# Draft
# Environmental Impact Report

**SCH# 2018101060**

## Volume 2

**Appendices A through E**

**SOUTH KERN COMPOST MANUFACTURING FACILITY PROJECT**

**by South Kern Industrial Center, LLC *(PP18125)***

Modification to Conditional Use Permit 2, Map #158

Kern County
Planning and Natural Resources Department
Bakersfield, California

October 2021

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# Draft
# Environmental Impact Report

**SCH# 2018101060**

## Volume 2

**Appendix A through E**

## SOUTH KERN COMPOST MANUFACTURING FACILITY PROJECT

**by South Kern Industrial Center, LLC *(PP18125)***

Modification to Conditional Use Permit 2, Map #158


Kern County
Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2370
(661) 862-8600

*Technical Assistance by:*
Kimley-Horn and Associates
555 Capitol Mall, Suite 300
Sacramento, CA 95814
(916) 858-5800



October 2021

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# Appendices

**NOTE TO REVIEWER OF ELECTRONIC FILES:**

**To assist you in reviewing this electronic document, "bookmarks" and/or "links" have been provided for easier navigation between sections. When available, bookmarks are located in the panel to the left. Links are highlighted in BLUE in the Table of Contents. Clicking on either the bookmarks or links will take you to the selected item. This document may consist of multiple linked PDF files. If saving this document to your computer, you must save all corresponding files to a directory on your hard drive to maintain the manner in which these PDF documents are linked.**

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# Appendix A
# Initial Study/Notice of Preparation and Notice of Preparation Responses

**Lorelei H. Oviatt, AICP, Director**
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
Email: planning@kerncounty.com
Web Address: http://kernplanning.com/

**PLANNING AND NATURAL RESOURCES DEPARTMENT**

Planning
Community Development
Administrative Operations



October 26, 2018

**File:** CUP 2, Map 158 MOD
S.D. #2 – Scrivner

State Clearinghouse and Planning Unit

**Re: *Revised* Notice of Completion (NOC) & *Revised* Cover Letter for the Notice of Preparation/Initial Study for the South Kern Industrial Center Composting Facility by Synagro Technologies, Inc. (SCH#2018101060)**

State Clearinghouse and Planning Unit:

Subsequent to posting and distribution on October 25, 2018 of the Notice of Preparation/Initial Study (NOP/IS) prepared for the project noted above, County Staff made a revision to the Notice of Completion (NOC) included in the document. This revision consists of an update to the ***Project Issues Discussed in Document*** (see attachment) section of the NOC. This revision was made in order to correctly identify which project issues are discussed in the Initial Study. Additionally, County Staff revised the date of the Scoping Meeting as advertised on the cover letter of the NOP/IS from November 14, 2018 to ***November 13, 2018*** at 1:30pm. For reference purposes, the NOP/IS will circulate for 30-days, beginning on October 25, 2018 and ending on November 26, 2018.

**Should you have any questions regarding this revision, please do not hesitate to contact me at (661) 862-5015 or via email at CRojas@kerncounty.com**

Sincerely,

Carlos E. Rojas, Planner III
Advance Planning Division

Attached: *Revised* Notice of Completion & *Revised* Cover Letter

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**Lorelei H. Oviatt, AICP, Director**
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
Email: planning@kerncounty.com
Web Address: http://kernplanning.com/

**PLANNING AND NATURAL RESOURCES DEPARTMENT**

Planning
Community Development
Administrative Operations

# NOTICE OF PREPARATION

**DATE:** October 25, 2018

**TO:** See Attached Mailing List

**FROM:** Kern County Planning and Natural Resources Department
Attn: Carlos E. Rojas
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-5015; CRojas@kerncounty.com

**SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT**

The Kern County Planning and Natural Resources Department as Lead Agency pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15052) has required that an Environmental Impact Report (EIR) pursuant to CEQA Guidelines Section 15161 be prepared for the project identified below. The Planning and Natural Resources Department solicits the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval of projects.

Due to the limits mandated by State law, your response must be received by **November 26, 2018 at 5:00 pm.** In addition, comments can be submitted at a **scoping meeting** that will be held at the Kern County Planning and Natural Resources Department on **November 14, 2018, at 1:30 pm** at the address shown above.

**PROJECT TITLE:** EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc. CUP No. 2 Mod, Map 158 (PP18125).

**PROJECT LOCATION:** The project site is located at 2653 Santiago Road, approximately 7 miles west of Interstate 5, at South Lake Road, and approximately 7 miles east of the City of Taft, in southern Kern County on Assessor's Parcel Number (APN) 220-110-70. The site is located in Section 24 of Township 32 South, Range 25 East of the Mount Diablo Base and Meridian (MDB&M).

**PROJECT DESCRIPTION:** Implementation of the project as proposed would require: a) modification of the existing Conditional Use Permit (CUP) No. 2, Map No. 158 to include modifications to current operations. The project proponent is proposing the following modifications to current operations: (1) accept additional feedstock as well as digestate in response to AB 1826, SB 1383, CalRecycle, and California State Water Resources Control Board; (2) install new equipment to be used during pre-processing and post composting operations including but not limited to grinders, electrical screens, etc.; (3) increase compost pile heights from 16 feet to 20 feet; (4) increase storage time of finished compost product from 7 to 180 days.

**Document can be viewed online at:** https://kernplanning.com/planning/notices-of-preparation/

Signature: _____

Name: Carlos E. Rojas, Planner III

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CUP MOD 2, Map 158 NOP
cc 09/18/2018
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Sarah K. Friedman
Beyond Coal Campaign/Sierra Club
1417 Calumet Avenue
Los Angeles, CA 90026

Robert Burgett
9261 - 60th Street, West
Mojave, CA 93501

Carol Lawhon
Association Executive, IOM
Tehachapi Area Assoc of Realtors
803 Tucker Road
Tehachapi, CA 93561

PG&E
Steven Ng, Manager
Renewal Dev, T&D Intercon
77 Beal Street, Room 5361
San Francisco, CA 94105

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Dir Tech Serv
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Dir of Asset Mgmt
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Palm Springs, CA 92263-2190

Kate Kelly
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Winters, CA 95694

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Carol Lawhon
Association Executive, IOM
Tehachapi Area Assoc of Realtors
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Tehachapi, CA 93561

Wind Stream, LLC
Albert Davies
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Santa Rosa, CA 95404

Darren Kelly
Sr. Business Manager
Terra-Gen Power, LLC
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New York, NY 10036-6797

Michael Strickler
Iberdrola Renewables, Sr Proj Mgr
1125 NW Couch St, Ste 700, 7th Fl
Portland, OR 97209

City of Arvin
P.O. Box 548
Arvin, CA 93203

Bakersfield City Planning Dept
1715 Chester Avenue
Bakersfield, CA 93301

Bakersfield City Public Works Dept
1501 Truxtun Avenue
Bakersfield, CA 93301

California City Planning Dept
21000 Hacienda Blvd.
California City, CA 93515

Delano City Planning Dept
P.O. Box 3010
Delano, CA 93216

City of Maricopa
P.O. Box 548
Maricopa, CA 93252

City of McFarland
401 West Kern Avenue
McFarland, CA 93250

City of Ridgecrest
100 West California Avenue
Ridgecrest, CA 93555

City of Shafter
336 Pacific Avenue
Shafter, CA 93263

City of Taft
Planning & Building
209 East Kern Street
Taft, CA 93268

City of Tehachapi
Attn: John Schlosser
115 South Robinson Street
Tehachapi, CA 93561-1722

City of Wasco
764 E Street
Wasco, CA 93280

Inyo County Planning Dept
P.O. Drawer "L"
Independence, CA 93526

Kings County Planning Agency
1400 West Lacey Blvd, Bldg 6
Hanford, CA 93230

Los Angeles Co Reg Planning Dept
320 West Temple Street
Los Angeles, CA 90012

San Bernardino Co Planning Dept
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

San Luis Obispo Co Planning Dept
Planning and Building
976 Osos Street
San Luis Obispo, CA 93408

Santa Barbara Co Resource Mgt Dept
123 East Anapamu Street
Santa Barbara, CA 93101

Tulare County Planning & Dev Dept
5961 South Mooney Boulevard
Visalia, CA 93291

Ventura County RMA Planning Div
800 South Victoria Avenue, L1740
Ventura, CA 93009-1740

U.S. Bureau of Land Management
Caliente/Bakersfield
3801 Pegasus Drive
Bakersfield, CA 93308-6837

U.S. Bureau of Land Management
Ridgecrest Field Office
300 South Richmond Road
Ridgecrest, CA 93555

U. S. Fish & Wildlife Service
Division of Ecological Services
2800 Cottage Way #W-2605
Sacramento, CA 95825-1846

Environmental Protection Agency
Region IX Office
75 Hawthorn Street
San Francisco, CA 94105

U.S. Dept of Agriculture/NRCS
5080 California Avenue, Ste 150
Bakersfield, CA 93309-0711

U.S. Army Corps of Engineers
P.O. Box 997
Lake Isabella, CA 93240

So. San Joaquin Valley Arch Info Ctr
California State University of Bkfd
9001 Stockdale Highway
Bakersfield, CA 93311

Caltrans/Dist 6
Planning/Land Bank Bldg.
P.O. Box 12616
Fresno, CA 93778

State Clearinghouse
Office of Planning and Research
1400 - 10th Street, Room 222
Sacramento, CA 95814

State Dept of Conservation
Director's Office
801 "K" Street, MS 24-01
Sacramento, CA 95814-3528

State Dept of Conservation
Division of Oil & Gas
4800 Stockdale Highway, Ste 108
Bakersfield, CA 93309

State Dept of Conservation
Division of Oil & Gas
801 "K" Street, MS 20-20
Sacramento, CA 95814-3530

Office of the State Geologist
Headquarters
801 "K" Street, MS 12-30
Sacramento, CA 95814

State Dept of Conservation
Office of Land Conservation
801 "K" Street, MS 18-01
Sacramento, CA 95814

State Dept of Conservation
Div Recycling Cert. Sec.
801 "K" Street, MS 19-01
Sacramento, CA 95814

California Fish & Wildlife
1234 East Shaw Avenue
Fresno, CA 93710

State Dept of Food & Agriculture
1220 "N" Street
Sacramento, CA 95814

California Highway Patrol
Planning & Analysis Division
P.O. Box 942898
Sacramento, CA 94298-0001

Integrated Waste Management
P.O. Box 4025, MS #15
Sacramento, CA 95812-4025

Kern Groundwater Authority
1800 30th Street, Suite 280
Bakersfield, CA 93301

California Regional Water Quality
Control Board/Central Valley Region
1685 E Street
Fresno, CA 93706-2020

California Regional Water Quality
Control Board/Lahontan Region
15095 Amargosa Road - Bld 2, Suite 210
Victorville, CA 92392

Kern County
Agriculture Department

Kern County Public Works Department/
Building & Development/Floodplain

Kern County Public Works Department/
Building & Development/Survey

Kern County
Env Health Services Department

Kern County Fire Dept
Cary Wright, Fire Marshall

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Parks & Recreation

Kern County Sheriff's Dept
Administration

Kern County Public Works Department/
Building & Development/Code
Compliance

Lakeside Union School Dist
14535 Old River Road
Bakersfield, CA 93311

Kern High School Dist
5801 Sundale Avenue
Bakersfield, CA 93309

Kern County Superintendent of Schools
Attention Mary Baker
1300 17th Street
Bakersfield, CA 93301

Wheeler Ridge-Maricopa Water Dist
12109 Highway 166
Bakersfield, CA 93313-9630

Kern County Water Agency
P.O. Box 58
Bakersfield, CA 93302-0058

San Joaquin Valley
Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726

West Side Mosquito
Abatement Dist.
P.O. Box 205
Taft, CA 93268

Adams, Broadwell, Joseph & Cardozo
Attention: Janet M. Laurain
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080

Los Angeles Audubon
926 Citrus Avenue
Los Angeles, CA 90036-4929

Center on Race, Poverty
& the Environment
Attn: Marissa Alexander
1999 Harrison Street – Suite 650
San Francisco, CA 94612

Center on Race, Poverty
& the Environmental/
CA Rural Legal Assistance Foundation
1012 Jefferson Street
Delano, CA 93215

Defenders of Wildlife/
Kim Delfino, California Dir
980 - 9th Street, Suite 1730
Sacramento, CA 95814

Native American Heritage Council
of Kern County
Attn: Gene Albitre
3401 Aslin Street
Bakersfield, CA 93312

Pacific Gas & Electric Co
Land Projects
650 "O" Street, First Floor
Fresno, CA 93760-0001

Sierra Club/Kern Kaweah Chapter
P.O. Box 3357
Bakersfield, CA 93385

Southern California Gas Co
1510 North Chester Avenue
Bakersfield, CA 93308

Southern California Gas Co
Transportation Dept
9400 Oakdale Avenue
Chatsworth, CA 91313-6511

Verizon California, Inc.
Attention Engineering Department
520 South China Lake Boulevard
Ridgecrest, CA 93555

David Laughing Horse Robinson
P.O. Box 20849
Bakersfield, CA 93390

Kern Valley Indian Council
Attn: Robert Robinson, Chairperson
P.O. Box 401
Weldon, CA 93283

Kern Valley Indian Council
Historic Preservation Office
P.O. Box 401
Weldon, CA 93283

LIUNA
Attn: Danny Zaragoza
2201 "H" Street
Bakersfield, CA 93301

Vestas
1417 NW Everett Street
Portland, OR 97209

Henry Miller Water Dist
P.O. Box 9759
Bakersfield, CA 93389

Lozeau Drury LLP
410 – 12th Street, Suite 250
Oakland, CA 94607

Mojave Town Council
Bill Deaver, President
P.O. Box 1113
Mojave, CA 93502-1113

Rosedale-Rio Bravo Water Dist
P.O. Box 20820
Bakersfield, CA 93390-0820

Kern County Public Works
Department/Operations &
Maintenance/Regulatory Monitoring &
Reporting

Terra-Gen Power, LLC
Randy Hoyle
11512 El Camino Real, Suite 370
San Diego, CA 92130-3025

Renewal Resources Group
Holding Company
Rupal Patel
113 South La Brea Avenue, 3rd Floor
Los Angeles, CA 90036

Recurrent Energy
Seth Israel
300 California Street, 8th Floor
San Francisco, CA 92109

David Walsh
22941 Banducci Road
Tehachapi, CA 93561

Congentrix Sunshine, LLC
Rick Neff
9405 Arrowpoint Blvd
Charlotte, NC 28273

Fotowatio Renewable Ventures
Sean Kiernan
44 Montgomery Street, Suite 2200
San Francisco, CA 94104

EDP Renewables Company
North America, LLC
53 SW Yamhill Street
Portland, OR 97204

CUP MOD 2, Map 158 NOP
cc 09/18/2018
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220 110 79 00 6 INC
ALGONQUIN PWR BAK LAND HOLDINGS LLC
354 DAVIS RD
*

220 110 80 00 8
BAKERSFIELD CRUDE TERMINAL LLC
333 CLAY ST # 1600
HOUSTON TX 77002

220 110 08 00 0
C & A FARMS LLC
1306 W HERNDON AV STE 101
FRESNO CA 937117183

220 110 58 00 5
CALIFORNIA RESOURCES PETROLEUM CORPORATION
9200 OAKDALE AV FLR 9
CHATSWORTH CA 913116506

220 110 80 00 8
CIG LOGISTICS LLC
209 W 2ND ST BOX 282
FORT WORTH TX 76102

220 110 76 00 7
NAHABEDIAN EXPLORATION GROUP LLC
420 BRYANT CI STE D
OJAI CA 930234209

220 110 77 00 0 DUP
NAHABEDIAN EXPLORATION GROUP LLC
420 BRYANT CI STE D
OJAI CA 930234209

220 110 55 00 6
PORTER FRED & SAUNDRA FAMILY TRUST
1200 21ST ST
BAKERSFIELD CA 93301

220 110 85 00 3
PORTER FRED W II IRA
1200 21ST ST
BAKERSFIELD CA 933014606

220 110 86 00 6 DUP
PORTER FRED W II IRA
1200 21ST ST
BAKERSFIELD CA 933014606

220 110 70 00 9
SOUTH KERN INDUSTRIAL CENTER INC
435 WILLIAMS CT STE 100
MIDDLE RIVER MD 212202881

220 110 64 00 2
AERA ENERGY LLC
P O BOX 11164
BAKERSFIELD CA 933891164

# NOTICE OF COMPLETION & ENVIRONMENTAL DOCUMENT TRANSMITTAL

*Mail to:* State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
*For Hand Delivery/Street Address:* 1400 Tenth Street, Sacramento, CA 95814

**SCH #** _____

**Project Title:** EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc.

Lead Agency: Kern County Planning Department — Contact Person: Carlos E. Rojas

Mailing Address: 2700 "M" Street Suite 100 — Phone: (661) 862-5015

City: Bakersfield — Zip: 93301-2323 County: Kern

**Project Location:** County: Kern — City/Nearest Community: City of Taft / City of Maricopa

Cross Streets: South Lake Road and Santiago Road — Zip Code: 93307

Lat. / Long.: 35° 7' 51" N / 119° 14' 36" W — Total Acres: 100 acres

Assessor's Parcel No.: 220-110-70 — Section: 24 — Twp.: 32S — Range: 25E — Base: MDB&M

Within 2 Miles: State Hwy #: SR 119 and SR 166 — Waterways: N/A

Airports: N/A — Railways: San Joaquin Valley RR — Schools: N/A

**Document Type:**

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) _____ ☐ Other _____

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other _____

Received by Office of Planning & Research
OCT 26 2018
STATE CLEARINGHOUSE

**Local Action Type:**

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☒ Use Permit ***Modification*** ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other _____

**Development Type:**

☐ Residential: Units _____ Acres _____
☐ Office: Sq.ft. _____ Acres _____ Employees _____
☐ Commercial: Sq.ft. _____ Acres _____ Employees _____
☐ Industrial: Sq.ft. _____ Acres _____ Employees _____
☐ Educational _____
☐ Recreational _____

☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☐ Power: Type _____ MW _____
☒ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☒ Other: Large Scale Composting Facility (Greenwaste, Foodwaste, Etc.)

**Project Issues Discussed in Document:**

☐ Aesthetic/Visual
☐ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☐ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☐ Minerals
☒ Noise
☐ Population/Housing Balance
☒ Public Services/Facilities
☐ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☐ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☐ Growth Inducing
☒ Land Use
☒ Cumulative Effects
☐ Other _____

**Present Land Use/Zoning/General Plan Designation:** Present Land Use: Composting Facility. Present Zoning: M-3 (Heavy Industrial). Present South Kern Industrial Center Specific Plan: 7.3 (Heavy Industrial); 3.4 (Solid Waste Facilities); 2.5 (Flood Hazard)

**Project Description:** *(please use a separate page if necessary)* Implementation of the project as proposed would require: a) modification of the existing Conditional Use Permit (CUP) No. 2, Map No. 158 to include modifications to current operations. The project proponent is proposing the following modifications to current operations: (1) accept additional feedstock as well as digestate in response to AB 1826, SB 1383, CalRecycle, and California State Water Resources Control Board; (2) install new equipment to be used during pre-processing and post composting operations including but not limited to grinders, electrical screens, etc.; (3) increase compost pile heights from 16 feet to 20 feet; (4) increase storage time of finished compost product from 7 to 180 days.

**Reviewing Agencies Checklist**

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

| | | | |
|---|---|---|---|
| x | Air Resources Board | | Office of Emergency Services |
| | Boating & Waterways, Department of | | Office of Historic Preservation |
| x | California Highway Patrol | | Office of Public School Construction |
| | CalFire | | Parks & Recreation |
| S | Caltrans District # 6 & 9 | | Pesticide Regulation, Department of |
| | Caltrans Division of Aeronautics | x | Public Utilities Commission |
| | Caltrans Planning (Headquarters) | S | Regional WQCB # Lahontan |
| | Central Valley Flood Protection Board | | Resources Agency |
| | Coachella Valley Mountains Conservancy | | S.F. Bay Conservation & Development Commission |
| | Coastal Commission | | San Gabriel & Lower L.A. Rivers and Mtns Conservancy |
| | Colorado River Board | | San Joaquin River Conservancy |
| | Conservation, Department of | | Santa Monica Mountains Conservancy |
| | Corrections, Department of | | State Lands Commission |
| | Delta Protection Commission | | SWRCB: Clean Water Grants |
| | Education, Department of | | SWRCB: Water Quality |
| x | Energy Commission | | SWRCB: Water Rights |
| S | Fish & Game Region # FresnoCentral | | Tahoe Regional Planning Agency |
| S | Food & Agriculture, Department of | | Toxic Substances Control, Department of |
| | General Services, Department of | | Water Resources, Department of |
| | Health Services, Department of | | |
| | Housing & Community Development | | Other _____ |
| x | Integrated Waste Management Board | | Other _____ |
| S | Native American Heritage Commission | | |

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**Local Public Review Period (to be filled in by lead agency)**

Starting Date: October 25, 2018 Ending Date: November 26, 2018

---

**Lead Agency (Complete if applicable):**

Consulting Firm: _____ Applicant: _____
Address: _____ Address: _____
City/State/Zip: _____ City/State/Zip: _____
Contact: _____ Phone: _____
Phone: _____

---

**Signature of Lead Agency Representative:** _____ /s/ _____ **Date:** 10/ 25/18

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

# INITIAL STUDY/NOTICE OF PREPARATION

## South Kern Industrial Center Composting Facility by Synagro Technologies, Inc

Modification of Conditional Use Permit No. 2, Map No. 158

(PP18125)

**LEAD AGENCY:**

Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2370

*Contact: Mr. Carlos E. Rojas*
*(661) 862-5015*
*CRojas@kerncounty.com*

**October 2018**

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# Table of Contents

## Figures



## Tables

# 1.0 PROJECT DESCRIPTION

## 1.1 PROJECT LOCATION

The project site is an existing composting facility located off South Lake Road at 2653 Santiago Road on 100 acres of an approximately 155-acre parcel identified by Assessor's Parcel Number (APN) 220-110-70 in unincorporated Kern County (County), California. The proposed project is located on land owned by South Kern Industrial Center, Inc (SKIC) and leased and operated by Synagro Technologies, Inc (project proponent). The project parcel is under the permitting jurisdiction of Kern County. The nearest populated areas to the project site are the City of Taft approximately 7 miles west, the City of Maricopa approximately 9.5 miles southwest, and Metropolitan Bakersfield, approximately 11 miles northeast of the project site (Figure 1, *Site Vicinity Map*). The entrance to the project site is located on Santiago Road off South Lake Road at the San Joaquin Valley Railroad crossing.

