site supervisor and will field any air quality complaints. Mr. Tabares's mobile number is (805) 235-3538.

The proximity of sensitive receptors to this project constitutes special conditions. Therefore, the following will be implemented to minimize impacts to nearby sensitive receptors:

a. Staging and queuing areas will be located as far from sensitive receptors as feasible;

b. Diesel idling will not be permitted;

c. Signs that specify no diesel idling will be posted and enforced at the site.

This letter and attachments constitutes the CAMP for the Mid-town Restoration and one LID drainage project associated with the LOWWP. If you have any questions or need additional information, please contact me at (805) 788-2766.

Sincerely,

Eric N. Wier

ERIC N. WIER
Environmental Resource Specialist

Enclosures

c: Kate Ballantyne
Michael Boyce, P.E.
Jeremy Ghent, P.E.

File: WBS#300448.03

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LOWWP -- Mid-town Site Restoration Equipment List

Burke #	Year	Description	HP	Tier	Engine	Serial # and/or License #	Use days
307	1998	CAT 140-H motor grader	152	1	Diesel 1998	2ZK03679/SE491788	19
844	2006	JD 450J LT crawler dozer	70	2	Diesel 2006	S/N T0450JX128857	5
846	2007	JD 410J backhoe/loader	95	2	Diesel 2007	T0410JX139715	8
1007	1998	CAT D-6R dozer w/ ripper	176	1	Diesel 1998	3ZN586	5
847	2008	JD 210 LE wheel loader w/ bucket & scraper	80	2	Diesel 2008	T0210LE888364/SE585949	10
843	2006	CAT 950H wheel loader w/ 4.25 cubic yard bucket	196	2	Diesel 2006	M1G00172/SE569607	10
509	1972	Kenworth 4,000 gallon water truck	450	1	Diesel 2002	124294/1M73681	30
530	1992	Kenworth 3,600 gallon water truck	370	0	Diesel 1992	1XKBD59X9NJ569845/4C31231	15
Rental		Skid steer flail mower			Diesel		4
Rental		623 CAT Scraper			Diesel		10

LOWWP -- LID Drainage Project Equipment List

Year	Description	Engine Family No.	Tier	Use hrs.
1999	Case 580L backhoe; 3.9 liter Cummins 4T390 82 HP engine	WX9L0239AAA	1	48
2002	Freightliner FL70 truck; 7.2 liter Caterpillar 3126 250 HP engine	2CPXH0442HRK	2	4
2005	Volvo WG truck; 12 liter Volvo VED12 395 HP engine	5VTXH12.150S	2	10
2007	Volvo truck; 7.6 liter International DT 466 260 HP engine	XNVXH0466ANA	3	40
2007	Volvo truck; 7.6 liter International DT 466 260 HP engine	6NVXH0466AEA	3	8

Los Osos Wastewater Project

San Luis Obispo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	0	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Utility Company**
Climate Zone	4	**Precipitation Freq (Days)**	44	

1.3 User Entered Comments

Project Characteristics - Used default values (San Luis Obispo County) for windspeed, precipitation, climate zone, and land use.

Land Use - 7 acres of disturbed area.

Construction Phase - Site preparation and grading activities to take place between 6/7/2012 and 7/6/2012 for 21 total working days (5 days/week; 8 hours/day; no work on 7/4/2012).
Used conservative default grading time (20 days) for emission calculations from equipment, even though most equipment will be used for less time.

Off-road Equipment - Used actual equipment roster, categorized as follows for default HP and load factor: 140 H Blade (Rubber Tired Dozer), JD 450 Dozer (Grader), JD410 Back Hoe (Tractors/Loaders/Backhoes), CAT D-6R Dozer (Grader), JD 210 Skip/Drag (Rubber Tired Dozer), CAT 950 Loader (Rubber Tired Loader), two 4,000-Gallon Water Trucks (Off-Highway Trucks), Mower (Tractors/Loaders/Backhoes), 623 F Scraper (Scraper), 10-Wheel Dumptruck (Rubber Tired Loader), Backhoe (Tractors/Loaders/Backhoes).

Grading - Assumed no fill material is imported or exported to or from the site.