The composting facility is located within the boundaries of the South Kern Industrial Center Specific Plan (SKICSP). Within the SKICSP, the project site is bordered immediately to the north by an oil refinery and to the immediate west, east, and south by a 216-acre solar farm. Hughes Rocket Booster Testing Facility, Baker Petrolite Chemical Plant, a car cleaning facility, and Boswell Cotton Gin also sit approximately 1 mile to the north of the project site just outside the SKICSP (Figure 2, *Existing Site Use Map*). There is one mobile home residence permitted for the caretaker/operator of a catfish farm located within a two-mile radius of the site. Agriculture, which consists predominantly of cotton and alfalfa to the north and irrigated row crops to the south, surrounds the area of the project site.

Access to the project area is readily available via major transportation facilities:

- Interstate 5 - a major north-south freeway through western Kern County (8 miles due east of the project site) provides access via Old River Road to Millux Road, Hill Road and South Lake Road.
- State Route 99 - also a major north-south freeway through central Kern County, serving the San Joaquin Valley (13 miles due east of the project site, provides access and connections from the eastern and western portions of Kern County and the San Joaquin Valley via Herring, Old River or Copus Roads.
- State Routes 166 and 33 - major two-lane highways (2 miles and 10 miles from the project site respectively), that provide access from central coast regions and western Kern County via Basic School Road, Gardner Field Road and South Lake Road.
- State Routes 223, 178, and 58 - major east-west two-lane highway and freeways, respectively provide access from eastern Kern County to Interstate 5 or State Route 99.

## 1.2 ENVIRONMENTAL SETTING

The project site is located entirely within Section 24, Township 32 South, Range 25 East, in the Mount Diablo Base and Meridian (Sec 24, T32S, R25E, M. D. B. & M.). The project is located in a relatively flat section of the County, where elevation ranges from approximately 313 feet above mean sea level (amsl) to approximately 347 feet amsl and is located within the U.S. Geological Survey (USGS) 7.5-minute series, Taft, California, topographic quadrangle. The site is nearly level, sloping downward, northwesterly at a grade of about 0.5%.

The depth to the top of the primary groundwater surface ranges from approximately 20 to 100 feet below the surface. Perched groundwater is identified at depths of 6 to 12 feet below existing site grade. The project site is located within Federal Emergency Management Agency (FEMA) Flood Zone "A". The

Kern County Buena Vista Aquatic Recreation Area (BVARA), located approximately 3.75 miles to the northwest, occupies a portion of the old Buena Vista Lake Bed.

According to the Department of Conservation Kern County Important Farmland 2016 Map, the project site is identified as Grazing Land. The project site, as currently permitted, is extensively disturbed and developed with a composting facility that has been in continuous operation since 2006. The project is not subject to a Williamson Act Land Use contract or Agricultural Preserve. Land use records indicate that prior to development of the project site with the existing composting facility, the project site was historically vacant farmland.

The project is not within the boundaries of any airport as identified in the Kern County Airport Land Use Compatibility Plan (ALUCP). The nearest public airport is the Taft-Kern County Airport, located approximately 8 miles to the west. The nearest private airstrip is Paradise Lakes Estates and Airport Park community located approximately 25 miles east.

As noted above, the project site lies within the boundaries of the SKICSP and is designated 7.3/3.4/2.5 (Heavy Industrial/Solid Waste Facilities/Flood Hazard) [Figure 3, *Existing General Plan and SKIC Specific Plan Designations Map*]. The project is also subject to the provisions of the Kern County Zoning Ordinance [Figure 4, *Existing Zoning Classifications Map*]. The existing land use designations as specified by the Kern County General Plan, SKICSP, and Kern County Zoning Ordinance for the site and surrounding land uses are listed below in Table 1: *Project Site and Surrounding Land Uses*.

**Table 1: Project Site and Surrounding Uses**

| | ***Existing Land Use*** | ***Existing Map Code Designation*** |
|---|---|---|
| **Project Site** | Developed with compost facility and vacant land | 7.3 (Heavy Industrial);<br>3.4 (Solid Waste Facilities);<br>2.5 (Flood Hazard); |
| **North** | Oil refinery | 7.3 (Heavy Industrial) |
| **South** | Solar farm | 7.3 (Heavy Industrial);<br>2.5 (Flood Hazard); |
| **East** | Solar farm | 7.3 (Heavy Industrial);<br>2.5 (Flood Hazard); |
| **West** | Solar farm | 7.3 (Heavy Industrial);<br>2.5 (Flood Hazard); |

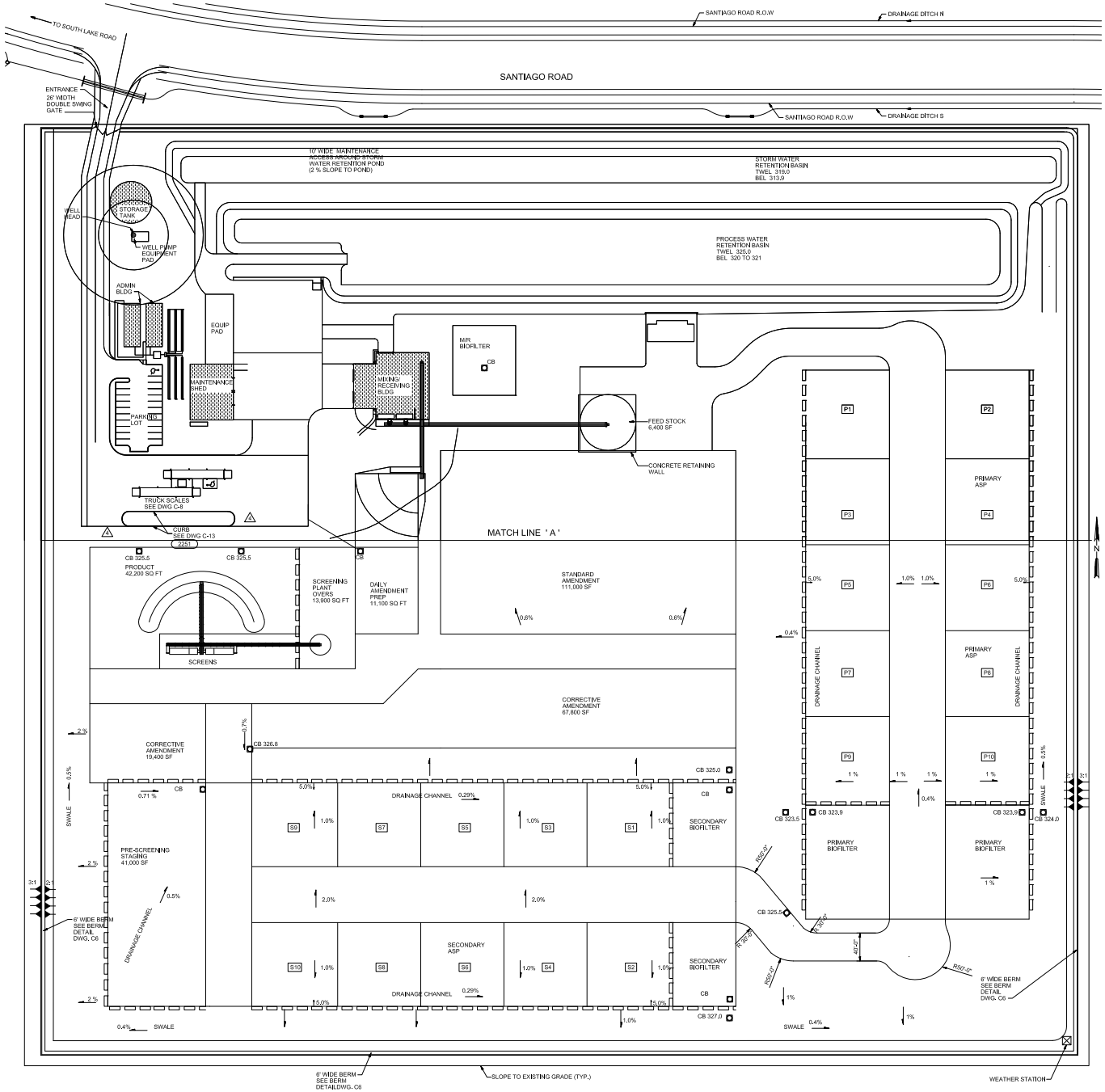
### 1.2.1 Surrounding Land Uses

While the project site is bordered immediately to the north by an oil refinery and to the immediate west, east, and south by a 216-acre solar farm within the SKICSP. Surrounding land uses in the vicinity of the SKICSP include industrial uses to the north and agriculture, which historically has


**Figure 1**

**SOUTH KERN INDUSTRIAL CENTER COMPOSTING FACILITY**
CUP NO. 2 Mod, Map 158 (PP18125)

Regional Location and Site Map




NOTES

| | |
|---|---|
| BIOSOLIDS = | 400,000 TPY |
| BULKING AGENTS= | 270,000 TPY |

SCALE: 1" = 80'

80 0 40 80 160 320

Source: Total Compliance Management, 2018

**Figure 2**

**SOUTH KERN INDUSTRIAL CENTER COMPOSTING FACILITY**

CUP NO. 2 Mod, Map 158 (PP18125)

Existing Site Use Map

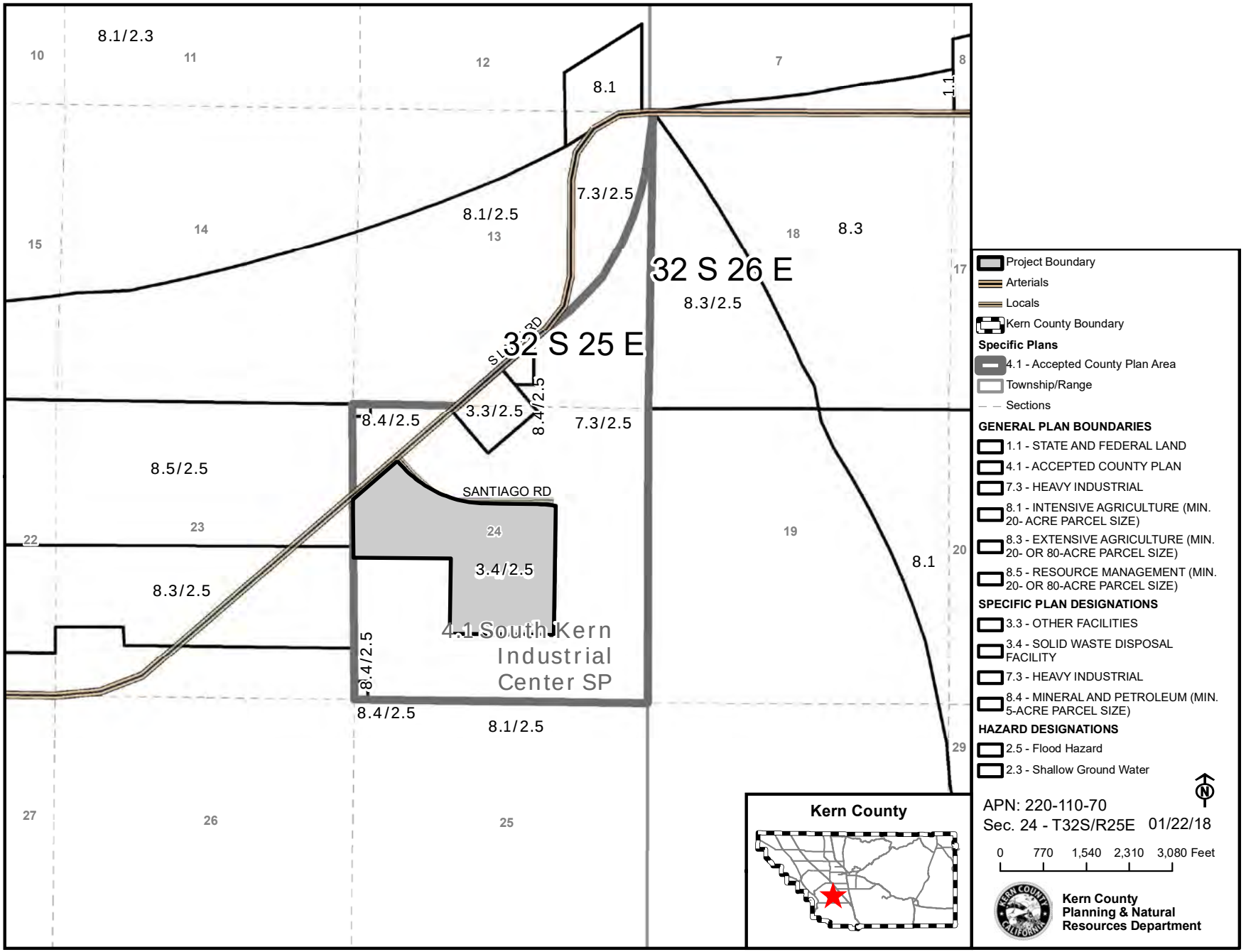



**Figure 3**

**SOUTH KERN INDUSTRIAL CENTER COMPOSTING FACILITY**
CUP NO. 2 Mod, Map 158 (PP18125)

Existing General Plan and South Kern
Industrial Center Specific Plan Designations Map

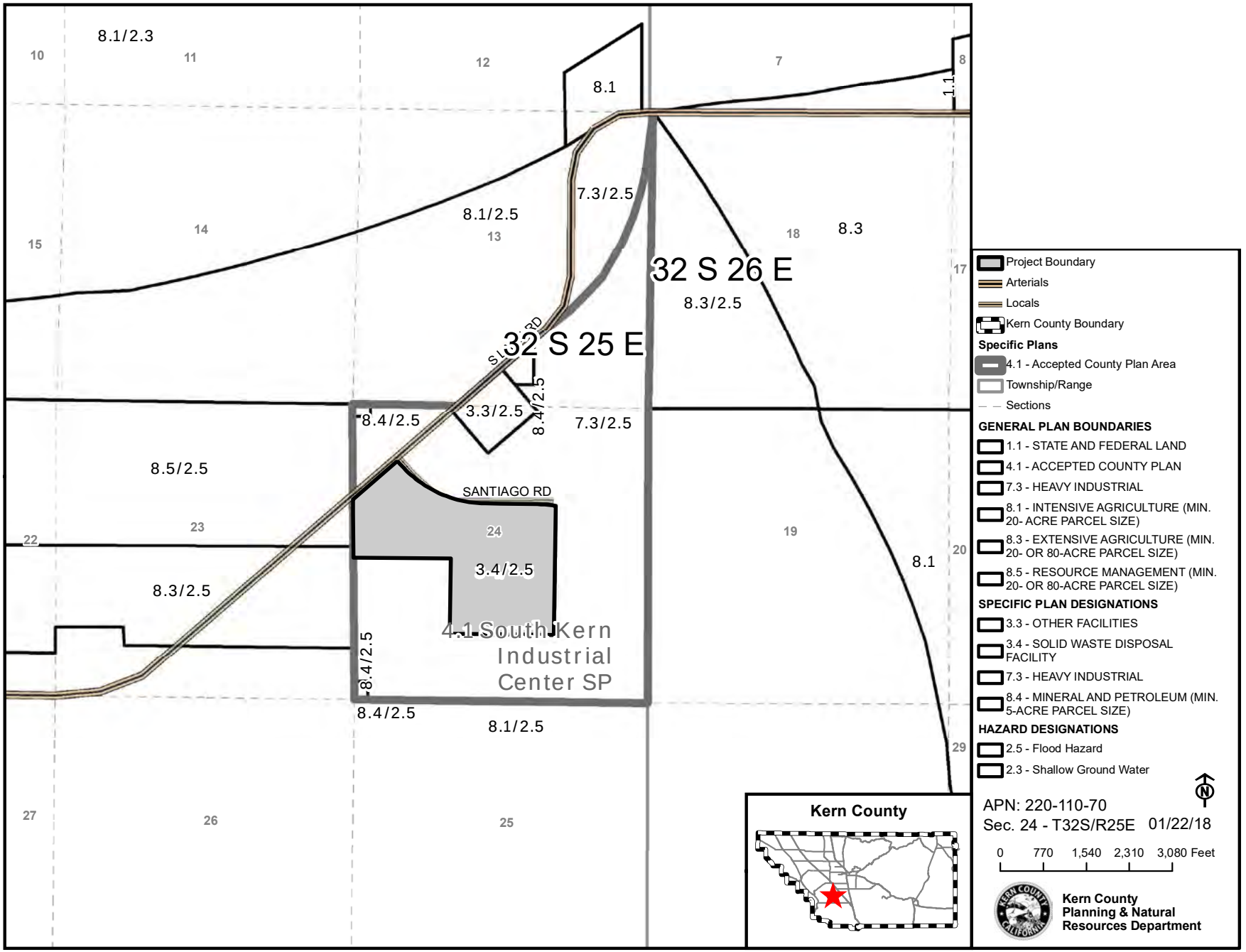



**Figure 4**

**SOUTH KERN INDUSTRIAL CENTER COMPOSTING FACILITY**
CUP NO. 2 Mod, Map 158 (PP18125)

Existing Zoning Classification Map

included cotton, alfalfa, and irrigated row crops to the south. The project site is also surrounded by vacant farmlands to the east and west outside the boundaries of the SKICSP.

## 1.3 EXISTING OPERATIONS

Operation of the existing composting facility was permitted by the approval of Conditional Use Permit (CUP) No. 2, Map No. 158 on October 22, 2002 by the Kern County Board of Supervisors. The existing project facilities includes a perimeter fencing with a gated entrance, scale(s), internal access roads, maintenance area including onsite truck wash area, administration building space, receiving building/ mixing equipment area, compost additive temporary storage area, and finished product area. There is also an on-site water well, a wastewater collection system, a septic tank, and an aeration system to aide in the composting process (Figure 5, *Existing Site Plan*). The composting facility operates 24 hours per day, 7 days per week. Employees are onsite 24 hours per day. Within a 24-hour time period there are currently 14 employees working at the facility and truck drivers that travel to the facility to deliver materials. Employee numbers may vary seasonally or change due to business needs.

Traffic control is maintained at the facility to ensure that vehicle traffic into, on, and out of the site minimizes interference and safety issues for individuals and for traffic on Santiago Road and nearby public roads. The project proponent utilizes over the road (OTR) trucks with either end-dump, live floor or walking floor trailers with a 25 to 100 cubic yards (CY) capacity to transport operational materials to the facility. The facility is currently permitted to receive a maximum of 354 average daily trips (ADTs) made by vehicles entering and leaving the project site. The maximum ADTs will not change as a result of modifications to the CUP.

Under the current, existing CUP, the composting facility is permitted to receive and process up to 670,000 wet tons of material per year (WTPY) which includes a combination of up to 400,000 wtpy of biosolids and pre-consumer food waste and up to 270,000 wtpy of bulking agents (i.e. wood chips and agricultural waste products.) This maximum annual capacity will not change as a result of modification of the CUP. Currently, the compost facility receives biosolids, bulking agents, and pre-consumer food material (i.e. feedstocks) that have been pre-processed at facilities outside Kern County. The biosolids are handled inside the existing biosolids handling building. The bulking agents and pre-consumer food waste is received in the amendment storage areas and mixed with the biosolids as a bulking agent. Permitted feedstocks for the operation are received from generators throughout the state. All permitted feedstocks under the CUP are identified below in Table 2, Existing *Permitted Operations (Existing Feedstocks).*

**Table 2: Permitted Operations (Existing Feedstocks)**

| ***Feedstock Category*** | ***Description*** | ***Daily Tons*** |
|---|---|---|
| Green Materials (1993) | Yard trimmings from residences & businesses that include grass clippings, tree trimmings, wood. and wood fines, etc. | 1,250 |
| Produce Materials (1993) | Discarded trimmings & spoiled fruits/vegetables from retail & warehouse distribution centers | 1,250 |
| Soiled paper/sorted biomass (1993) | Soiled pre & postconsumer paper products as generated at paper mills | 500 |
| Pre-Consumer Produce Products (2000) | Not defined | 25 |
| Packing Shed Materials (1993; 2000; 2011) | Trimmings & cull fruits/vegetables from local packing plants (1993); Liquid, semisolid, solid agricultural, wholesale/retail food process & food residuals to include restaurant food-waste (2000) | 25 |

**Table 2: Permitted Operations (Existing Feedstocks)**

| *Feedstock Category* | *Description* | *Daily Tons* |
|---|---|---|
| Amendments/Additives to be used in the composting process and/or in soil (2010) | Utilized by the facility since 1993, but not previously listed; applicant may continue to utilize gypsum, dolomite, fertilizers, humates & sulfur but may not utilize biomass ash. | Not Listed |
| | ***Total Maximum Daily Intake:*** | ***3,750*** |

### 1.3.1 Existing Operational Plan

Currently, the composting facility uses a Covered Aerated Static Pile (CASP) System which uses piles to compost a mixture of biosolids, pre-consumer food waste and bulking agents. In the CASP System, air is drawn or pushed through the pile using low pressure-high volume blowers and a piping system which allows for less odorous composting.

Biosolids, pre-consumer food waste, bulking agents green material (feedstocks), are unloaded from the delivery trucks into their respective location at the Facility. Biosolids are unloaded in the biosolids receiving building, pre-consumer food waste and bulking agents are unloaded at the amendment storage area. The feedstocks are loaded into mixers at a 1:1 ratio of bulking agents to biosolids/pre-consumer foodwaste (Composting Mixture).

The mixture (mixed materials) is then staged on a feedstock pad and transported by front-end loader and/or dump trucks to the Primary CASP Staging Area which consists of the Primary CASP Staging Area and the Primary CASP Zones. The Primary CASP Staging Area and Primary CASP Zones are separated by two 15-foot haul roads on either side of the Primary CASP Staging Area. The mixed materials may be placed in the Primary CASP Staging Area for temporary storage or may be placed in piles directly into the Primary CASP Zones. In the event that the mixed materials are placed in the Primary CASP Staging Area for more than 72 hours, a minimum 12-inch layer of finished compost is added to the staged piles in order to minimize odor potential.

Once the piles are formed, they remain stationary until the primary composting process is complete (about 20 days). Each compost pile may reach a maximum height of 16 feet and has an approximately 12-inch thick (maximum) underlying base of coarse additive (also known as the air plenum layer) underneath. While the compost sits in piles during the primary composting process, the aeration system supplies air under the piles to provide the aerobic conditions required for the compost process. The aeration system also assists with the control of odors associated with anaerobic conditions. Exhaust gases and emissions created during the composting process are contained within the approximately 18-24-inch thick biofilter cover caps on top of the compost piles in the CASP zone. Temperature control of the composting piles is achieved by daily measurements, a feedback control system, or by varying the time period of aeration. Once the proper temperature and pathogen and vector attraction reduction times are reached, the primary composting process is deemed complete.

After the composting process is complete, the composted material from the piles is transported by front-end loaders or dump trucks to a pre-screening staging area. Composted material is then screened. Screened compost is then moved to the onsite finished product area for a maximum of 7 days, from where it is distributed.

### 1.3.2 Previous Operational Approval(s)

The SKIC Composting Facility is a fully permitted, state of the art Covered Aerated Static Pile ("CASP") composting facility that operates under the following County, regional and State permits and entitlements ("Existing Permits"):

- **2002 (Supplemental EIR, Original CUP - Approved)**. The existing composting facility was authorized by the approval of CUP No. 2, Map No. 158 on October 22, 2002 by the Kern County Board of Supervisors. The original CUP was applied for in conjunction with GPA No. 4, Map No. 158. Impacts were analyzed in a Supplemental EIR in 2002 to the 1993 EIR for the SKICSP.
- CalRecycle - Solid Waste Facility Permit No. 15-AA-0381.
- Regional Water Quality Control Board – Central Valley Region ("RWQCB") Waste Discharge Requirements R5-2005-0077.
- San Joaquin Valley Air Pollution Control District - Authority to Construct Permit No. S-4212-2-6.

## 1.4 PROPOSED OPERATIONS

The project proponent is proposing modifications to the existing CUP (CUP No. 2, Map 158) of the existing composting facility. The modifications proposed in this project include the addition of feedstocks, new equipment to support pre-processing and post-composting operations, an increase in pile heights from 16 feet to 20feet, and an increase in storage time from 7 to 180 days. All proposed modifications to the CUP as applicable to this project are detailed below.

### 1.4.1 Proposed Modifications to CUP

#### 1. Expanded Feedstocks

The CUP Modification would authorize the composting facility to accept additional types of 'mixed materials' and organic wastes consistent with new California State regulations that have expanded the list of organic wastes that can be accepted at a Compostable Materials Handling Facility. The additional types of "mixed materials" and organic wastes would include all types of food material (including post-consumer food waste, food-soiled paper, compostable plastics), and digestate consistent with current regulations ("New Feedstocks"). The following definitions are proposed to be added to the list of materials that can be received by the Composting Facility.

- 'Mixed Materials' pursuant to Title 14
- 'Food Material' pursuant to Title 14
- 'Organic Wastes' pursuant to SB 1383 regulations

The Composting Facility currently accepts wood chips and agricultural waste products as bulking agents. These bulking agents, under current regulations, are also considered organic wastes. In order to be consistent with current regulation the following "Bulking Agents" are being included in the CUP modification proposal:

- 'Agricultural Materials' pursuant to Title 14
- 'Green Materials' pursuant to Title 14

As with the existing Solid Waste Facility Permit for the Composting Facility, the following types of wastes are prohibited and will continue to be prohibited:

- Hazardous, radioactive, designated, and medical wastes
- Dead animals, septage, ash, painted or treated wood
- Mixed (municipal) solid waste and construction and demolition materials
- Burning material
- Manure from known infected herds or sources as monitored and reported by the CDFA

- Any sewage sludge that has not been treated.

Under the CUP modification, the following feedstock definitions would be added to a list of permitted materials that could be received, processed and composted at the Composting Facility. It should be noted that the Composting Facility would be authorized to receive and handle any "compostable material" or "digestate" as authorized under current regulations, Existing Permits or Modified Permits. All feedstock definitions can be found in Table 3, *Feedstock Definitions for Feedstocks to Be Accepted under the Project*.

**Table 3: Feedstock Definitions for Feedstocks to be Accepted under the Project**

| ***Feedstocks*** | ***Description*** |
|---|---|
| Agricultural Materials | Waste material of plant or animal origin, which results directly from the conduct of agriculture, animal husbandry, horticulture, aquaculture, silviculture, vermiculture, viticulture and similar activities undertaken for the production of food or fiber for human or animal consumption or use, which is separated at the point of generation, and which contains no other solid waste. With the exception of grape pomace or material generated during nut or grain hulling, shelling, and processing, agricultural material has not been processed except at its point of generation and has not been processed in a way that alters its essential character as a waste resulting from the production of food or fiber for human or animal consumption or use. Material that is defined in this Section 17852 as "food material" or "vegetative food material" is not agricultural material. Agricultural material includes, but is not limited to, manures, orchard and vineyard prunings, grape pumice, and crop residues. (14 CCR §17852) |
| Food Material | A waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption and that is separated from the municipal solid waste stream. Food material includes, but is not limited to, food waste from food facilities as defined in Health and Safety Code Section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code section 111955, grocery stores, institutional cafeterias (such as, prisons, schools and hospitals) and residential food scrap collection. Food material does not include any material that is required to be handled only pursuant to the California Food and Agricultural Code and regulations. (14 CCR §17852) |
| Digestate | Organic by-product (solid or liquid) of anaerobic digestion process. |
| Green Material | Any plant material except food material and vegetative food material that is separated at the point of generation, contains no greater than 1.0 percent of physical contaminants by dry weight, and meets the requirements of section 17868.5. Green material includes, but is not limited to tree and yard trimmings, untreated wood wastes, natural fiber products, wood waste from silviculture and manufacturing, and construction and demolition wood waste. Green material does not include food material, vegetative food material, biosolids, mixed material, material separated from commingled solid waste collection or processing, wood containing lead-based paint or wood preservative, or mixed construction and demolition debris. Agricultural material, as defined in this section 17852(a)(5), that meets this definition of "green material" may be handled as either agricultural material or green material. (14 CCR §17852) |
| Mixed Material | Any compostable material that is part of the municipal solid waste stream, and is mixed with or contains non-organics, processed industrial materials, mixed demolition or mixed construction debris, or plastics. A feedstock that is not source separated or contains 1.0% or more of physical contaminants by dry weight is mixed material. |
| Organic Wastes | Solid wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food waste, green waste material, landscape and pruning waste, applicable organic textiles and carpets, wood, lumber, fiber, paper products, printing and writing paper, manure, biosolids, digestate, and sludges. (SB 1383 or as may be amended). |

## 2. New Equipment for Pre-Processing and Post-Composting Operations

The project proponent also seeks to modify the CUP to allow for pre-processing of incoming feedstock at the facility through a series of equipment types including screens, shaker decks, grinders, conveyers, and other mechanical equipment. Under existing conditions, the majority of incoming feedstock material is pre-processed offsite before being shipped to the facility. Under the project, the facility would continue to receive pre-processed material as well as unprocessed material. Adding a pre-processing operation at the facility would allow for adequate processing of unprocessed material upstream of the composting process. The pre-processing operations would include the grinding of green waste and processing of food materials.

The green waste would be received, ground, and further processed through a screen or similar equipment, to prepare for use as a bulking agent in the composting process. The green waste grinding operation would have the capacity to receive and store up to 5,000 cubic yards of un-processed green waste. The area would have year-round loader access to transfer processed green waste to existing amendment stockpile areas and/or to the composting process and/or hauled off site to another composting facility.

Food materials received at the composting facility would be processed and prepared for the CASP system. Commingled food materials may have up to 30% by-weight non-compostable contamination, even when best management practices are applied at the source. Trucks would transport food materials to the composting facility where they would be weighed on certified scales. The trucks would then travel to the dedicated receiving and storage area where the material would be offloaded. Vectors would be controlled by good housekeeping practices in the reception area and unprocessed material would be covered when pre-processing is not occurring. The project proponent would use state-of-the-art extruder-type food processing technology, to pre-process up to 386,000 wtpy of food materials. For pre-processing the food materials would be loaded with a front-end loader or other suitable equipment, into the feed bin and would be mechanically separated from the non-compostable waste. The resulting "food waste" would be mixed with green waste and/or bulking agents and put into the CASP system. The food material processing area would have a receiving and storage capacity of approximately 1,580 wet tons. Non-compostable materials removed from the food material would be disposed of off-site at a permitted solid waste disposal site.

The project proponent is also proposing to add one additional compost screening and classification operation at the composting facility as part of the post-composting process. All equipment used and to be used at the composting facility is listed below in Table 4, *Equipment Used/ to be Used for Processing Materials at the Facility.*

**Table 4: Equipment Used/to Be Used for Processing Materials at the Facility**

| ***Equipment*** | ***Proposed or Existing*** | ***Process Used In*** | ***Power Source*** |
|---|---|---|---|
| SPF-Fuel Truck | Proposed | Refueling Equipment (Off-road and On-Road Equipment) | Diesel |
| AT- Agricultural Tractors | Existing | Material Transfer (Off-road Equipment) | Diesel |
| AT- Agricultural Tractors | Existing | Material Transfer Material Transfer (Off-road Equipment) | Diesel |
| CP- Landfill Compactors | Existing | Composting Process (Off-road Equipment) | Diesel |

**Table 4: Equipment Used/to Be Used for Processing Materials at the Facility**

| *Equipment* | *Proposed or Existing* | *Process Used In* | *Power Source* |
|---|---|---|---|
| EX- Excavator | Existing | Material Transfer (Off-road Equipment) | Diesel |
| EX- Excavator | Existing | Material Transfer (Off-road Equipment) | Diesel |
| GR- Grader | Existing | Material Transfer (Off-road Equipment) | Diesel |
| LD- Loader | Existing | Material Transfer (Off-road Equipment) | Diesel |
| LD- Loader | Existing | Material Transfer (Off-road Equipment) | Diesel |
| LD- Loader | Existing | Material Transfer (Off-road Equipment) | Diesel |

**3. Increase Pile Heights**

Under existing conditions, the project proponent is allowed to construct compost and curing piles up to 16 feet tall. The proposed modification would allow the construction of all piles up to 20ft tall. The project proponent is proposing this modification in order to accommodate for the additional feedstocks to be composted at the facility.

**4. Increase Storage Time**

Under existing conditions, the project proponent is allowed to store finished compost onsite for up to 7 days following completion of composting. The proposed modification would allow for the storage of finished compost onsite for up to 180 days. The project proponent is proposing this modification in order to accommodate for the seasonal markets.

### 1.4.2 Proposed Operational Plan

The New Feedstock would be composting using the existing CASP process at the Composting Facility. However, the New Feedstocks could be received and processed separately from the existing biosolids feedstocks. The CASP system used at the composting facility is specifically designed to positively aerate the bed, which enhances the speed of composting, while providing volatile organic compounds (VOC), greenhouse gas, and odor controls. The CASP system is modular and can process not only the existing biosolids feedstock; but, also food waste and green waste feedstocks. The existing CASP system provides process airflow to control and maintain uniform biomass temperatures and all process air exhausts through a biofilter. All components in contact with the corrosive air-stream of the compost are either stainless steel or polymeric materials. The CASP system is designed to conserve energy with variable speed fans, and adaptive control strategies. Manually operated dampers control airflow and direction to each pile/ CASP Zone. The proposed modifications to the CUP do not include changes to the existing CASP system. Under the proposed modifications to the CUP, the height of the mixed materials piles would increase from 16 feet to 20 feet.

After the composting process is complete, the compost will be screened using the additional post-composting equipment proposed in the CUP modification. The final compost product is then marketed by the project proponent to the agricultural market. To accommodate the seasonal fluctuations in the compost market and crop rotation, the CUP modification would allow the storage of finished compost at the composting facility to increase from 7 to 180 days following completion of composting.

## 1.5 PROJECT OBJECTIVES

The project proponent has defined the following objectives for the project:

1. Provide composting capacity to meet the organic waste diversion requirements enacted by recent California legislation (AB 341, AB1826, SB 1383m etc.) by recent California legislation.

2. Reduce methane emissions from landfills by removing organics from landfills by composting new feedstocks and reducing GHGs by using nutrient rich compost in soils.

3. Modify an existing, strategically located state-of-the-art composting facility to accommodate the growing market demand for "Organic" compost.

4. Upgrade an existing composting facility to receive and compost food materials derived from commercial and residential sources.

5. Increase diversion of organic materials from landfills by modifying the previously approved list of feedstocks at the Composting Facility to use new definitions in the state composting regulations (Title 14 CCR).

6. Allow the Composting Facility to use state-of-the art food material processing equipment to improve its composting efficiency and capability.

7. Continue to provide economic benefits to Kern County through employment of local residents, by the expansion of operational activities and construction of new processing equipment.

8. Continue to be in compliance with San Joaquin Valley Air Pollution Control District rules and regulations.

9. Facilitate the accomplishment of AB 341, which directs CalRecycle to increase statewide diversion from landfills to 75 percent by 2020.

10. Enhance the business community's ability to comply with AB 1826, which requires businesses to implement organic waste recycling services to substantially reduce landfill disposal of food wastes.

11. Create water saving opportunities by using compost to enhance agricultural soil.

## 1.6 PROPOSED DISCRETIONARY ACTIONS/REQUIRED APPROVALS

The Project may require certain discretionary actions and approvals including, but not limited to, the following:

**State**

- Regional Water Quality Control Board (RWQCB)
- California Integrated Waste Management Board (CIWMB)
  - Odor Impact Minimization Plan
  - Solid Waste Facility Permit
- California Department of Toxic Substances
- California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA)

**Local**

- Kern County Board of Supervisors
  - Modification to Conditional Use Permit

  - Certification of Environmental Impact Report
  - Adoption of Mitigation Monitoring Program
  - Adoption of 15091 and 15093 Findings of Overriding Consideration

- Kern County Public Works - Building and Development- Flood Plain & Survey
  - Plan for the Disposal of Drainage Waters
  - Grading and Building Plans

- Kern County Public Works – Operations & Maintenance - Regulatory Monitoring & Reporting
  - Solid Waste Facilities Permits
  - Odor Impact Minimization Plan
  - Report of Compost Site Information (RCSI)
  - Hazardous Materials Business Plan
  - Septic and Water System Permits
  - Spill Prevention Control and Countermeasure Plan
  - Safety Management Procedures

- Kern County Public Works – Department Review
  - Access Road Design and Encroachment Permit

- Kern County Fire Department
  - Fire Safety Plan

- San Joaquin Valley Air Pollution Control District
  - Fugitive Dust Control Plan
  - Authority to Construct
  - Permit to Operate
  - Any other permits as required

# 2.0 KERN COUNTY ENVIRONMENTAL CHECKLIST FORM

## 2.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "potentially significant impact" as indicated by the Kern County Environmental Checklist on the following pages.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☒ Air Quality |
| ☐ Biological Resources | ☒ Cultural Resources | ☒ Tribal Cultural Resources |
| ☒ Geology and Soils | ☒ Greenhouse Gas Emissions | ☒ Hazards and Hazardous Materials |
| ☒ Hydrology and Water Quality | ☒ Land Use and Planning | ☐ Mineral Resources |
| ☒ Noise | ☐ Population and Housing | ☒ Public Services |
| ☐ Recreation | ☒ Transportation and Traffic | ☒ Utilities and Service Systems |
| ☒ Mandatory Findings of Significance | | |

## 2.2 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

| | |
|---|---|
| /S/ | October 25, 2018 |
| Signature | Date |
| Carlos E. Rojas | |
| Printed Name | For |

## 3.0 EVALUATION OF ENVIRONMENTAL IMPACTS

(1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

(3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

(4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measure and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

(5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration, Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   (a) Earlier Analysis Used. Identify and state where they are available for review.

   (b) Impacts Adequately Addressed. Identify which effects from the above checklist where within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   (c) Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

(6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

(7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

(8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

(9) The explanation of each issue should identify:

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

   (b) The mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.1 AESTHETICS.** | | | | |
| *Would the project:* | | | | |
| a. Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c. Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☐ | ☒ | ☐ |
| d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) The project site is substantially developed with an existing composting facility. While the project site is not designated as a scenic vista, as defined by the County of Kern or any other local governing body, the incorporation of additional processing equipment to the facility may result in alteration to the existing viewshed. However, the entire site is extensively disturbed and considered mostly developed, new equipment would not add any substantial effect to the scenic vista. The project site is also approximately 9 miles south of the Kern River which has been described as the single most valuable visual resource in the southern San Joaquin Valley. The project site is also 3.75 miles southeast of the Buena Vista Aquatic Recreation Area (BVARA). Views of either feature are not expected to be significantly affected by the proposed project. There are no scenic resources identified within the immediate vicinity. No further analysis is warranted.

b) There are no officially designated State or County Scenic Highways as defined by Caltrans, the County of Kern, or any other local governing body adjacent to or within the vicinity of the project site. Additionally, there are no rock outcroppings or known historic buildings in the vicinity of the project. However, the entire site is extensively disturbed and considered mostly developed, new equipment, increase in pile heights, and longer storage times would not add any substantial effect. No further analysis is warranted.

c) The EIR prepared for the adoption of the SKICSP in 1992 determined that conversion of the site from agricultural or open space use to industrial use, and associated degradation of visual quality of the site and surroundings would not result in a significant impact. However, the change between the existing composting process and the proposed addition of processing equipment, increase in pile heights, and increase in storage time may result in alteration to the quality of the site. Therefore, impacts will be further analyzed in the EIR.

d) New light sources are not included as part of the proposed project modifications to the CUP. The facility currently operates 24 hours a day. The light sources required to serve the project are existing. The

modification to the existing CUP to add additional operations and clarify feedstock definitions will not require additional lighting. However, the proposed addition of processing equipment and increase in pile heights may cause a distraction to travelers along South Lake Road, workers, and local residences. However, the entire site is extensively disturbed and considered mostly developed, new equipment or increase in pile heights would not add any substantial effect to light or glare. No further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|

**3.2 AGRICULTURE AND FOREST RESOURCES.**

*In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*

| | | | | |
|---|---|---|---|---|
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use? | ☐ | ☐ | ☒ | ☐ |
| b. Conflict with existing zoning for agricultural use, or Williamson Act contract? | ☐ | ☐ | ☒ | ☐ |
| c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Productions (as defined in Government Code section 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| d. Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☒ | ☐ |
| f. Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code? | ☐ | ☐ | ☒ | ☐ |

**Discussion:**

a) The California Department of Conservation's Kern County Important Farmland 2016 map identifies "Grazing Land" on APN 220-110-70. Historically, the site was vacant farmland until the existing composting facility began active operation in 2006. The proposed modification does not include the expansion of the physical footprint of the existing facility operations and thus would not result in the conversion of additional land or lands designated as Farmland to a nonagricultural use. However, surrounding properties in the vicinity are being actively farmed, therefore potential impacts will be further evaluated in the EIR.

b) Current zoning of the project site is designated is designated 7.3/3.4/2.5 (Heavy Industrial/Solid Waste Facilities/Flood Hazard) within the SKICSP with an existing composting facility in operation since 2006. Prior to 2006, the project site was zoned for agricultural uses but remained vacant. Due to the project's location within the SKICSP, the project site is not subject to any Agricultural Preserves. In addition, the site is not under Williamson Act Land Use Contract. However, surrounding properties in the vicinity are under contract and therefore potential impacts will be further evaluated in the EIR.

c) No lands within or immediately adjacent to the project are zoned forest land or timberland or contain any forested areas. Due to a lack of forest land on the site, the project does not involve any changes to the existing environment that, due to their location or nature, could result in impacts resulting in the loss of forest land or conversion of forest land to non-forest use. No further analysis is warranted.

d) As noted above, no lands within or immediately adjacent to the project are zoned forest land or timberland or contain any forested areas. Due to a lack of forest land on the site, the project does not involve any changes to the existing environment that, due to their location or nature, could result in impacts resulting in the loss of forest land or conversion of forest land to non-forest use. In addition, the proposed modifications do not include expanding the physical footprint of the existing facility operations and thus would not result in additional conversion of land or loss of designated forest land to non-forest uses. No further analysis is warranted.

e) As noted above, the project site and immediate surrounding properties do not contain any forest land or active farming land. Due to a lack of forest land or active farming on the site, the project would not involve any changes to the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. However, surrounding properties in the vicinity are being actively farmed and, therefore, potential impacts will be further evaluated in the EIR.

f) No lands within the project site are subject to a Williamson Act Land Use contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone contract. The project would not result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone contract for any parcel of 100 or more acres (Section 15206[b][3] Public Resources Code). However, surrounding properties in the vicinity are being actively farmed and thus potential impacts will be further evaluated in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.3 AIR QUALITY.** | | | | |
| *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:* | | | | |
| a. Conflict with or obstruct implementation of the applicable air quality plan? | ☒ | ☐ | ☐ | ☐ |
| b. Violate any air quality standard as adopted in (c)i or (c)ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation? | ☒ | ☐ | ☐ | ☐ |
| c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? Specifically, would implementation of the project exceed any of the following adopted thresholds: | ☒ | ☐ | ☐ | ☐ |
| i. San Joaquin Valley Unified Air Pollution Control District: | | | | |
| Operational and Area Sources: | | | | |
| Reactive Organic Gases (ROG): 10 tons per year. | ☒ | ☐ | ☐ | ☐ |
| Oxides of Nitrogen ($NO_x$): 10 tons per year. | ☒ | ☐ | ☐ | ☐ |
| Particulate Matter ($PM_{10}$): 15 tons per year. | ☒ | ☐ | ☐ | ☐ |
| Stationary Sources as Determined by District Rules: | | | | |
| Severe Nonattainment: 25 tons per year. | ☒ | ☐ | ☐ | ☐ |
| Extreme Nonattainment: 10 tons per year. | ☒ | ☐ | ☐ | ☐ |
| ii. Eastern Kern Air Pollution Control District: | | | | |
| Operational and Area Sources: | | | | |
| Reactive Organic Gases (ROG): 25 tons per year. | ☐ | ☐ | ☐ | ☒ |
| Oxides of nitrogen ($NO_x$): 25 tons per year. | ☐ | ☐ | ☐ | ☒ |
| Particulate Matter ($PM_{10}$): 15 tons per year. | ☐ | ☐ | ☐ | ☒ |
| Stationary Sources as Determined by District Rules: | | | | |
| 25 tons per year. | ☐ | ☐ | ☐ | ☒ |
| d. Expose sensitive receptors to substantial pollutant concentrations? | ☒ | ☐ | ☐ | ☐ |
| e. Create objectionable odors affecting a substantial number of people? | ☒ | ☐ | ☐ | ☐ |

**Discussion:**

a) The project site is located within the San Joaquin Valley Air Basin, which is designated as nonattainment (level of a criteria air pollutant is higher than the level allowed by the State standards) for Ozone 1 hour, Ozone 8 hour, and $PM_{10}$ and $PM_{2.5}$ pollutants under State ambient air quality standards. The air basin is also in non-attainment for Ozone 8 hour and $PM_{2.5}$ pollutants under Federal ambient air quality standards. The project includes the addition of processing equipment as well as potential additional truck traffic at the facility which may generate emissions of criteria pollutant such as $PM_{10}$, $PM_{2.5}$, Nitrogen Oxide (NOx), reactive organic gases (ROGs), carbon monoxide (CO), and sulfur oxides ($SO_X$) that could result in exceedance of significance thresholds established by the San Joaquin Valley Air Pollution Control District (SJVAPCD), Kern County, the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (EPA) to result in significant impacts to air quality in the area and violations of adopted air quality standards. Further analysis of air quality impacts is warranted to determine whether the project would conflict with or obstruct implementation of the applicable plans for attainment and, if so, to determine the reasonable and feasible mitigation measures that could be imposed. An Air Quality and Greenhouse Gas Analysis is being prepared for the project and potential impacts will be evaluated in the EIR.