Trips and VMT - Assumed default values for number of worker trips per day (30), length of worker trips (13 miles), and worker vehicle class.
Assumed no vendor or hauling trips to or from the site.

On-road Fugitive Dust - Assumed site vehicle transport only on paved roads (project does not utilize unpaved roads to reach site).
Assumed default average vechicle weight (2.4 tons) and mean vehicle speed (40 mph).

Energy Use -

Land Use Change - Conservative assumption used that entire site consisted of grassland before site activities and will be completely developed (no grassland) when site activities are completed.

Sequestration - Conservative assumption used that no net new trees added to project area.

Construction Off-road Equipment Mitigation - Conservative assumption used that all equipment utilizes Tier 3 diesel engines and that none of the equipment is mitigated with diesel particulate filters (DPF) or oxidation catalysts.
Conservative assumption used that site area is not watered (even though water trucks will be utilized at site) and that no other mitigation measures are used (e.g., soil stabilizers, vehicle speed limits, ground cover replacement).

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					
2012	17.56	136.13	76.12	0.14	13.05	7.14	20.19	6.64	7.14	13.78	0.00	14,868.79	0.00	1.57	0.00	14,901.78
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2012	17.56	136.13	76.12	0.14	12.59	7.14	19.73	6.64	7.14	13.78	0.00	14,868.79	0.00	1.57	0.00	14,901.78
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Grading - 2012

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					12.57	0.00	12.57	6.62	0.00	6.62						0.00
Off-Road	17.26	135.77	72.77	0.14		7.13	7.13		7.13	7.13		14,531.25		1.54		14,563.65
Total	**17.26**	**135.77**	**72.77**	**0.14**	**12.57**	**7.13**	**19.70**	**6.62**	**7.13**	**13.75**		**14,531.25**		**1.54**		**14,563.65**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.30	0.37	3.35	0.00	0.47	0.01	0.48	0.02	0.01	0.03		337.54		0.03		338.13
Total	**0.30**	**0.37**	**3.35**	**0.00**	**0.47**	**0.01**	**0.48**	**0.02**	**0.01**	**0.03**		**337.54**		**0.03**		**338.13**

3.2 Grading - 2012

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					12.57	0.00	12.57	6.62	0.00	6.62						0.00
Off-Road	17.26	135.77	72.77	0.14		7.13	7.13		7.13	7.13	0.00	14,531.25		1.54		14,563.65
Total	**17.26**	**135.77**	**72.77**	**0.14**	**12.57**	**7.13**	**19.70**	**6.62**	**7.13**	**13.75**	**0.00**	**14,531.25**		**1.54**		**14,563.65**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.30	0.37	3.35	0.00	0.02	0.01	0.03	0.02	0.01	0.03		337.54		0.03		338.13
Total	**0.30**	**0.37**	**3.35**	**0.00**	**0.02**	**0.01**	**0.03**	**0.02**	**0.01**	**0.03**		**337.54**		**0.03**		**338.13**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %		
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
User Defined Industrial	13.00	5.00	5.00	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

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	lb/day										lb/day					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

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	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Emissions Summary Table

Pollutant	Calculated Emissions[1] (lbs/day)	2003 Emission Threshold[2] (lbs/day)	2009 Emission Threshold[3,4] (lbs/day)
ROG	17.56	185	137
NO_x	136.13	185	
CO	76.12	-	-
SO_2	0.14	-	-
PM_{10}[5]	19.73	-	-
$PM_{2.5}$	13.78	-	-
CO_2e	14,901	-	-

[1] Emissions calculated using California Emissions Estimator Model (CalEEMod); see attached.

[2] Emission thresholds taken from *CEQA Air Quality Handbook: A Guide for Assessing the Air Quality Impacts for Projects Subject to CEQA Review* , April 2003.

[3] Emission thresholds taken from *CEQA Air Quality Handbook: A Guide for Assessing the Air Quality Impacts for Projects Subject to CEQA Review* , December 2009.

[4] Emissions threshold for ROG and NO_x are combined in the 2009 CEQA guide.

[5] PM_{10} emissions are assumed in excess of threshold if graded area is greater than 4.0 acres in both the 2003 and 2009 CEQA guides.