b) Addition of processing equipment and potential additional truck traffic at the facility could significantly contribute to an existing or projected air quality violation of $PM_{10}$ or ozone standards established by the SJVAPCD, Kern County, and the U.S. EPA to require the consideration of mitigation measures. This impact is potentially significant and will be evaluated further in the EIR.

c) (i-ii) The San Joaquin Valley (SJV) is a nonattainment area for the State and Federal ozone standards and the State $PM_{10}$ standard. As the project site is located entirely within the SJVAPCD, all rules and regulations set forth by the SJVAPCD apply to all project activities. The air quality analysis will include a quantitative discussion of emissions created by this project in the SJV. Operational and cumulative contributions could be potentially significant in the SJV and will be analyzed in the Air Quality and Greenhouse Gas Analysis in the EIR.

d) Land uses determined to be “sensitive receptors” to air quality include residential areas, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. The nearest sensitive receptors are residential uses located approximately 2 miles north of the project site. Facility operation activities may result in exhaust emissions and dust created from grinding and mulching that could adversely affect air quality for the workers at the facility and the nearest sensitive receptors. Impacts will be evaluated in the Air Quality and Greenhouse Gas Analysis in the EIR.

e) The SJVAPCD has screening odor thresholds based on the distance of the odor source within the facility to nearby sensitive receptors, and recommends a “case-by-case” analysis of odor impacts, including an evaluation of complaint records for a particular facility as compared to similar facilities. The odors associated with composting and typical vehicle exhaust of trucks traveling to and from the facility may result in substantial odors. The odors associated with facility operations and/or maintenance activities will be evaluated to assess the related impacts to sensitive receptors and this issue will be evaluated in the Air Quality and Greenhouse Gas Analysis in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.4 BIOLOGICAL RESOURCES.** *Would the project:* | | | | |
| a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☒ | ☐ |
| b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | ☒ |
| d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | ☒ | ☐ |
| e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☐ | ☒ |
| f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) The proposed project is located in the San Joaquin Valley which is characterized predominantly as grassland that has undergone extensive agricultural conversion. The project is located on property that has been converted from agricultural uses to industrial uses and has been in continued operation since 2006. A database query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) and the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants revealed several special-status species that occur in the region including burrowing owl (Athene cunicularia), the northern harrier (Circus cyaneus), the golden eagle (Aguila chrysaetos), and several rare plant species including the Bakersfield saltbrush (Atriplex tularensis). The United States Fish

and Wildlife Service (USFWS) does not identify any critical habitats on or near the project site. The existing project facility has been in active operation since 2006 and thus the project site is considered substantially disturbed and mostly developed therefore substantial adverse effect directly on any species or through modification of habitats are not anticipated. However, impacts on any species identified as a candidate, sensitive, or special-status species and potential habitat modifications will be identified further in the EIR.

b) According to the State of California Wildlife Conservation Board, riparian habitats are found along rivers, creeks, streams, and lakes and generally consist of plant communities of woody vegetation. The proposed project site is not located near any rivers, creeks, streams and lakes. The nearest lake, Buena Vista Lake, is located 3.75 miles northwest of the project site. No riparian habitat is located on the project site. In addition, the existing project facility has been in active operation since 2006 and thus the project site is considered substantially disturbed and mostly developed therefore, no further analysis is warranted.

c) The USFWS uses the Cowardin et al (1979) definition of wetlands. According to this source, wetlands are generally transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. The National Wetlands Inventory (NWI) provided by USFWS does not identify any wetlands within the project site. No further analysis is warranted.

d) Wildlife movement corridors are linear habitats that function to connect two or more areas of significant wildlife habitat. Although the general project area may be traversed by some species at different times, the property does not include any wildlife movement corridors that are considered significant on a regional basis. Substantial interference with the movement of any native resident or wildlife species is not anticipated. In addition, the existing project facility has been in active operation since 2006 and thus the project site is considered substantially developed and disturbed. However, further impacts will be evaluated in the EIR.

e) The Kern County General Plan (KCGP) includes oak tree conservation policies. There are no oak trees present on the project site and the proposed modifications to the CUP are not anticipated to conflict with any local policies and/or ordinances. In addition, the project site has been in active operation since 2006 and is considered substantially disturbed and developed, therefore no further analysis is warranted in the EIR.

f) The facility has been in active operation since 2006 and the project site has been substantially disturbed. However, potential conflicts with any adopted conservation plans including the Metropolitan Bakersfield Habitat Conservation Plan (HCP) and the Kern Valley Floor HCP or proposed plans will be further evaluated in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.5 CULTURAL RESOURCES.** | | | | |
| *Would the project:* | | | | |
| a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5? | ☐ | ☐ | ☒ | ☐ |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5? | ☐ | ☐ | ☒ | ☐ |
| c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☐ | ☒ |
| d. Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) Both the 1992 EIR and the 2002 SEIR did not identify any change in the significance of a historical resource. The existing composting facility has been in active operation on the site since 2006 and the entire project site is extensively disturbed and considered mostly developed. It is unlikely that any previously recorded historical resources will be identified at the site. However, the general vicinity of the project site is known to be archaeologically sensitive due to proximity with the Buena Vista Lake Bed and therefore, potential impacts will be further analyzed in the EIR.

b) The existing composting facility has been in operation on the site since 2006 and the entire site is extensively disturbed and considered mostly developed. It is unlikely that any previously recorded archaeological resources will be identified at the site. However, the general vicinity of the project site is known to be archaeologically sensitive due to proximity with the Buena Vista Lake Bed and therefore, potential impacts will be further analyzed in the EIR.

c) Both the 1992 EIR and the 2002 SEIR did not identify any unique paleontological resource or geologic features. The existing composting facility has been in active operation on the site since 2006 and the entire project site is extensively disturbed and considered mostly developed. It is unlikely that any previously recorded paleontological resources will be identified at the site. If sensitive paleontological formations are located under the project site, ground disturbance could result in impacts to paleontological resources. However, the proposed CUP modifications are not anticipated to create any ground disturbance therefore, no further analysis is warranted.

d) The archaeological assessment in the EIR prepared for the SKICSP adopted in 1992 noted that a reported prehistoric burial ground is located adjacent to the specific plan boundaries but has not been formally recorded as a site. No human remains were identified on the project site. Also, the existing composting facility has been in active operation on the site since 2006 and the entire project site is extensively disturbed and considered mostly developed. Additionally, the proposed modifications to the CUP are not anticipated to disturb any human remains, therefore no further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.6 GEOLOGY AND SOILS.** | | | | |
| *Would the project:* | | | | |
| a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☒ | ☐ | ☐ | ☐ |
| ii. Strong seismic ground shaking? | ☒ | ☐ | ☐ | ☐ |
| iii. Seismic-related ground failure, including liquefaction? | ☒ | ☐ | ☐ | ☐ |
| iv. Landslides? | ☒ | ☐ | ☐ | ☐ |
| b. Result in substantial soil erosion or the loss of topsoil? | ☒ | ☐ | ☐ | ☐ |
| c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse? | ☐ | ☐ | ☒ | ☐ |
| d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | ☒ | ☐ | ☐ | ☐ |
| e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☒ | ☐ |

**Discussion:**

a) (i–iv) The project site, as well as all of Kern County, is considered to be seismically active. There are no known or identified faults within or immediately adjacent to the project site. Further, the project site is not delineated as a Special Studies area as identified by the Kern Council of Government's Alquist-Priolo Seismic Hazards Map. The four primary sources of seismic hazard to the property are the San Andreas, White Wolf, Pleito, and Garlock faults. The San Andreas and White Wolf Faults are the nearest, located about 13 miles southwest and 14 miles southeast of the project site. The project would potentially be subject to moderate to strong ground shaking from local and regional earthquakes. The impacts to the project related to the rupture of a known fault will be evaluated in the EIR.

Liquefaction potential occurs when there is a combination of unconsolidated soil type and high groundwater combined with high potential seismic activity. The potential for substantial adverse effects to the project due to seismic-related ground failure, including liquefaction, will be examined in the EIR.

The project site is not considered to be a high risk area for landslides, as it is relatively flat and is not subject to movement of rock, debris, or soil. However, the potential for substantial adverse effects to the project due to landslides will be examined in the EIR.

b) The project site is located within an area that has been historically used as agricultural land and is developed with an established composting operation. Small amounts of soil disturbances will occur with the project as the movement of vehicles and equipment necessary to conduct project activities could potentially result in the erosion and loss of topsoil. The EIR will examine the composition of the soils that underlie the project site.

c) The project site is located within the U.S. Geological Survey (USGS) 7.5-minute series, Taft, California, topographic quadrangle. Site elevations range from 313 feet above mean sea level (amsl) to approximately 347 feet amsl. The site is nearly level, sloping downward, northwesterly at a grade of about 0.5%. The existing composting facility has been in active operation since 2006. While the site is nearly level, potential for small amounts of soil disturbance can potentially result in on-or offsite landslide, lateral spreading, subsidence, liquefaction or collapse thus underlying project site soil stability will be analyzed further in the EIR.

d) Expansive soils result from specific clay minerals that expand when saturated and shrink when dry. Clay or adobe-based soils are types of expansive soils. The project site is currently served by an on-site water well and utilizes a septic tank for sewage disposal. The project also uses an alternative wastewater collection system to gather run off water from onsite activities such as truck washing. The EIR will further examine the presence or absence of expansive soils within the project area and the ability of the soil to support current infrastructure.

e) The existing composting operation has been active on the project site since 2006. The project site is currently utilizes a septic tank for sewage disposal and an alternative wastewater collection system to gather run off water from onsite activities such as truck washing. The EIR will further examine soil properties and ability to support any required changes to the existing sewage infrastructure.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.7 GREENHOUSE GAS EMISSIONS.** | | | | |
| *Would the project:* | | | | |
| a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☒ | ☐ | ☐ | ☐ |
| b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☒ | ☐ | ☐ | ☐ |

**Discussion:**

a) The process of composting helps keep organic materials out of landfills, subsequently helping to reduce the anaerobic breakdown that results in the generation of methane, a GHG. Composting is an aerobic process that can reduce GHG emissions from organic material. As a fundamentally aerobic process, composting itself does not produce any methane. The project uses an aeration system applied to the active composting phase of the inbound compost feedstock material (OMRI certified material accepted). The aeration system increases oxygen in the piles and, for each ton of material composted, reduces volatile organic compounds (VOCs) and ammonia through the action of bacteria and other microorganisms, all of which will be evaluated in the EIR.

b) In 2006, the California State legislature adopted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 describes how global climate change would affect the environment in California. The impacts described in AB 32 include changing sea levels, changes in snow pack and availability of potable water, changes in storm flows, flood inundation zones, and other impacts.

As required by AB 32, the California Air Resources Board (CARB) determined what the statewide greenhouse gas (GHG) emissions level was in 1990 and subsequently approved a Statewide GHG emissions limit equivalent to that level to be achieved by 2020. CARB approved the 2020 limit on December 6, 2007. CARB's GHG inventory estimated the 1990 emissions level in California to be 427 million metric tons carbon dioxide equivalent ($MMTCO_2e$). In 2016, the emissions were estimated to be 429.4 $MMTCO_2e$.

The sources of GHG emissions from the project would be from the composting process itself and from mobile sources, such as trucks arriving and departing the facility, and from facility equipment listed in Table 4, *Equipment Used/to Be Used for Processing Materials at the Facility*. Impacts related to GHGs and climate stemming from the project and facility equipment may cause potential conflicts with any applicable plan or policy relative to GHGs. Impacts will be evaluated in the Air Quality and Greenhouse Gas Analysis and presented in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.8 HAZARDS AND HAZARDOUS MATERIALS.** | | | | |
| *Would the project:* | | | | |
| a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? | ☒ | ☐ | ☐ | ☐ |
| b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☒ | ☐ | ☐ | ☐ |
| c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| g. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |
| h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☐ | ☒ |
| i. Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste? Specifically, would the project exceed the following qualitative threshold:<br><br>The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when | | | | |

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| the applicable enforcement agency determines that any of the vectors: | | | | |
| i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and | ☒ | ☐ | ☐ | ☐ |
| ii. Are associated with design, layout, and management of project operations; and | ☒ | ☐ | ☐ | ☐ |
| iii. Disseminate widely from the property; and | ☒ | ☐ | ☐ | ☐ |
| iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population. | ☒ | ☐ | ☐ | ☐ |

**Discussion:**

a) Under the existing CUP, heavy machinery and trucks associated with the composting process and feedstock transport are used, maintained, fueled, and stored onsite. The proposed modifications to the CUP also include the addition of new machinery for pre-processing and post composting operations. Potential impacts may result from the accidental release of chemicals associated with this equipment such as spills of fuel oil. Therefore, potential impacts related to the transport, handling, use, and disposal of hazardous materials will be evaluated in the EIR.

b) Under the existing CUP, heavy machinery and trucks associated with the composting process and feedstock transport are used, maintained, fueled, and stored onsite. The proposed modifications to the CUP also include the addition of new machinery for pre-processing and post composting operations. Potential impacts may result from the accidental release of chemicals associated with this equipment such as spills of fuel oil. Reasonably foreseeable accident conditions include but are not limited to spills caused by topping off fuel tanks, runoff stemming from the natural (rainfall) or deliberate washing down of fuel area, and leaking storage tanks. Potential impacts related to reasonably foreseeable upsets and accident conditions involving the release of hazardous materials will be evaluated in the EIR.

c) No existing or proposed school site is located within a quarter mile of the project site. The nearest school to the project, Taft Primary, is located approximately 12 miles west in the City of Taft. Therefore, hazardous emissions, materials, and/ or substances stemming from the project are not anticipated to be emitted within one-quarter mile of an existing or proposed school. No further analysis is warranted.

d) Pursuant to Government Code section 65962.5, the California Department of Toxic Substances Control is required to compile and update a list of hazardous material sites annually. The project site is not located on the Hazardous Waste and Substances Site list by the Department of Toxic Substances Control and as a result, no further analysis is warranted.

e) The nearest public airport identified by the Kern County Airport Land Use Compatibility Plan (ALUCP) is the Taft-Kern County Airport located approximately 8 miles west of the project site. The project site is

not within the sphere of influence (SOI) of any airport as identified by the Kern County (ALUCP). Therefore, no further analysis is warranted.

f) The nearest private airstrip is located approximately 25 miles east of the site, at the Paradise Lakes Estates and Airport Park community. As the project site is located more than two miles away from the airport, the project is not anticipated to expose individuals working in the project area to safety hazards resulting from private airports therefore, no further analysis is warranted.

g) The project is not anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the site. The site is located in a rural, sparsely developed area with limited population. The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Therefore, impacts related to impairment of the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan are not anticipated. No further analysis is warranted.

h) The project site is within an agricultural area, with row crops and pastures in the vicinity. The project site is not within a California Department of Forestry State Fire Severity Zone and is not located in an area highly susceptible to wildfires. The facility has a water well and a 500,000-gallon water storage tank on the property that can be used in the event of fire. In addition, the facility maintains equipment such as loaders and water tanks that can be used in case of fire. Impacts related to wildland fires are not anticipated. No further analysis is warranted.

i) (i–iv) The existing composting facility has been in active operation since 2006 and currently accepts feedstocks that have the potential to generate vectors such as flies, mosquitoes, and rodents. Currently, the high turnover shipment of materials, immediate placement of the organic materials into the CASP system, and temperature/vector controls in place are natural deterrents to flies, and destroys fly larvae, pupae, and eggs. However, with the proposed addition of new feedstocks and the use of digestates in the composting process, potential generation of vectors (flies, mosquitoes, rodents, etc.) and associated impacts will be evaluated in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.9 HYDROLOGY AND WATER QUALITY.** | | | | |
| *Would the project:* | | | | |
| a. Violate any water quality standards or waste discharge requirements? | ☒ | ☐ | ☐ | ☐ |
| b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | ☒ | ☐ | ☐ | ☐ |
| c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite? | ☒ | ☐ | ☐ | ☐ |
| d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite? | ☒ | ☐ | ☐ | ☐ |
| e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | ☒ | ☐ | ☐ | ☐ |
| f. Otherwise substantially degrade water quality? | ☒ | ☐ | ☐ | ☐ |
| g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | ☒ | ☐ | ☐ | ☐ |
| i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ☒ | ☐ | ☐ | ☐ |
| j. Inundation by seiche, tsunami, or mudflow? | ☒ | ☐ | ☐ | ☐ |

**Discussion:**

a) The currently approved Waste Discharge Requirement (WDR; Order No. R5-2005-0077) reflects the existing facility operations. The WDR will be amended to reflect the proposed modifications to the CUP. The California Regional Water Quality Control Board (CRWQCB), Central Valley Region will review the project and adjust conditions in the WDR as required to protect water quality. Potential impacts to water quality standards or waste discharge requirements will be presented in the EIR.

b) The project will not substantially alter the site from its present condition. The existing facility utilizes a waste water collection system to reuse water from runoff. The facility also uses water from an existing water well for the composting operation. Groundwater from an on-site well is used to supplement the reused water. A Water Supply Assessment is being prepared to assess the potential of increased water use and the potential depletion of water supply. These findings will be evaluated in the EIR.

c) The project is located within FEMA Flood Zone "A." The project would not involve activities that would alter the course of a stream or river resulting in on or off-site erosion, siltation, or substantially increasing the rate or amount of surface runoff. Potential impacts to existing drainage patterns will be evaluated in the EIR.

d) The project is located within FEMA Flood Zone "A" and within a 100-year flood plain. The facility is subject to flooding from both 100-year storms and runoff stemming from the San Emigdio Mountains flowing south through the site toward the Buena Vista Lake bed. Existing infrastructure such as South Lake Road and the San Joaquin Valley Railroad tracks could potentially result in backflow of flood waters onto the project site. The facility is currently surrounded by a 5 ft levee to prevent offsite storm runoff from flowing onto the site. Alterations to the existing drainage pattern of the site and substantial increases in the rate and/or amount of surface runoff to result in flooding on or offsite will be evaluated further in the EIR.

e) All areas currently used for loading, unloading, mixing, composting, and the storing of composted material are underlain with impervious materials to prevent infiltration of liquid into groundwater. The project would not result in an overall increase in impervious surfaces on site, which could substantially increase storm water runoff. It is anticipated that existing berms and storm water retention basins will remain in place which are also underlain with impervious materials. The EIR will examine the potential impacts relating to the proposed modification of the CUP in relation to potential increases in storm water runoff.

f) Addition and assembly of the proposed equipment at the facility and on-going maintenance activities (such as truck washing) could potentially degrade water quality through erosion and subsequent sedimentation of streams. Additionally, accidental release of potentially harmful materials, such as engine oil, and diesel fuel, could degrade the water quality of nearby streams. Potential impacts related to water quality degradation will be presented in the EIR.

g) The project is located within FEMA Flood Zone "A" and within a 100-year flood plain. Additionally, Kern County Flood Plain and Dam Inundation Areas Map indicates that the project site has the potential to result in impacts due to inundation and a 100-year flood. The project does not propose development of any housing therefore, no further analysis is warranted.

h) The project site is located within FEMA Flood Zone "A" and within a 100-year flood plain. The facility is currently surrounded by a 5 ft levee to prevent offsite storm runoff from flowing onto the site which in

turn could potentially redirect/impede flood flows therefore, potential impacts related to inundation will be further evaluated in the EIR.

i) Existing operation of the composting facility requires staff onsite 24 hours, 7 days a week. Additionally, the proposed modifications to the CUP may result in the increase of personnel needed to operate the facility. The facility is subject to flooding from both 100-year storms and runoff stemming from the San Emigdio Mountains flowing south through the site toward the Buena Vista Lake bed. Existing infrastructure such as South Lake Road and the San Joaquin Valley Railroad tracks could potentially result in backflow of flood waters onto the project site. The facility is currently surrounded by a 5 ft levee to prevent offsite storm runoff from flowing onto the site therefore, exposure of people and structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam, will be further evaluated in the EIR

j) The nearest dam to the project site, Isabella Dam, is located approximately 40 miles northeast of Bakersfield. Isabella Dam has a maximum capacity of 570,000 acre-feet of water. Buena Vista Lake is also located approximately 3.75 miles northwest of the project site. With low project site elevations and potential drainage from higher elevations such as runoff from the San Emigdio Mountains and the rupture of Isabella Dam overflowing into the Kern River, there is a potential for mudflow and inundation to occur therefore, impacts related to inundation by seiche, tsunami, or mudflow will be further evaluated in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.10 LAND USE AND PLANNING.** | | | | |
| *Would the project:* | | | | |
| a. Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |
| c. Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☒ | ☐ | ☐ | ☐ |

**Discussion:**

a) The SKICSP land use designation for the project site is Solid Waste Facilities. The surrounding land uses are designated by the KCGP as predominately agriculture, with some commercial uses. Surrounding land is zoned Exclusive Agriculture, Limited Agriculture, and Floodplain Primary. The nearest communities, the City of Taft, are located approximately 7 miles to the west and the City of Maricopa located approximately 9.5 miles to the southwest. The closest residence is located approximately 2 miles north from the project site. The facility has been in continuous operations since 2006; the project will not physically divide an established community. No further analysis is warranted.

b) The project is subject to the policies and provisions of the KCGP, SKICSP, and the Kern County Zoning Ordinance. The most recently adopted version of the KCGP, SKICSP, and the Kern County Zoning Ordinance have been reviewed and it has been determined that the proposed modifications to the CUP, as detailed in the project description, are consistent with the existing KCGP, SKICSP, and Zoning Ordinance classifications. No further analysis is warranted.

c) As previously described in Biological Resources, a review of the relevant adopted and planned habitat conservation plans (HCP) and natural community conservation plans for Kern County will be reviewed to assess whether or not the project will conflict with an adopted or planned HCP or natural community conservation plan. These findings will be analyzed in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.11 MINERAL RESOURCES.** | | | | |
| *Would the project:* | | | | |
| a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) According to the Department of Conservation / Division of Oil, Gas, and Geothermal Resources (DOGGR), the existing facility is located outside the boundaries of a designated oil or gas field. The closest oil field to the facility is the Paloma Field, located approximately 2.5 miles to the north of the project site. According to the DOGGR, no known oil, gas, or injection wells are located within the boundaries of the existing compost facility. The closest well is located less than a mile from the facility; however, this well is plugged and abandoned. The facility is not located within the boundary of any other non-fuel, mineral resources identified by the California Department of Conservation. There are no known mineral resources of value to the region or the state on the project site. The project does not propose structures that would impair the recovery of any mineral resources if they are discovered. No further analysis is warranted.

b) Based on a review of California Geological Survey publications, portions of Kern County are rich in mineral deposits with numerous mining operations that extract a variety of minerals. However, the project has not been identified as a local important mineral resource recovery site and is not delineated on a local General Plan, Specific Plan, or other land use plan as such. No further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.12 NOISE.** | | | | |
| *Would the project result in:* | | | | |
| a. Exposure of persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies? | ☒ | ☐ | ☐ | ☐ |
| b. Exposure of persons to, or generate, excessive groundborne vibration or groundborne noise levels? | ☒ | ☐ | ☐ | ☐ |
| c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ☒ | ☐ | ☐ | ☐ |
| d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | ☒ | ☐ | ☐ | ☐ |
| e. For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |
| f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) Land uses determined to be "sensitive" to noise as defined by the KCGP include residential areas, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. The nearest sensitive receptors are located approximately 2 miles north of the facility at a catfish farm which also serves as a private residence. Additional residences are located more than 2 miles west of the facility in the City of Taft and City of Maricopa. A Noise Technical Report will be prepared to assess the potential for excessive noise levels on sensitive receptors and to determine if the new equipment, and the associated noise, will be similar to the noise associated with existing operations at the facility therefore, further impacts will be evaluated in the EIR.

b) Groundborne vibration and groundborne noise could originate from the addition of new equipment as proposed in the modifications to the CUP. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise to ensure that the project would not expose persons or structures to excessive groundborne vibration. Analysis of groundborne vibration and groundborne noise will be included in the Noise Technical Report and its findings therefore, further impacts will be evaluated in the EIR.

c) The proposed project would introduce new permanent noise sources resulting from installation of new equipment. Analysis of ambient noise levels and the project's potential impact on those levels will be included in the Noise Technical Report therefore, further impacts will be evaluated in the EIR.

d) The equipment used during construction of the additional proposed equipment may cause a temporary or periodic increase in ambient noise levels. Project-related ambient noise levels will be evaluated in the Noise Technical Report therefore, further impacts will be evaluated in the EIR.

e) The nearest public airport identified by the Kern County Airport Land Use Compatibility Plan (ALUCP) is the Taft-Kern County Airport located approximately 8 miles west of the project site. As the project site is located more than five miles away from the airport, the project is not expected to expose individuals working in the project area to excessive noise levels resulting from airports located within the ALUCP. The project site is not within the sphere of influence of any airport as identified by the Kern County ALUCP therefore, no further analysis is warranted.

f) The nearest private airport is located approximately 25 miles east of the site, at the Paradise Lakes Estates and Airport Park community. As the project site is located more than five miles away from the airport, the project is not anticipated to expose individuals working in the project area to excessive noise levels resulting from private airports therefore, no further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.13 POPULATION AND HOUSING.** | | | | |
| *Would the project:* | | | | |
| a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☐ | ☒ |
| b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) Typical established local thresholds of significance for housing and population growth pursuant to the CEQA Guidelines, Section 15064.7, include effects that would induce substantial growth or concentration of a population beyond County projections; alter the location, distribution, density, or growth rate of the population beyond that projected in the KCGP Housing Element; result in a substantial increase in demand for additional housing; or create a development that significantly reduces the ability of the County to meet housing objectives set forth in the KCGP Housing Element.

The project could create a small increase in employment through the addition of full-time jobs that could be generated as a result of additional feedstock processing streams. Addition of jobs through the project is not anticipated to result in a substantial change in the demand for new housing therefore, environmental impacts associated with the provision of new housing would not occur as a result of the project. Additionally, the project does not require any extension of roads and does not propose the addition of new infrastructure to support facility operations therefore, induced population growth is not anticipated and no further analysis is warranted.

b) The project is situated on land that was previously designated for agricultural uses. In 1993, with the adoption of the SKICSP, the land was converted to industrial uses. Historically, the site remained vacant farmland until it was developed with industrial uses to include the current composting facility. There are no residences within the project site and surrounding land uses are largely agricultural. Displacement of existing housing due to the project is not anticipated and therefore, no further analysis is warranted.

c) There are no residences within the project site and surrounding land uses are largely agricultural. Addition of jobs through the project is not anticipated to result in a substantial change in population for the area. Displacement of substantial numbers of people due to the project is unlikely therefore, the construction of replacement housing elsewhere is not anticipated and no further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.14 PUBLIC SERVICES.** | | | | |
| *Would the project:* | | | | |
| a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or to other performance objectives for any of the public services: | | | | |
| i. Fire protection? | ☒ | ☐ | ☐ | ☐ |
| ii. Police protection? | ☒ | ☐ | ☐ | ☐ |
| iii. Schools? | ☐ | ☐ | ☐ | ☒ |
| iv. Parks? | ☐ | ☐ | ☐ | ☒ |
| v. Other public facilities? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) (i-ii) The project would not result in substantial adverse physical impacts to governmental facilities such as fire and police protection. The project would not lead to an increase in population that would impact fire and police protection performance objectives. However, the addition of the proposed processing equipment to the existing facility may potentially create an additional fire hazard, which may impact service ratios, response times, or performance objectives for fire and police services therefore, these impacts will be evaluated in the EIR.

a) (iii-v) The project is a modification to an existing CUP and does not involve changes leading to substantial increase in population that would result in substantial adverse physical impacts to public services and governmental facilities, such as schools, parks, or other public facilities. The project would not lead to an increase in population that would result in the need for additional housing and would not necessitate the construction of parks, schools, or other public facilities, or present a burden on existing parks, schools, or other public facilities. No further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.15 RECREATION.** | | | | |
| *Would the project:* | | | | |
| a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) The project may result in a slight increase in employment opportunities in the area; however, these opportunities would not induce substantial population growth that would increase the need, or use of, or lead to the substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities. No further analysis is warranted.

b) The project may result in a slight increase in employment opportunities in the area; however, these opportunities would not induce substantial population growth that would increase the need, or use of, or require the construction or expansion of recreational facilities. No further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.16 TRANSPORTATION/TRAFFIC.** | | | | |
| *Would the project:* | | | | |
| a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | ☐ | ☐ | ☒ | ☐ |
| b. Conflict with an applicable congestion management program, including, but not limited to, level of service (LOS) standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | | | | |
| i. Metropolitan Bakersfield General Plan LOS "C" | ☐ | ☐ | ☒ | ☐ |
| ii. Kern County General Plan LOS "D" | ☒ | ☐ | ☐ | ☐ |
| c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☒ | ☐ |
| e. Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |
| f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | ☐ | ☐ | ☐ | ☒ |

**Discussion:**

a) Access to the project facility area is readily available through multiple major transportation facilities including I-5, SR 99, 166, and 33. Existing truck traffic heading to the facility must travel through South Lake Road and turn onto Santiago Road to gain access to the project site. The proposed modifications to the CUP could potentially increase the average daily trips (ADT's) required with the addition of new feedstocks. The existing truck route to the site is expected to remain the same. Potential impacts of project operation traffic on the area roadway system will be evaluated further in the EIR.

b) (i) The project is not located within the Metropolitan Bakersfield General Plan (MBGP) area. However, trucks arriving and departing the facility may travel through portions of metropolitan Bakersfield. It is not

anticipated that the project will exceed any LOS standard established by the City of Bakersfield General Plan Circulation Element for designated roads or highways. However, the potential project-related impacts to LOS on metropolitan Bakersfield roadways will be evaluated further in the EIR.

(ii) The project is located in unincorporated Kern County in an area primarily designated for agricultural use. It is not anticipated that the project will exceed any LOS standard established by the County Congestion Management Plan for designated roads or highways. However, the potential project-related impacts to LOS on area roadways will be evaluated further in the EIR.

c) The nearest public airport identified by the Kern County Airport Land Use Compatibility Plan (ALUCP) is the Taft-Kern County Airport located approximately 8 miles west of the project site. The nearest private airstrip is located approximately 25 miles east at the Paradise Lakes Estates and Airport Park community. The project does not incorporate any design features that would result in safety risks due to changes in air traffic patterns. No further analysis is warranted.

d) The entrance to the project site on Santiago Road is a railroad crossing for the San Joaquin Railroad tracks which could potentially pose as a safety risk to trucks delivering feedstock materials to the site. While the proposed modifications to the CUP are not anticipated to increase hazards, potential impacts will be evaluated further in the EIR.

e) The project is readily accessible through multiple major transportation facilities including I-5, SR 99, 166, and 33. South Lake Road and Santiago Road provide direct access to the project entrance. Internal access roads have been laid out to reduce onsite traffic congestion and are paved and maintained to minimize dust. The proposed project is not anticipated to result in inadequate emergency access however, adequacy of emergency access will be evaluated further in the EIR.

f) The project is located in a rural agricultural area primarily served by personal vehicles. The facility does not currently have any bus routes in the vicinity or established bike lanes as well as designated pedestrian facilities. The nearest public transportation facility, Bus Route 120 provided by Kern Transit, runs to the City of Taft and stops at Dustin Acres West approximately 13 miles northwest of the project site. It is not anticipated that the project will conflict with any adopted policies or programs supporting alternative transportation. No further analysis is warranted.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.17 UTILITIES AND SERVICE SYSTEMS.** | | | | |
| *Would the project:* | | | | |
| a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ☒ | ☐ | ☐ | ☐ |
| b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☒ | ☐ | ☐ | ☐ |
| c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☒ | ☐ | ☐ | ☐ |
| d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed? | ☒ | ☐ | ☐ | ☐ |
| e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☒ | ☐ |
| f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☒ | ☐ |
| g. Comply with federal, state, and local statutes and regulations related to solid waste? | ☐ | ☐ | ☒ | ☐ |

**Discussion:**

a) The proposed project will be subject to the requirements of the Central Valley RWQCB for water and wastewater discharges. An existing water well supplies water to the facility and storm water is retained on site and reused at the facility during the composting process. Although it is not anticipated that the project will exceed the requirement of the RWQCB, the EIR will evaluate potential impacts associated with wastewater.

b) The project currently provides its own water source through the use of an onsite water well. In addition, the project uses recycled wastewater from the facility retention basins during the composting process as well. Domestic sewage is disposed of at the project site via onsite septic tanks. However, the EIR will evaluate the potential of the project to require new water or wastewater facilities including the construction of additional septic systems.

c) An existing wastewater collection system and storm water retention basin are present on the project site. However, the project will be evaluated for the potential to require new storm water drainage facilities or require the expansion of existing facilities in order to support the proposed modifications to the CUP which include additional feedstocks, new equipment, increased pile heights, and increased finished compost storage time which could all potentially lead to an increase of wastewater runoff. The EIR will assess the potential for project-related runoff to determine the need for any appropriate storm water mitigation/design measures. Further analysis will be provided in the EIR.

d) The project is currently served by an onsite water well and uses recycled water from the waste water collection system during the composting process. Sufficiency of water supplies from existing entitlements and resources to support the project as well as the proposal of new and/or expanded entitlements will be analyzed further in the EIR.

e) The project site is currently served by an individual septic system. While the proposed modifications may lead to an increase in wastewater, the proposed project is not expected to generate a significant amount to exceed the wastewater treatment capacity of the septic tank. However, impacts will be evaluated further in the EIR.

f) The project will be evaluated to assess if the amount of solid waste generated by the proposed activities would exceed the capacity of local landfills needed to accommodate the waste. Although solid waste generation is not anticipated to exceed existing landfill capacity, this issue will be further analyzed in the EIR.

g) The proposed project would generate solid waste during operation, thus requiring the consideration of waste reduction and recycling measures. The 1989 California Integrated Waste Management Act (AB 939) requires Kern County to attain specific waste-diversion goals. In addition, the project will be evaluated for conformance with the Non-Disposal Facility Element (NDFE) of the Countywide Integrated Waste Management Plan. The facility is currently identified in the NDFE, but the description requires revision of the modification to the CUP if approved. To ensure compliance with the NDFE, mitigation measures and conditions of approval will be incorporated to require the applicable description be revised prior to commencement of additional processing with the proposed new equipment. This issue will be evaluated in the EIR.

| | Potentially Significant Impact | Potentially Significant Impact Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **3.18 MANDATORY FINDINGS OF SIGNIFICANCE** | | | | |
| a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? | ☒ | ☐ | ☐ | ☐ |
| b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | ☒ | ☐ | ☐ | ☐ |
| c. Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? | ☒ | ☐ | ☐ | ☐ |

**Discussion:**

(a) The document will evaluate the project's contribution to biological and cultural resources impacts and propose mitigation, if necessary, that will reduce the impacts.

(b) The project has the potential to contribute to cumulative impacts to aesthetics, air quality, biological resources, hazards and hazardous materials, and traffic. The EIR will evaluate the project's contribution to cumulative impacts in these and other areas as further impacts are identified.

(c) The project has the potential to result in environmental effects that would cause substantial direct or indirect adverse impacts on human beings. These issues will be evaluated in the EIR.

STATE OF CALIFORNIA

# GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

**Notice of Preparation**

October 25, 2018

To: Reviewing Agencies

Re: EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc.
SCH# 2018101060

Attached for your review and comment is the Notice of Preparation (NOP) for the EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc. draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

**Carlos E. Rojas**
**Kern County**
**2700 M Street, suite 100**
**Bakersfield, CA 93301-2323**

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

# Document Details Report
# State Clearinghouse Data Base

**SCH#** 2018101060
**Project Title** EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc.
**Lead Agency** Kern County

**Type** NOP Notice of Preparation

**Description** Implementation of the project as proposed would require: a) modification of the existing CUP No. 2, Map No. 158 to include modifications to current operations. The project proponent is proposing the following modifications to current operations: 1) accept additional feedstock as well as digestate in response to AB 1826, SB 1383, CalRecycle, and CA SWRCB; 2) install new equipment to be used during pre-processing and post composting operations including but not limited to grinders, electrical screens, etc.; 3) increase compost pile heights from 16 ft to 20 ft; 4) increase storage time of finished compost product from 7-180 days.

## Lead Agency Contact

**Name** Carlos E. Rojas
**Agency** Kern County
**Phone** (661) 862-5015 **Fax**
**email**
**Address** 2700 M Street, suite 100
**City** Bakersfield **State** CA **Zip** 93301-2323

## Project Location

**County** Kern
**City** Taft, Maricopa
**Region**
**Cross Streets** South Lake Rd and Santiago Rd
**Lat / Long** 35° 7' 51" N / 119° 14' 36" W
**Parcel No.** 220-110-70
**Township** 32S **Range** 25E **Section** 24 **Base** MDBM

## Proximity to:

**Highways** SR 119/166
**Airports**
**Railways** San Joaquin Valley RR
**Waterways**
**Schools**
**Land Use** PLU: Composting facility; Present Z & SP: Heavy industrial. Present South Kern Industrial center SP: 7.3 (HI); 3.4 (solid waste facilities); 2.5 (flood hazard)

**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian

**Reviewing Agencies** Resources Agency; Cal Fire; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 4; Office of Emergency Services, California; Native American Heritage Commission; Public Utilities Commission; Caltrans, District 6; Resources, Recycling and Recovery; Regional Water Quality Control Bd., Region 5 (Fresno); Department of Toxic Substances Control

**Date Received** 10/25/2018 **Start of Review** 10/25/2018 **End of Review** 11/26/2018

Note: Blanks in data fields result from insufficient information provided by lead agency.

# NOTICE OF COMPLETION & ENVIRONMENTAL DOCUMENT TRANSMITTAL

*Mail to:* State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613

*For Hand Delivery/Street Address:* 1400 Tenth Street, Sacramento, CA 95814

SCH# 2018101060

**Project Title:** EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc.

Lead Agency: Kern County Planning Department — Contact Person: Carlos E. Rojas

Mailing Address: 2700 "M" Street Suite 100 — Phone: (661) 862-5015

City: Bakersfield — Zip: 93301-2323 County: Kern

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**Project Location:** County: Kern — City/Nearest Community: City of Taft / City of Maricopa

Cross Streets: South Lake Road and Santiago Road — Zip Code: 93307

Lat. / Long.: 35° 7' 51" N / 119° 14' 36" W — Total Acres: 100 acres

Assessor's Parcel No.: 220-110-70 — Section: 24 — Twp.: 32S — Range: 25E — Base: MDB&M

Within 2 Miles: State Hwy #: SR 119 and SR 166 — Waterways: N/A

Airports: N/A — Railways: San Joaquin Valley RR — Schools: N/A

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**Document Type:**

Governor's Office of Planning & Research

OCT 25 2018

STATE CLEARINGHOUSE

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

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**Local Action Type:**

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan

☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan

☐ Rezone ☐ Prezone ☒ Use Permit ***Modification*** ☐ Land Division (Subdivision, etc.)

☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other

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**Development Type:**

☐ Residential: Units ____ Acres ____

☐ Office: Sq.ft. ____ Acres ____ Employees ____

☐ Commercial: Sq.ft. ____ Acres ____ Employees ____

☐ Industrial: Sq.ft. ____ Acres ____ Employees ____

☐ Educational ____

☐ Recreational ____

☐ Water Facilities: Type ____ MGD ____

☐ Transportation: Type ____

☐ Mining: Mineral ____

☐ Power: Type ____ MW ____

☒ Waste Treatment: Type ____ MGD ____

☐ Hazardous Waste: Type ____

☒ Other: Large Scale Composting Facility (Greenwaste, Foodwaste, Etc.)

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**Project Issues Discussed in Document:**

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Other

☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities

☒ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation

☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☐ Growth Inducing
☒ Land Use
☒ Cumulative Effects

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**Present Land Use/Zoning/General Plan Designation:** Present Land Use: Composting Facility. Present Zoning and Specific Plan: Heavy Industrial. Present South Kern Industrial Center Specific Plan: 7.3 (Heavy Industrial); 3.4 (Solid Waste Facilities); 2.5 (Flood Hazard)

**Project Description:** *(please use a separate page if necessary)* Implementation of the project as proposed would require: a) modification of the existing Conditional Use Permit (CUP) No. 2, Map No. 158 to include modifications to current operations. The project proponent is proposing the following modifications to current operations: (1) accept additional

## NOP Distribution List

V. 6,

**County:** Kern

**SCH#** 2018101060

### esources Agency

- [ ] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Denise Peterson
- [ ] **California Coastal Commission**
  Allyson Hitt
- [ ] **Colorado River Board**
  Elsa Contreras
- [ ] **Dept. of Conservation**
  Crina Chan
- [x] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **Office of Historic Preservation**
  Ron Parsons

**Dept of Parks & Recreation**
Environmental Stewardship Section

- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- [x] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

### Fish and Game

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Curt Babcock
- [ ] **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Craig Weightman
- [x] **Fish & Wildlife Region 4**
  Julie Vance
- [ ] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

### Other Departments

- [ ] **California Department of Education**
  Lesley Taylor
- [x] **OES (Office of Emergency Services)**
  Monique Wilber
- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- [ ] **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

### Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Erik Vink
- [ ] **Delta Stewardship Council**
  Anthony Navasero
- [ ] **California Energy Commission**
  Eric Knight
- [x] **Native American Heritage Comm.**
  Debbie Treadway
- [x] **Public Utilities Commission**
  Supervisor
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Jennifer Deleong
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

### Cal State Transportation Agency CalSTA

- [ ] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [ ] **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- [ ] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

### Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Susan Zanchi
- [ ] **Caltrans, District 4**
  Patricia Maurice
- [ ] **Caltrans, District 5**
  Larry Newland
- [x] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Dianna Watson
- [ ] **Caltrans, District 8**
  Mark Roberts
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

### Cal EPA

**Air Resources Board**

- [ ] **Airport & Freight**
  Jack Wursten
  - [ ] **Transportation Projects**
    Nesamani Kalandiyur
  - [ ] **Industrial/Energy Projects**
    Mike Tollstrup
- [x] **California Department of Resources, Recycling & Recovery**
  Kevin Taylor/Jeff Esquivel
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- [ ] **State Water Resources Control Board**
  **Div. Drinking Water #_____**
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [x] **Dept. of Toxic Substances Control Reg. #_____**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

### Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [x] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____

- [ ] _____
  Conservancy

Last Updated 5/22/18

STATE OF CALIFORNIA

# GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

## Memorandum

**Date**: October 26, 2018

**To**: All Reviewing Agencies

**From**: Scott Morgan, Director

**Re**: SCH # 2018101060

**EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc.**

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The Lead Agency has corrected some information regarding the above-mentioned project. Please see the attached materials for more specific information. All other project information remains the same.

cc: Carlos E. Rojas
Kern County
2700 M Street, Suite 100
Bakersfield, CA 93301-2323

**Lorelei H. Oviatt, AICP, Director**
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
Email: planning@kerncounty.com
Web Address: http://kernplanning.com/

**PLANNING AND NATURAL RESOURCES DEPARTMENT**

Planning
Community Development
Administrative Operations

Governor's Office of Planning & Research

October 26, 2018

OCT 26 2018

STATE CLEARINGHOUSE

**File:** CUP 2, Map 158 MOD
S.D. #2 – Scrivner

State Clearinghouse and Planning Unit

**Re: *Revised* Notice of Completion (NOC) & *Revised* Cover Letter for the Notice of Preparation/Initial Study for the South Kern Industrial Center Composting Facility by Synagro Technologies, Inc. (SCH#2018101060)**

State Clearinghouse and Planning Unit:

Subsequent to posting and distribution on October 25, 2018 of the Notice of Preparation/Initial Study (NOP/IS) prepared for the project noted above, County Staff made a revision to the Notice of Completion (NOC) included in the document. This revision consists of an update to the ***Project Issues Discussed in Document*** (see attachment) section of the NOC. This revision was made in order to correctly identify which project issues are discussed in the Initial Study. Additionally, County Staff revised the date of the Scoping Meeting as advertised on the cover letter of the NOP/IS from November 14, 2018 to ***November 13, 2018*** at 1:30pm. For reference purposes, the NOP/IS will circulate for 30-days, beginning on October 25, 2018 and ending on November 26, 2018.

**Should you have any questions regarding this revision, please do not hesitate to contact me at (661) 862-5015 or via email at CRojas@kerncounty.com**

Sincerely,

Carlos E. Rojas, Planner III
Advance Planning Division

Attached: *Revised* Notice of Completion & *Revised* Cover Letter

# NOTICE OF COMPLETION & ENVIRONMENTAL DOCUMENT TRANSMITTAL

*Mail to:* State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
*For Hand Delivery/Street Address:* 1400 Tenth Street, Sacramento, CA 95814

**SCH #** _____

**Project Title:** EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc.

Lead Agency: Kern County Planning Department — Contact Person: Carlos E. Rojas

Mailing Address: 2700 "M" Street Suite 100 — Phone: (661) 862-5015

City: Bakersfield — Zip: 93301-2323 County: Kern

**Project Location:** County: Kern — City/Nearest Community: City of Taft / City of Maricopa

Cross Streets: South Lake Road and Santiago Road — Zip Code: 93307

Lat. / Long.: 35° 7' 51" N / 119° 14' 36" W — Total Acres: 100 acres

Assessor's Parcel No.: 220-110-70 — Section: 24 — Twp.: 32S — Range: 25E — Base: MDB&M

Within 2 Miles: State Hwy #: SR 119 and SR 166 — Waterways: N/A

Airports: N/A — Railways: San Joaquin Valley RR — Schools: N/A

**Document Type:**

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other



☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

**Local Action Type:**

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☒ Use Permit ***Modification*** ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other

**Development Type:**

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational ____
☐ Recreational ____

☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☒ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☒ Other: Large Scale Composting Facility (Greenwaste, Foodwaste, Etc.)

**Project Issues Discussed in Document:**

☐ Aesthetic/Visual
☐ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☐ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☐ Minerals
☒ Noise
☐ Population/Housing Balance
☒ Public Services/Facilities
☐ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☐ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☐ Growth Inducing
☒ Land Use
☒ Cumulative Effects
☐ Other ____

**Present Land Use/Zoning/General Plan Designation:** Present Land Use: Composting Facility. Present Zoning: M-3 (Heavy Industrial). Present South Kern Industrial Center Specific Plan: 7.3 (Heavy Industrial); 3.4 (Solid Waste Facilities); 2.5 (Flood Hazard)

**Project Description:** *(please use a separate page if necessary)* Implementation of the project as proposed would require: a) modification of the existing Conditional Use Permit (CUP) No. 2, Map No. 158 to include modifications to current operations. The project proponent is proposing the following modifications to current operations: (1) accept additional feedstock as well as digestate in response to AB 1826, SB 1383, CalRecycle, and California State Water Resources Control Board; (2) install new equipment to be used during pre-processing and post composting operations including but not limited to grinders, electrical screens, etc.; (3) increase compost pile heights from 16 feet to 20 feet; (4) increase storage time of finished compost product from 7 to 180 days.

**Reviewing Agencies Checklist**

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

| | | | |
|---|---|---|---|
| x | Air Resources Board | | Office of Emergency Services |
| | Boating & Waterways, Department of | | Office of Historic Preservation |
| x | California Highway Patrol | | Office of Public School Construction |
| | CalFire | | Parks & Recreation |
| S | Caltrans District # 6 & 9 | | Pesticide Regulation, Department of |
| | Caltrans Division of Aeronautics | x | Public Utilities Commission |
| | Caltrans Planning (Headquarters) | S | Regional WQCB # Lahontan |
| | Central Valley Flood Protection Board | | Resources Agency |
| | Coachella Valley Mountains Conservancy | | S.F. Bay Conservation & Development Commission |
| | Coastal Commission | | San Gabriel & Lower L.A. Rivers and Mtns Conservancy |
| | Colorado River Board | | San Joaquin River Conservancy |
| | Conservation, Department of | | Santa Monica Mountains Conservancy |
| | Corrections, Department of | | State Lands Commission |
| | Delta Protection Commission | | SWRCB: Clean Water Grants |
| | Education, Department of | | SWRCB: Water Quality |
| x | Energy Commission | | SWRCB: Water Rights |
| S | Fish & Game Region # FresnoCentral | | Tahoe Regional Planning Agency |
| S | Food & Agriculture, Department of | | Toxic Substances Control, Department of |
| | General Services, Department of | | Water Resources, Department of |
| | Health Services, Department of | | |
| | Housing & Community Development | | Other _____ |
| x | Integrated Waste Management Board | | Other _____ |
| S | Native American Heritage Commission | | |

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**Local Public Review Period (to be filled in by lead agency)**

Starting Date: October 25, 2018 Ending Date: November 26, 2018

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**Lead Agency (Complete if applicable):**

Consulting Firm: _____ Applicant: _____
Address: _____ Address: _____
City/State/Zip: _____ City/State/Zip: _____
Contact: _____ Phone: _____
Phone: _____

---

**Signature of Lead Agency Representative:** _____ /s/ _____ **Date:** 10/ 25/18

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

**Lorelei H. Oviatt, AICP, Director**
**2700 "M" Street, Suite 100**
**Bakersfield, CA 93301-2323**
**Phone: (661) 862-8600**
**Fax: (661) 862-8601** TTY Relay 1-800-735-2929
**Email: planning@kerncounty.com**
**Web Address: http://kernplanning.com/**

**PLANNING AND NATURAL RESOURCES DEPARTMENT**

**Planning**
**Community Development**
**Administrative Operations**

# NOTICE OF PREPARATION

**DATE:** October 25, 2018

Governor's Office of Planning & Research

OCT 26 2018

STATE CLEARINGHOUSE

**TO:** See Attached Mailing List

**FROM:** Kern County Planning and Natural Resources Department
Attn: Carlos E. Rojas
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-5015; CRojas@kerncounty.com

**SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT**

The Kern County Planning and Natural Resources Department as Lead Agency pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15052) has required that an Environmental Impact Report (EIR) pursuant to CEQA Guidelines Section 15161 be prepared for the project identified below. The Planning and Natural Resources Department solicits the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval of projects.

Due to the limits mandated by State law, your response must be received by **November 26, 2018 at 5:00 pm.** In addition, comments can be submitted at a **scoping meeting** that will be held at the Kern County Planning and Natural Resources Department on ***November 13, 2018, at 1:30 pm*** at the address shown above.

**PROJECT TITLE:** EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc. CUP No. 2 Mod, Map 158 (PP18125).

**PROJECT LOCATION:** The project site is located at 2653 Santiago Road, approximately 7 miles west of Interstate 5, at South Lake Road, and approximately 7 miles east of the City of Taft, in southern Kern County on Assessor's Parcel Number (APN) 220-110-70. The site is located in Section 24 of Township 32 South, Range 25 East of the Mount Diablo Base and Meridian (MDB&M).

**PROJECT DESCRIPTION:** Implementation of the project as proposed would require: a) modification of the existing Conditional Use Permit (CUP) No. 2, Map No. 158 to include modifications to current operations. The project proponent is proposing the following modifications to current operations: (1) accept additional feedstock as well as digestate in response to AB 1826, SB 1383, CalRecycle, and California State Water Resources Control Board; (2) install new equipment to be used during pre-processing and post composting operations including but not limited to grinders, electrical screens, etc.; (3) increase compost pile heights from 16 feet to 20 feet; (4) increase storage time of finished compost product from 7 to 180 days.

**Document can be viewed online at:** https://kernplanning.com/planning/notices-of-preparation/

Signature: _____

Name: Carlos E. Rojas, Planner III

# NOP Distribution List

V. 6,

County: Kern

SCH# 2018101060

## esources Agency

- [ ] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Denise Peterson
- [ ] **California Coastal Commission**
  Allyson Hitt
- [ ] **Colorado River Board**
  Elsa Contreras
- [ ] **Dept. of Conservation**
  Crina Chan
- [x] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **Office of Historic Preservation**
  Ron Parsons

**Dept of Parks & Recreation**
Environmental Stewardship Section

- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- [x] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

## Fish and Game

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Curt Babcock
- [ ] **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Craig Weightman
- [x] **Fish & Wildlife Region 4**
  Julie Vance
- [ ] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

## Other Departments

- [ ] **California Department of Education**
  Lesley Taylor
- [x] **OES (Office of Emergency Services)**
  Monique Wilber
- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- [ ] **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

## Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Erik Vink
- [ ] **Delta Stewardship Council**
  Anthony Navasero
- [ ] **California Energy Commission**
  Eric Knight
- [x] **Native American Heritage Comm.**
  Debbie Treadway
- [x] **Public Utilities Commission**
  Supervisor
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Jennifer Deleong
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

## Cal State Transportation Agency CalSTA

- [ ] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [ ] **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- [ ] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

## Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Susan Zanchi
- [ ] **Caltrans, District 4**
  Patricia Maurice
- [ ] **Caltrans, District 5**
  Larry Newland
- [x] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Dianna Watson
- [ ] **Caltrans, District 8**
  Mark Roberts
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

## Cal EPA

**Air Resources Board**

- [ ] **Airport & Freight**
  Jack Wursten
  - [ ] **Transportation Projects**
    Nesamani Kalandiyur
  - [ ] **Industrial/Energy Projects**
    Mike Tollstrup
- [x] **California Department of Resources, Recycling & Recovery**
  Kevin Taylor/Jeff Esquivel
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- [ ] **State Water Resources Control Board**
  **Div. Drinking Water #**_____
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [x] **Dept. of Toxic Substances Control Reg. #**_____
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

## Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [x] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____
  _____
  _____
- [ ] _____
  Conservancy

Last Updated 5/22/18

**DEPARTMENT OF TRANSPORTATION**
**DISTRICT 6**
1352 WEST OLIVE AVENUE
P.O. BOX 12616
FRESNO, CA 93778-2616
PHONE (559) 445-5421
FAX (559) 488-4088
TTY 711
www.dot.ca.gov

*Making Conservation a California way of life.*

November 14, 2018

06-KER-166-8.889
SCH #2018101060
CUP #2, MAP #158
COMPOSTING FACILITY

Mr. Carlos Rojas
Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301

Dear Mr. Rojas:

Thank you for the opportunity to review the Draft Environmental Impact Report for the Conditional Use Permit (CUP) #2, Map #158, proposing to make modifications to accept additional feedstock, install new equipment, increase compost piling heights, and increase compost storage to an existing compost facility. The proposed project is located in the area east of the intersection of South Lake Road and Santiago Road, in Kern County.

The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development -Intergovernmental Review (LD-IGR) Program reviews land use projects and plans through the lenses of our mission and state planning priorities of infill, conservation, and travel-efficient development. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network.

Caltrans provides the *following comments* consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. The document initially states that the facility is permitted to receive a maximum of 354 average daily trips (ADTs) made by vehicles entering and leaving the project site, and that the maximum ADT will not change as a result from the modifications. However, Page 42 of the document states that the proposed modifications in the CUP will increase the average daily trips (ADTs) required with the addition of new feedstocks. Please clarify how these proposed modifications are expected to increase the current permitted ADTs made by vehicles entering and leaving the site.

2. Access to the project site will include using Interstate 5, State Route (SR) 99, SR 166, and/or SR 33, before traveling through South Lake Road to Santiago Road. Please provide information regarding the truck traffic generated from this project. The potential impacts on State facilities and its surroundings will need to be further investigated.

If you have any further questions, contact Scott Lau at (559) 445-5763 or scott.lau@dot.ca.gov.

Sincerely,

Lorena Mendibles

LORENA MENDIBLES, Chief
Transportation Planning - South

PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013

November 20, 2018

Carlos E. Rojas
Kern County Planning Department
2700 M Street, Suite 100
Bakersfield, CA 93301
*Sent by email to: crojas@kerncounty.com*

**Re: EIR 01-18; South Kern Industrial Composting Facility by Synagro Technologies**
**SCH 2018101060 — *Notice of Preparation***

Dear Mr. Rojas:

The California Public Utilities Commission (Commission/CPUC) has jurisdiction over rail crossings (crossings) in California. CPUC ensures that crossings are safely designed, constructed, and maintained. The Commission's Rail Crossings Engineering Branch (RCEB) is in receipt of the *Notice of Preparation (NOP)* for the proposed EIR 01-18; South Kern Industrial Composting Facility by Synagro Technologies. Kern County Planning Department (County) is the lead agency.

The County proposes to allow modification of the existing Conditional Use Permit (CUP) No. 2, Map No. 158 to include modifications to current operations of the composting facility. The NOP states that entrance to the project site is through the Santiago Road crossing (DOT No 440814H) of the San Joaquin Valley Railroad (SJVR). The NOP states that modifications to the CUP are not anticipated to increase existing hazards at the crossing due to truck traffic. RCEB requests that the EIR address rail crossing safety into and out of the project site in order to evaluate if mitigation measures or crossing improvements are necessary.

Any development adjacent to or near the railroad right-of-way (ROW) should be planned with the safety of the rail corridor in mind. New developments may change vehicular traffic volumes at nearby rail crossings. Traffic impact studies should analyze rail crossing safety and potential mitigation measures. Safety improvement measures may include the planning for grade separations or improvements to existing at-grade crossings.

In addition, construction or modification of public crossings requires authorization from the Commission. RCEB representatives are available to discuss any potential safety impacts or concerns at crossings. Please continue to keep RCEB informed of the project's development. More information can be found at: http://www.cpuc.ca.gov/crossings.

If you have any questions, please contact Matt Cervantes at (213) 266-4716, or mci@cpuc.ca.gov.

Sincerely,

Matt Cervantes
Utilities Engineer
Rail Crossings Engineering Branch
Safety and Enforcement Division

CC: State Clearinghouse, state.clearinghouse@opr.ca.gov
John Mollart, john.mollart@gwrr.com

State of California • Natural Resources Agency
Edmund G. Brown Jr., *Governor*
Department of Conservation
**Division of Oil, Gas, and Geothermal Resources**
**Inland District**
4800 Stockdale Highway • Suite 100
Bakersfield, CA 93309
(661) 322-4031 • FAX (661) 861-0279

November 20, 2018

Kern County Planning and natural Resources Department
Attn: Mr. Carlos E. Rojas
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Subject: EIR 01-18; South Kern Industrial Center Composting Facility by Synagro Technologies, Inc.

**SCH#: 2018101060**

Dear Mr. Rojas:

The Department of Conservation, Division of Oil, Gas, and Geothermal Resources (Division) regulates oil and gas production facilities in addition to supervising the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. All oil and gas well operations are subject to the Division's well permitting process, and all oil and gas operations must abide by any pertinent Division statute or regulation. The Division has received and reviewed the above referenced Notice of Public Hearing and submits the following evaluation.

The project is located in Kern County, outside of any of the Division's oil field administrative boundaries. Division records indicate there are no known oil, gas, or geothermal wells located within the project boundary as identified in the notice, and therefore, no further review by the Division is required.

If during project operations any unrecorded wells are encountered, the project developer or property owner shall immediately notify the Division's Inland District office for consultation. Remedial plugging and abandonment operations may be required.

Thank you for the opportunity to comment on this project. Should you have any questions, please contact me at the Division's Inland District office in Bakersfield at **(661) 334-3665**.

Sincerely,

Dr. Rohit Sharma Ph.D.
Senior Oil and Gas Engineer
Inspections Field Engineering Unit

CalRecycle

DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027

P.O. BOX 4025, SACRAMENTO, CALIFORNIA 95812



November 20, 2018

Mr. Carlos E. Rojas, Planner III
Kern County Planning
Community Development
2700 M Street
Bakersfield, CA 93301-2323
CRojas@kerncounty.com

**Subject:** **SCH No. 2018101060** – Notice of Preparation - Draft Environmental Impact Report for South Kern Industrial Composting – Synagro Technologies (Facility No.15-AA-0381)

Dear Mr. Rojas:

Thank you for allowing the Department of Resources Recycling and Recovery (CalRecycle) staff to provide comments on the proposed project and for your agency's consideration of these comments as part of the California Environmental Quality Act (CEQA) process.

**PROJECT DESCRIPTION**

The Kern County Planning and Natural Resources Department, acting as Lead Agency, has prepared and circulated a Notice of Preparation (NOP) of a Draft Initial Study/Environmental Impact Report (Draft IS/EIR) in order to comply with CEQA and to provide information to, and solicit consultation with, Responsible Agencies in the approval of the proposed project.

The South Kern Industrial Center Composting Facility is located at 2653 Santiago Road, approximately 7 miles east of the City of Taft in unincorporated Kern County. Operations occur on 100 acres of a 155-acre parcel. The Tax Assessor's Parcel Number (APN) for the property and project site is 220-110-70.

Surrounding land uses consists of agricultural land, an oil refinery to the north, and bordered by a solar farm on the east, west and south. There is one mobile home residence within a two-mile radius of the site.

Implementation of the project as proposed would require: a) modification of the existing CUP No. 2, Map No. 158 to include modifications to current operations. The project proponent is proposing the following modifications to current operations:

1) accept additional types of mixed materials and organic wastes, including all types of food material (including post-consumer food waste, food-soiled paper, compostable plastics and digestate in response to AB 1826, SB 1383, CalRecycle, and CA SWRCB;
2) install new equipment to be used during pre-processing and post composting operations including but not limited to screens, shaker decks, grinders, conveyers, and other mechanical equipment;
3) increase compost pile heights from 16 ft. to 20 ft.;
4) increase storage time of finished compost product from 7 to 180 days.

Report of Composting Site Information and Odor Impact Minimization Plan

The proposed changes to the operations and feedstock processing will need to be fully described per Title 14, California Code of Regulations (14 CCR), Sections 17863 and 17863.4 requiring amendments to the Report of Facility Information.

Solid Waste Regulatory Oversight
The Kern County Environmental Health Division is the Local Enforcement Agency (LEA) for Kern County and responsible for providing regulatory oversight of solid waste handling activities, including inspections and enforcement. Please contact the LEA, Karen Sanford, at 661.862.8703 or karens@kerncounty.com to discuss the regulatory requirements for the proposed project.

**CONCLUSION**
CalRecycle staff thanks the Lead Agency for the opportunity to review and comment on the environmental document and hopes that this comment letter will be useful to the Lead Agency preparing the Draft EIR and in carrying out their responsibilities in the CEQA process.

CalRecycle staff requests copies of any subsequent environmental documents, copies of public notices and any Notices of Determination for this proposed project.

If the environmental document is adopted during a public hearing, CalRecycle staff requests 10 days advance notice of this hearing. If the document is adopted without a public hearing, CalRecycle staff requests 10 days advance notification of the date of the adoption and proposed project approval by the decision making body.

If you have any questions regarding these comments, please contact me at 916.341.6405 or by e-mail at Christine.Karl@calrecycle.ca.gov.

Sincerely,

Christine Karl, Environmental Scientist
Permitting & Assistance Branch – North Unit
Waste Permitting, Compliance & Mitigation Division
CalRecycle

cc: Diane Vlach, Senior Environmental Scientist, Permitting & Assistance Branch – North Unit
Karen Sanford, LEA karens@kerncounty.com

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
**Cultural and Environmental Department**
**1550 Harbor Blvd., Suite 100**
**West Sacramento, CA 95691**
**Phone (916) 373-3710**
**Email: nahc@nahc.ca.gov**
**Website: http://www.nahc.ca.gov**
**Twitter: @CA_NAHC**



November 6, 2018

Carlos E. Rojas
Kern County
2700 M Street, Suite 100
Bakersfield, CA 93001-2323

RE: SCH# 2018101060 EIR 01-18; South Kern Industrial Center Composting by Synagro Technologies, Inc., Kern County

Dear Mr. Rojas:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

**Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Sharaya.Souza@nahc.ca.gov.

Sincerely,

for Sharaya Souza
Staff Services Analyst

cc: State Clearinghouse

November 26, 2018

Carlos Rojas
County of Kern
Planning Division
2700 "M" Street, Suite 100
Bakersfield, CA 93301

**Project: Notice of Preparation for South Kern Industrial Center Composting Facility**

**District CEQA Reference No: 20181190**

Dear Mr. Rojas:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) for the South Kern Industrial Center Composting Facility. The proposed project is proposing to: 1) accept additional feedstock as well as digestate; and 2) install new equipment to be used during pre-processing and post composting operations including but not limited to grinders, electrical screens, etc.; and 3) increase compost pile heights from 16 feet to 20 feet; and 4) increase storage time of finished compost product from 7 to 180 days (Project). The Project will be located on the existing facility site at 2653 Santiago Road in Taft, California. The District offers the following comments:

## Emissions Analysis

1) At the federal level for the National Ambient Air Quality Standards (NAAQS), the District is currently designated as extreme nonattainment for the 8-hour ozone standards; nonattainment for the PM2.5 standards; and attainment for the 1-Hour ozone, PM10 and CO standards. At the state level, the District is currently designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 California Ambient Air Quality Standards (CAAQS). The District recommends that the Air Quality section of the Environmental Impact Report (EIR) include a discussion of the following impacts:

a) **Criteria Pollutants:** Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions.

i) Construction Emissions: Construction emissions are short-term emissions and should be evaluated separately from operational emissions. For reference, the District's annual criteria thresholds of significance for construction are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

- *Recommended Mitigation Measure:* To reduce impacts from construction related exhaust emissions, the District recommends feasible mitigation for the project to utilize off-road construction fleets that can achieve fleet average emissions equal to or cleaner than the Tier III emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. This can be achieved through any combination of uncontrolled engines and engines complying with Tier III and above engine standards.

ii) Operational Emissions: Permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. For reference, the annual criteria thresholds of significance for operation of permitted and non-permitted sources each are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

- *Recommended Mitigation Measure:* Should Project operational mobile source emissions exceed the District's annual criteria thresholds of significance, the District recommends full mitigation through implementation of a Voluntary Emission Reduction Agreement (VERA).

  A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of air emissions increase through a process that funds and implements emission reduction projects administered through the District's emission reduction incentive grant programs. The VERA can be implemented to address air quality impacts from both construction and operational phases of a proposed project.

The emission reductions secured through VERA's are "surplus" of existing regulations, achieving reductions earlier or beyond those required by regulations.

b) **Nuisance Odors:** The Project should be evaluated to determine the likelihood that the Project would result in nuisance odors. Nuisance orders are subjective, thus the District has not established thresholds of significance for nuisance odors. Nuisance odors may be assessed qualitatively taking into consideration of Project design elements and proximity to off-site receptors that potentially would be exposed objectionable odors.

c) **Health Risk Screening/Assessment:** A Health Risk Screening/Assessment identifies potential Toxic Air Contaminants (TAC's) impact on surrounding sensitive receptors such as hospitals, daycare centers, schools, work-sites, and residences. TAC's are air pollutants identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) (https://www.arb.ca.gov/toxics/healthval/healthval.htm) that pose a present or potential hazard to human health. A common source of TACs can be attributed to diesel exhaust emitted from both mobile and stationary sources. Industry specific TACs generated must also be identified and quantified.

The District recommends the Project be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multi-year construction TAC emissions.

i) The District recommends conducting a screening analysis that includes all sources of emissions. A screening analysis is used to identify projects which may have a significant health impact. A prioritization, using CAPCOA's updated methodology, is the recommended screening method. A prioritization score of 10 or greater is considered to be significant and a refined Health Risk Assessment (HRA) should be performed. The prioritization calculator can be found at: http:www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION%20RMR%202016.XLS.

ii) The District recommends a refined HRA for projects that result in a prioritization score of 10 or greater. It is recommended that the Project proponent contact the District to review the proposed modeling protocol. The Project would be considered to have a significant health risk if the HRA demonstrates that the Project related health impacts would exceed the Districts significance threshold of 20 in a million for carcinogenic risk and 1.0 for the Acute and Chronic Hazard Indices.

Please provide the following information electronically to the District for review:

- HRA AERMOD model files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodology.

More information on toxic emission factors, prioritizations and HRAs can be obtained by:

- E-Mailing inquiries to: hramodeler@valleyair.org; or
- The District can be contacted at (559) 230-6000 for assistance; or
- Visiting the Districts website (Modeling Guidance) at http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm

d) **Ambient Air Quality Analysis:** An ambient air quality analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of the ambient air quality standards. The District recommends that an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

If an AAQA is performed, the analysis should include emissions from both Project specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis. Specific information for assessing significance, including screening tools and modeling guidance is available online at the District's website www.valleyair.org/ceqa.

2) In addition to the discussions on potential impacts identified above, if preliminary review indicates that an EIR should be prepared, the District recommends the EIR also include the following discussions:

a) A discussion of the methodology, model assumptions, inputs and results used in characterizing the Project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.

b) A discussion of the components and phases of the Project and the associated emission projections, including ongoing emissions from each previous phase.

c) A discussion of Project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the Project.

d) A discussion of whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. More information on the District's attainment status can be found online by visiting the District's website at: http://valleyair.org/aqinfo/attainment.htm.

**District Rules and Regulations**

3) The proposed Project may be subject to District rules and regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the Project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

4) This Project will be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and will require District permits. Prior to construction, the Project proponent should submit to the District an application for an Authority to Construct (ATC). For further information or assistance, the project proponent may contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

5) As stated above, the project will be subject to District Rule 2010 and Rule 2201. Per Section 4.4.3 of District Rule 9510 (Indirect Source Review), any project whose primary functions are subject to District Rule 2010 and Rule 2201 is exempted from Rule 9510. Therefore, the District concludes that the proposed Project is not subject to District Rule 9510.

6) The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888. Current District rules can be found online at the District's website at: www.valleyair.org/rules/1ruleslist.htm.

The District recommends that a copy of the District's comments be provided to the Project proponent. If you have any questions or require further information, please call Mark Montelongo at (559) 230-5905.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Brian Clements
Program Manager

AM: mm

# COUNTY OF KERN
# PUBLIC WORKS DEPARTMENT
## *Office Memorandum*

To: Lorelei Oviatt, Director
Planning & Natural Resources Department
Attn: Carlos E. Rojas, Planner III

November 13, 2018

From: Warren D. Maxwell, Development Review Engineer
Building & Development Division

Subject: 7-5.3 Notice of Preparation of Draft Environmental Impact Report for EIR 01-18; South Kern Industrial Center Composting by Synagro Technologies Inc. CUP No.2 Mod, Map 158 (PP18125)

This Department has reviewed the Notice of Preparation Draft Environmental Impact Report for the subject project and have the following comments:

1. Provide this department with a copy of the traffic engineering study for the Draft Environmental Impact Report for this project for review and comment.

Thank you for the opportunity to comment on this project, if you have any questions or comments please contact David Fiddler at 862-8617.

KERN COUNTY
Public Health Services
DEPARTMENT

MATTHEW CONSTANTINE
DIRECTOR

2700 M STREET, SUITE 300 BAKERSFIELD, CALIFORNIA 93301-2370 VOICE 661-862-8740 FAX 661-862-8701 KERNPUBLICHEALTH.COM

# INTEROFFICE MEMORANDUM

To: Carlos Rojas, KCPNRD Date: 30 November 2018
From: Karen Sanford, REHS
Kern County Environmental Health Division, Local Enforcement Agency (LEA) for California Department of Resources Recycling and Recovery (CalRecycle)
Subject: Notice of Preparation of Draft Environmental Impact Report, EIR 01-18

The following comments from the Local Enforcement Agency (LEA) for the proposed changes to South Kern Industrial Center, Solid Waste Facility Permit SWIS 15-AA-0381:

An increase in height from 16 feet to 20 feet will cause a corresponding increase in width of the Aerated Static Piles, which creates an operational change. This change would be defined as a "Significant Change". The applicant will be required to:

1. Revise their Solid Waste Facility Permit
2. Include all operational changes, including types of feedstocks and bulking agents in an updated Report of Compost Site Information (RCSI).
3. Provide an updated Odor Impact Minimization Plan (OIMP).

This is due to LEA Conditions "g" and "j", located on page 4 of the Solid Waste Facility Permit, as issued on June 29, 2004:

> g. *"Any change that would cause the design or operation of the facility not to conform to the terms and conditions of this permit is prohibited. Such a change may be considered a significant change, requiring a permit revision."*
>
> j. *"All piles of materials or wastes including compost overs, feedstocks, bulking agents, and screened piles shall not exceed 16 feet in height."*

California Code of Regulations (CCR) Title 27, Section 21563 (d)(6) defines a *"Significant Change in the design or operation of the solid waste facility that is not authorized by the existing permit" as "a change in design or operation of a solid waste facility where the EA has determined pursuant to §21665 that the change is of such consequence that the solid waste facilities permit needs to include further restrictions, prohibitions, mitigations, terms, conditions or other measures to adequately protect public health, public safety, ensure compliance with State minimum standards or to protect the environment. The definition is only for purposes of determining when a permit needs to be revised and should not be utilized for any other purpose."*

# Office Memorandum

**KERN COUNTY**

To: Planning and Natural Resources Department
Carlos Rojas

Date: November 1, 2018

From: Public Works Department
Floodplain Management Section
Kevin Hamilton, by Brian Blase

Phone: (661) 862-5098
Email: BlaseB@kerncounty.com

Subject: Draft Environmental Impact Report
South Kern Industrial Center Composting Facility

Our section has reviewed the attached subject documents and has the following comments:

The runoff of storm water from the site will be increased due to the increase in impervious surface generated by the proposed development.

The subject property is subject to flooding.

Therefore, this section recommends the following be included as Conditions of Approval for this project:

The applicant shall provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways (if required), subject to approval of the Public Works Department, per the Kern County Development Standards.

Associated flood hazard requirements will need to be incorporated into the design of this project per the Kern County Floodplain Management Ordinance.

## Carlos Rojas

**From:** Dave Lee
**Sent:** Friday, December 14, 2018 2:31 PM
**To:** Carlos Rojas
**Subject:** Synagro NOP

Good afternoon, Carlos. I was reviewing the Synagro NOP and would like to clarify something in Section 1.6, Proposed Discretionary Actions/Required Approvals. We made a similar comment with Ecology's EIR.

Every approval listed under Kern County Public Works Department – Operations & Maintenance in fact falls under the responsibility of Kern County Public Health Services, Environmental Health Division. The Department requests that "Amendment to Non-Disposal Facility Element" (NDFE) be added to our responsibility and the others be removed. The NDFE amendment is the only approval required under the jurisdiction of Public Works Operations.

Thank you, Carlos.

Dave Lee, Kern County Public Works
Waste Management Specialist
leed@kerncounty.com
(661) 862-8765

Kern County
Superintendent of Schools

*Office of Mary C. Barlow ...advocates for children*

October 31, 2018

Carlos Rojas
Kern County Planning Department
2700 M Street, Suite 100
Bakersfield, CA 93301

**Our File No.:** CO18-0162

**RE:** **DEVELOPER FEES FOR**: EIR 01-18; CUP No, 2 Mod, Map 158-24
(2653 Santiago Rd.)

Dear Mr. Rojas,

This office represents the Lakeside Union and Kern High School Districts with regard to the imposition of developer fees, and appreciates the opportunity to respond on behalf of these districts regarding the proposed project. This letter is limited to addressing the possible effects which the project might have on school facilities created by students attributable to the project. It is not intended to address other possible environmental concerns which might be identified by the district(s) after reviewing it.

It is our determination that the above mentioned project proposing a) a modification of the existing Conditional Use Permit No. 2 to include (1) accept additional feedstock as well as digestate in response to AB 1826, SB 1383, CalRecycle, and California State Water Resources Control Board; (2) install new equipment to be used during pre-processing and post composting operations including but not limited to grinder, electrical screens, etc.; (3) increase compost pile heights from 16 feet to 20 feet; (4) increase storage time of finished compost product from 7 to 180 days will have no significant effects on either of these district's facilities so long as statutory school facilities fees, if any, are collected as required by law and that no further mitigation measures regarding school facilities are necessary.

Thank you for the opportunity to comment on the project. Should you have any questions, or if we can be of any further assistance in this matter, please contact me at 636-4599, or through e-mail at anwatson@kern.org.

Sincerely,

Mary C. Barlow
County Superintendent of Schools

awatson

Andrea Watson, Specialist
School District Facility Services

ALW
cc: District(s)

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

*6111 Bollinger Canyon Road 3370A*
San Ramon, CA 94583

November 16, 2018

Lorelei Oviatt
Kern County
2700 “M” Street, Suite 100
Bakersfield, CA 93301

Ref: Gas and Electric Transmission and Distribution

Dear Ms. Oviatt,

Thank you for submitting PP18125 plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E’s facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E’s facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E’s fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E’s consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

**Attachment 1 – Gas Facilities**

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: http://usanorth811.org/wp-content/uploads/2017/05/CA-LAW-English.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line ‘kicker blocks’, storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E’s ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4’) in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes,

service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

## Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 15 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for

proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

# Appendix B
# Air Quality and Greenhouse Gas Analysis Technical Report

Trinity Consultants

# MEMORANDUM

**To:** Ronnelle Candia, Kern County Planning Department

**cc:** Brian Cataldo, Synagro

Brent McManigal, Gresham Savage Nolan & Tilden, PC

**From:** Ronald W. Hunter and Matthew Daniel

**Date:** May 11, 2021 (Revised June 16, 2021)

**RE:** Synagro Facility - South Kern Industrial Center Proposed CUP Modification
Air Quality Impact Analysis Clarification and Comparison with SKIC EIR AQ Baseline

Kern County Planning Department (the County) has reviewed the technical documents associated with the proposed modification of the subject CUP and the County has requested clarification of several issues regarding air quality impacts and how the currently proposed modifications to SKIC composting operations impact the findings posted in the Final Supplement to the EIR[1], as approved and implemented by the County. This memorandum provides a comparison of the air quality impacts permitted in the 2002 supplemental EIR and those posed by the current CUP Amendment and provides an understanding of why there are emissions reductions associated with the proposed project when compared to the existing composting operation's baseline emissions.

## Air Quality Impacts – SKIC EIR (1992)

In September 1992, the Final Environmental Impact Report (EIR) for SKIC was released. The EIR provided emissions impacts specific to stationary and non-stationary sources for Estimated Annual Vehicular Emissions, Natural Gas Combustion Emissions and required Power Plant Emissions, all at project buildout. Kern County-approved the 1992 EIR and SKIC began construction and operation of portions that were, at that time, economically feasible. There were no significant changes impacting the original EIR until 2002 with action to include a composting operation to the Center.

Emissions for the 1992 EIR included both stationary and mobile sources. Stationary sources would be required to obtain Authorities to Construct and Permits to Operate through the San Joaquin Valley APCD (SJVAPCD). Certain stationary sources that exceeded SJVAPCD limits would be required to utilize Best Available Control Technology (BACT) and provide emission reduction credits (ERC) as they were constructed, completed and operated within the SKIC development.

[1] South Kern Industrial Center Specific Plan EIR, September 1992, SCH #91122017.



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## 2002 Supplement to the EIR

In 2002 a composting operation was proposed for SKIC and an Air Quality Impact Analysis (AQIA) was completed[2] and approved by Kern County as part of a supplement to the original EIR. The estimated emissions from the composting operation were determined in the EIR's Air Quality Impact Assessment[3] and are presented below in **Table 1**. The addition of the composting operation entailed an increase in allowed emissions above those from the 1992 EIR.

**Table 1. Estimated Annual Mitigated Composting Facility Emissions Impact - 2002 (TPY)**

| Emissions Source | ROG | NOx | CO | SOx | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Composting | 18.9 | 221.5 | 98.3 | NR | 20.4 | NR |

NR = Not Reported – At the time the 2002 AQIA was completed SOx was not typically reported and PM2.5 emissions were considered a subset of PM10. Insight 2002

The above emissions included both stationary and mobile sources for the composting operation. Stationary sources were required to obtain Authorities to Construct and Permits to Operate through the San Joaquin Valley APCD (SJVAPCD). Certain stationary sources that exceeded SJVAPCD limits were required to utilize Best Available Control Technology (BACT) and provide emission reduction credits (ERC) as they were constructed, completed and operated within the SKIC development. The ERCs were obtained and the CUP amendment is not proposing to change any of the stationary sources previously approved and built at the Facility.

## Composting Operation Modification Impacts

In order to determine actual emissions impacts posed by the proposed modifications, the Air Quality Impact Analysis (AQIA) reviewed the composting operations for a 10-year period (2008 – 2017) to establish a "baseline" (based on actual emissions). Then emissions impacts from the proposed actions were determined to establish the net change. Determining the "net change" from an established baseline is a common and accepted measurement of emissions impacts under CEQA.

It was determined that it would be inappropriate to assume a baseline emissions total from the original EIR or supplemental EIR when there were actual operational data available to base these emissions on. As such, baseline emissions were determined by reviewing 10 years of actual operations for non-stationary source (mobile) emissions from actual site-based equipment and operator knowledge of delivery and employee vehicles. Baseline emissions established that the facility's emission rates were *lower* than those projected in the 2002 Supplemental EIR for all pollutants except ROG. Most of these reductions can be attributed to conversion to progressively newer fleet mixes as older equipment, trucks and employee vehicles are retired. Emissions impacts from Non-Stationary (Mobile) Sources are declining each year as technology decreases emissions from mobile equipment (loaders, trucks, cars, etc.). **Table 2** provides the proposed Non-Stationary Source Emissions.

[2] Final Supplement to the Environmental Impact Report for South Kern Industrial Center Specific Plan, General Plan Amendment Case No. 4, Map 158, CUP No. 2, Map 158, SCH #1991122017, October 2002.

[3] Insight Environmental Consultants, Air Quality Imnpact Assessment, South Kern Industrial Center Specific Plan – March 20, 2002.

**Table 2. Proposed (Operational – Mobile) Non-Stationary Source Emissions (TPY)**

| Emissions Source | ROG | NOx | CO | SOx | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Baseline Emissions (2008–2017) | 4.67 | 54.81 | 20.02 | 0.068 | 7.48 | 2.94 |
| Proposed Unmitigated Emissions | 2.24 | 30.51 | 12.16 | 0.064 | 5.99 | 1.52 |
| **Project Incremental Emissions*** | **-2.43** | **-24.30** | **-7.85** | **-0.004** | **-1.49** | **-1.41** |
| SJVAPCD Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded After Mitigation? | NO | NO | NO | NO | NO | NO |

(*) Proposed emissions will be less than Baseline emissions due to emission reductions achieved by newer less-polluting mobile equipment.

The estimated emissions from the composting operation were determined in the EIR's Air Quality Impact Assessment[4] and are presented below in Table 3. These emissions would occur with the start-up of the proposed project (opening year).

**Table 3. Proposed Annual Composting Facility Stationary Source Emissions (TPY)**

| Emissions Source | ROG | NOx | CO | SOx | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Baseline Emissions (2008–2017) | 30.58 | 0.16 | 20.02 | 0.13 | 0.02 | 0.02 |
| Proposed Unmitigated Emissions | 80.21 | 0.43 | 0.09 | 0.14 | 0.06 | 0.06 |
| Project Incremental Increase (Unmitigated) | 49.64 | 0.27 | 0.08 | 0.01 | 0.04 | 0.04 |
| Mitigation (ERC Credits)* | -49.64 | - | - | - | - | - |
| **Project Incremental Increase (Mitigated)** | **0.00** | **0.27** | **0.08** | **0.01** | **0.04** | **0.04** |
| SJVAPCD Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded After Mitigation? | NO | NO | NO | NO | NO | NO |

(*) ERCs have been secured by Synagro.

## Conclusions

The above emissions data was taken from the County-approved 2002 Supplemental EIR and from the project AQIA completed in support of the proposed composting operation modification. These results support the following conclusions:

- Non-stationary (mobile) source emissions will be reduced primarily through use of newer more efficient and lower emitting equipment.
- There will be a reduction in operational emissions from the County-approved 2002 Supplemental EIR based on mobile-source reductions that occur due to use of newer, cleaner equipment.
- Project emission increases for NOx, CO, SOx, PM10 and PM2.5 only total a combined 0.44 TPY and are significantly below SJVAPCD Thresholds for each constituent.
- Proposed increases in ROG emissions will be fully offset with the existing ERCs purchased by Synagro.

[4] Insight Environmental Consultants, Air Quality Imnpact Assessment, South Kern Industrial Center Specific Plan – March 20, 2002.

Should you have any questions or require further clarification of any aspect of this memo or the proposed impacts to air quality, please contact either Ron Hunter or Matt Daniel at Trinity Consultants.

# AIR QUALITY IMPACT ANALYSIS

## Synagro SKIC Compost Facility Modification Project

Kern County, California

Prepared For:

SYNAGRO
YOUR PARTNER FOR A CLEANER, GREENER WORLD

2653 Santiago Road
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Prepared By:

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**August 2019**

Project 180505.0090

Insight Environmental Consultants | Trinity Consultants

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# 1. EXECUTIVE SUMMARY

Insight Environmental Consultants, Inc., *a Trinity Consultants Company*, has completed an Air Quality Impact Analysis (AQIA) for the Synagro South Kern Industrial Complex (SKIC) Composting Facility Modification Project (Project). This Project will be located at the Synagro SKIC Composting Facility at 2653 Santiago Road in unincorporated Kern County, near Taft, California and will include the modification of the facility's existing Conditional Use Permit (CUP) to allow addition of food waste material to the composting operation, increase the height of all feedstock/blended material, compost and curing pile heights from 16 to 20 feet and increase storage time of finished compost from 7 days to 180 days to account for seasonal market fluctuations, and add receiving, processing, and screening equipment necessary to process the additional feedstock and resulting compost.

The proposed Project's construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), and suspended particulate matter ($PM_{10}$ and $PM_{2.5}$). Project operations would generate air pollutant emissions from mobile sources (automobile activity from employees and delivery trucks), area sources (incidental activities related to facility maintenance) as well as stationary sources (composting operations). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (California Air Pollution Control Officers Association (CAPCOA) 2017), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD), EMFAC2017 (CARB 2018), Emission Estimation Methodology for Off-Highway Recreational Vehicles (CARB 2013), AP-42: Compilation of Air Pollution Emission Factors (EPA 2018), California Climate Action Registry General Reporting Protocol Version 3.1, Waste Reduction Model (WARM) version 14 (EPA 2016), the facility's SJVAPCD stationary source Permits to Operate, and Greenhouse Gas Inventory Guidance (EPA 2016).

**Table 4-3** presents the Project's construction emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. **Tables 4-4 and 4-5** presents the Project's operations emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin. **Table 4-6** presents the Project's GHG emissions and provides substantial evidence to support a *less than significant* air quality impact on the San Joaquin Valley Air Basin.

Cumulative impacts were also evaluated. Kern County Community Development and Planning Department provided a list of projects that were evaluated to determine these probable impacts. The project information provided by Kern County, combined with the proposed impacts from this Project, supports a finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental emissions are less than zero. Additionally, compliance with the SJVAPCD's Air Quality Attainment Plan (AQAP) is presumably required by all projects' located within the SJVAPCD's jurisdiction. Because projects that would have been included in the cumulative analysis presumably comply with the requirements of one or both of these plans, the Project's incremental contribution to a cumulative effect is considered *less than cumulatively considerable* (CEQA Guidelines § 15064(h)(3); SJVAPCD 2015).

## 2.1. PURPOSE

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015), the Kern County Planning and Community Development Department's (KCPD) Air Quality Preparation Guidelines (KCPD 2006), and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA 2019).

## 2.2. GENERAL PROJECT DESCRIPTION

The Synagro SKIC Composting Facility Modification Project (Project) will modify the composting operation to allow additional types of 'mixed material' and organic wastes to include all types of food material such as post-consumer food waste, food-soiled paper, compostable plastics, and digestate. The Project modification will also increase feedstock, composting and processing, and storage pile heights from 16 to 20 feet and increase storage time of finished compost from 7 days to 180 days to account for seasonal market fluctuations. Additional equipment will be installed to be used during pre-processing and post composting operations including but not limited to grinders, conveyors, shaker decks, and electrical screens. The facility is permitted receive and process up to 670,000 wet tons of material per year (WTPY) comprised of up to 400,000 wtpy of biosolids and pre-consumer food waste and up to 270,000 wtpy of wood chips and agricultural waste products. At full capacity, the amount of finished product produced at the facility is expected to be between 250,000 and 350,000 wet tons per year. The design of the facility is based on an annual average daily throughput of 1,100 wet tons of biosolids combined with up to 771 wet tons of additives. The existing peak daily throughput of the receiving building/mixing equipment could be up to 5,700 wet tons of combined biosolids and additives. The Project is proposing no changes to permitted tons processed, traffic counts, traffic patterns, technology, hours of operation, or permitted area.

While maintaining current process limits established by Kern County, the facility will adopt a flexible feedstock plan using biosolids and food material with bulking agents to address state mandates. Green waste and agricultural wastes are classified as bulking agents and are currently composted in a aerated static pile (ASP) using a blend of 60 percent biosolids and 40 percent bulking agents. Using the same ASP technology, the process will be modified to utilize a flexible processing plan that could process up to 40 percent food material with 60 percent bulking agents.

The proposed Project will enable Synagro to receive the organic waste products recently mandated by the State of California to be diverted from landfills and composted. The Project will help meet the recently enacted State mandates of AB 1826 (Chesbro 2014) regarding Mandatory Commercial Organics Recycling Collection and SB 1383 (Lara 2016) Short Lived Climate Pollution Plan regarding diversion of 50 percent of all organics from landfills by 2020 and 75 percent by 2025. There will be over 20 million tons of organic wastes having to be diverted from landfills statewide.

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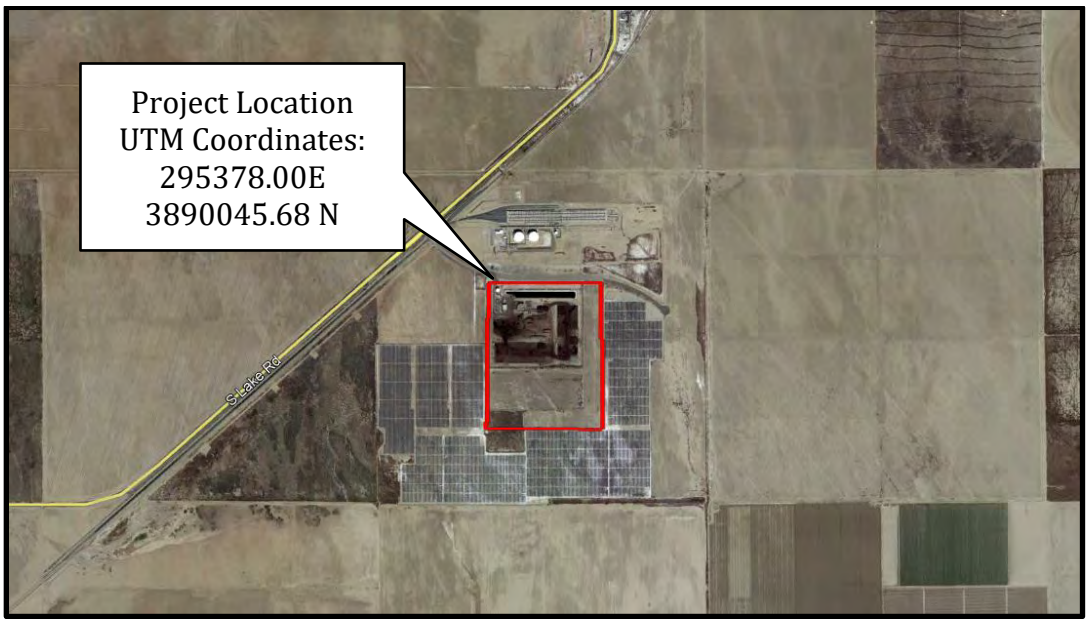
## Figure 2-1 - Regional Location


## Figure 2-2 - Project Location



## Figure 2-3 – Conceptual Site Plan

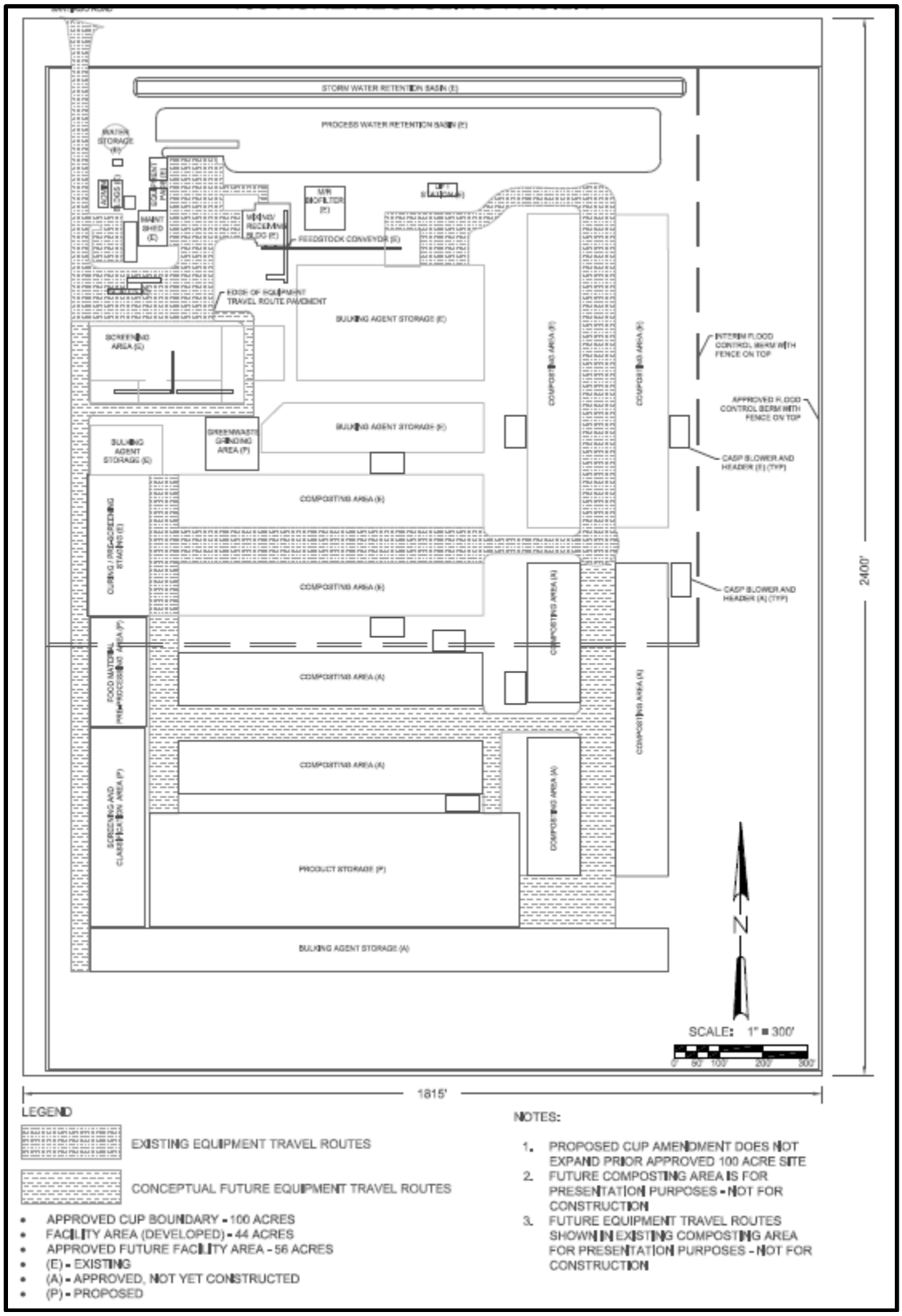
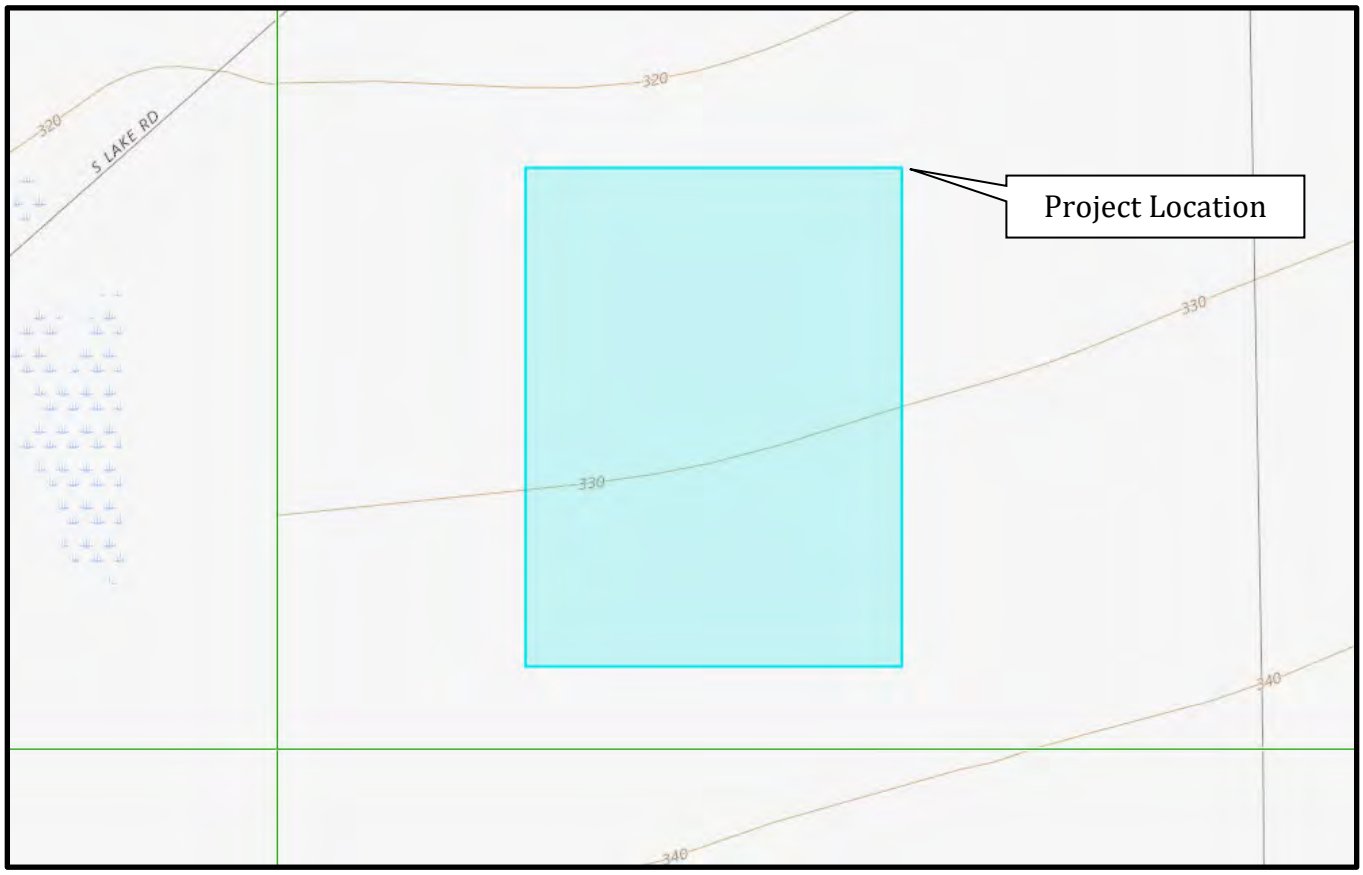


**Figure 2-4** depicts the Project site's topography based on United States Geological Survey's (USGS) National Map (USGS 2015). The Project site is located at an elevation of approximately 330 feet above mean sea level, is surrounded by agricultural and vacant land, and is within the Kern County, CA boundary.

## Figure 2-4 – Project Site Topography




Source: USGS 2018

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone ($O_3$), CO, $NO_2$, $SO_2$, $PM_{10}$ and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide ($H_2S$), vinyl chloride (chloroethene) and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kern County are presented in **Section 3.1** below.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB) and the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are “unclassified,” in “attainment”, or in “non-attainment” for the NAAQS and CAAQS relying on statewide air quality monitoring data.

## 3.1. AIR QUALITY STANDARDS

The Project area is located in the SJVAB in Kern County and which is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. **Table 3-1** provides the NAAQS and CAAQS.

## Table 3-1 - Federal & California Standards

| | | NAAQS | CAAQS |
|---|---|---|---|
| **Pollutant** | **Averaging Time** | **Concentration** | |
| $O_3$ | 8-Hour | 0.070 ppm (137 µg/m³) [a] | 0.070 ppm (137 µg/m³) |
| | 1-Hour | | 0.09 ppm (180 µg/m³) |
| CO | 8-Hour | 9 ppm (10 mg/m³) | 9 ppm (10 mg/m³) |
| | 1-Hour | 35 ppm (40 mg/m³) | 20 ppm (23 mg/m³) |
| $NO_2$ | Annual Average | 53 ppb (100 µg/m³) | 0.030 ppm (57 µg/m³) |
| | 1-Hour | 100 ppb (188.68 µg/m³) | 0.18 ppm (339 µg/m³) |
| $SO_2$ | 3-Hour | 0.5 ppm (1,300 µg/m³) | |
| | 24 Hour | 0.14 ppm (365 µg/m³) | 0.04 ppm (105 µg/m³) |
| | 1-Hour | 75 ppb (196 µg/m³) | 0.25 ppm (655 µg/m³) |
| Particulate Matter ($PM_{10}$) | Annual Arithmetic Mean | | 20 µg/m³ |
| | 24-Hour | 150 µg/m³ | 50 µg/m³ |
| Fine Particulate Matter ($PM_{2.5}$) | Annual Arithmetic Mean | 12 µg/m³ | 12 µg/m³ |
| | 24-Hour | 35 µg/m³ | |
| Sulfates | 24-Hour | | 25 µg/m³ |
| Pb [d] | Rolling Three-Month Average | 0.15 µg/m³ | |
| | 30 Day Average | | 1.5 µg/m³ |
| $H_2S$ | 1-Hour | | 0.03 ppm (42 µg/m³) |
| Vinyl Chloride (chloroethene) | 24-Hour | | 0.010 ppm (26 µg/m³) |
| Visibility Reducing particles | 8 Hour (1000 to 1800 PST) | | [b] |

ppm = parts per million mg/m3 = milligrams per cubic meter µg/m ³= micrograms per cubic meter
ppb = parts per billion

*Source:* CARB 2016

a On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm

b In 1989, the CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Under the provisions of the U.S. Clean Air Act, the Kern County portion of the SJVAB has been classified as either nonattainment/extreme, nonattainment/severe, nonattainment, attainment/unclassified, attainment, or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 3-2** provides the SJVAB's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

## Table 3-2 - SJVAB Attainment Status

| Pollutant | NAAQS[a] | CAAQS[b] |
|---|---|---|
| $O_3$, 1-hour | No Federal Standard[f] | Nonattainment/Severe |
| $O_3$, 8-hour | Nonattainment/Extreme[e] | Nonattainment |
| $PM_{10}$ | Attainment[c] | Nonattainment |
| $PM_{2.5}$ | Nonattainment[d] | Nonattainment |
| CO | Attainment/Unclassified | Attainment/Unclassified |
| $NO_2$ | Attainment/Unclassified | Attainment |
| $SO_2$ | Attainment/Unclassified | Attainment |
| Pb (Particulate) | No Designation/Classification | Attainment |
| $H_2S$ | No Federal Standard | Unclassified |
| Sulfates | No Federal Standard | Attainment |
| Visibility Reducing particulates | No Federal Standard | Unclassified |
| Vinyl Chloride | No Federal Standard | Attainment |

*Source:* SJVAPCD 2018a

*Note:*

a See 40 CFR Part 81

b See CCR Title 17 Sections 60200-60210

c On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

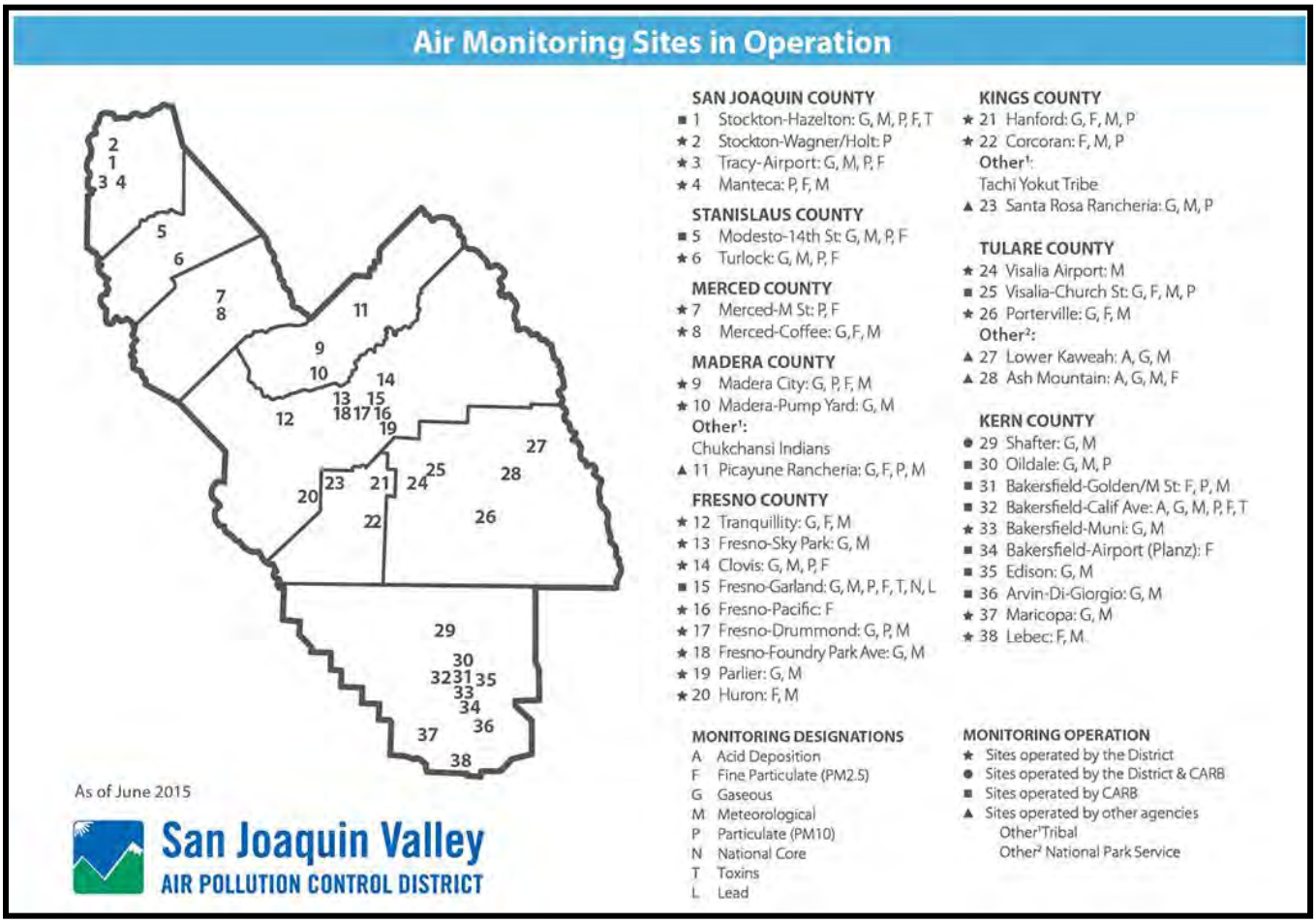
d The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O3 standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

f Effective June 15, 2005, the EPA revoked the federal 1-hour O3 standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour O3 nonattainment areas continue to apply to the SJVAB.

The SJVAPCD along with the CARB operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established NAAQS and CAAQS. The monitoring stations in the San Joaquin Valley are depicted in **Figure 3-1**.

**Figure 3-1 – SJVAPCD Monitoring Network**




Source: SJVAPCD 2017

## 3.2. EXISTING AIR QUALITY

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the project site. **Table 3-3** provides the background concentrations for $O_3$, particulate matter of 10 microns ($PM_{10}$), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, $NO_2$, $SO_2$, and Pb as of June 2015. Information is provided for the Maricopa-Stanislaus St., Bakersfield – 5558 California Ave., Bakersfield – Golden State Hwy., Bakersfield – Municipal Airport, for 2015 through 2017. No data is available for $H_2S$, Vinyl Chloride, or other toxic air contaminants in the Kern County or surrounding counties.

## Table 3-3 - Existing Air Quality Monitoring Data in Project Area

| Pollutant and Monitoring Station Location | Maximum Concentration | | | Days Exceeding Standard | | |
|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2015 | 2016 | 2017 |
| **$O_3$ – 1-hour CAAQS (0.09 ppm)** | | | | | | |
| Maricopa – Stanislaus Street | 0.094 | 0.092 | 0.117 | 0 | 0 | 1 |
| Bakersfield – California Avenue | 0.104 | 0.092 | 0.122 | 6 | 0 | 11 |
| **$O_3$ – 8-hour CAAQS (0.07 ppm)** | | | | | | |
| Maricopa – Stanislaus Street | 0.088 | 0.087 | 0.094 | 32 | 55 | 42 |
| Bakersfield – California Avenue | 0.097 | 0.086 | 0.104 | 54 | 63 | 87 |
| **$O_3$ – 8-hour NAAQS (0.070 ppm)** | | | | | | |
| Maricopa – Stanislaus Street | 0.087 | 0.087 | 0.093 | 32 | 50 | 38 |
| Bakersfield – California Avenue | 0.096 | 0.085 | 0.104 | 52 | 60 | 85 |
| **$PM_{10}$ – 24-hour CAAQS (50 µg/m³)** | | | | | | |
| Bakersfield – California Avenue | 103.6 | 92.2 | 143.6 | 20 | 21 | 16 |
| Bakersfield – Golden State Highway | 94.6 | 91.6 | 165.1 | 16 | 26 | 24 |
| **$PM_{10}$ – 24-hour NAAQS (150 µg/m³)** | | | | | | |
| Bakersfield – California Avenue | 104.7 | 90.9 | 138.0 | 0 | 0 | 0 |
| Bakersfield – Golden State Highway | 100.5 | 91.6 | 158.2 | 0 | 0 | 1 |
| **$PM_{2.5}$ - 24-hour NAAQS (35 µg/m³)** | | | | | | |
| Bakersfield – California Avenue | 107.8 | 66.4 | 101.8 | 29 | 23 | 28 |
| Bakersfield – Golden State Highway | 91.1 | 53.9 | 74.3 | 9 | 7 | 9 |
| **CO - 8-Hour CAAQS & NAAQS (9.0 ppm)** | | | | | | |
| No data collected | * | * | * | * | * | * |
| **NO2 - 1-Hour CAAQS (0.18 ppm)** | | | | | | |
| Bakersfield – California Avenue | 0.054 | 0.058 | 0.066 | 0 | 0 | 0 |
| Bakersfield – Municipal Airport | 0.055 | 0.058 | 0.062 | 0 | 0 | 0 |
| **NO2 - 1-Hour NAAQS (0.10 ppm)** | | | | | | |
| Bakersfield – California Avenue | 0.055 | 0.058 | 0.066 | 0 | 0 | 0 |
| Bakersfield – Municipal Airport | 0.055 | 0.058 | 0.063 | 0 | 0 | 0 |
| **SO2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)** | | | | | | |
| No data collected | * | * | * | * | * | * |
| **Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m³)** | | | | | | |
| Bakersfield – California Avenue | 9.5 | 19.8 | 12.6 | 0 | 0 | 0 |

Source: CARB 2018a

Notes: ppm= parts per million

* There was no data available to determine the value.

The following is a description of criteria air pollutants, typical sources, and health effects and the recently documented pollutant levels in the project vicinity.

### 3.2.1. Ozone ($O_3$)

The most severe air quality problem in the San Joaquin Valley is high concentrations of $O_3$. High levels of $O_3$ cause eye irritation and can impair respiratory functions. High levels of $O_3$ can also affect plants and materials. Grapes, lettuce, spinach, and many types of garden flowers and shrubs are particularly vulnerable to $O_3$ damage. $O_3$ is not emitted directly into the atmosphere but is a secondary pollutant produced through photochemical reactions

involving hydrocarbons and nitrogen oxides ($NO_x$). Significant $O_3$ generation requires about one to three hours in a stable atmosphere with strong sunlight. For this reason, the months of April through October comprise the "ozone season." $O_3$ is a regional pollutant because $O_3$ precursors are transported and diffused by wind concurrently with the reaction process. The data contained in **Table 3-3** shows that the Project area exceeded the 1-hour average ambient $O_3$ CAAQS and the 8-hour average ambient $O_3$ NAAQS and CAAQS for the 2015 through 2017 period.

### 3.2.2. Suspended Particulate Matter ($PM_{10}$ and $PM_{2.5}$)

Both State and Federal particulate standards now apply to particulates under 10 microns ($PM_{10}$) rather than to total suspended particulate, which includes particulates up to 30 microns in diameter. Continuing studies have shown that the smaller-diameter fraction of TSP represents the greatest health hazard posed by the pollutant; therefore, EPA has recently established NAAQS for $PM_{2.5}$. The project area is classified as attainment for $PM_{10}$ and non-attainment for $PM_{2.5}$ for NAAQS.

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also increase the level of particulates in the atmosphere; wind-raised dust and ocean spray are two sources of naturally occurring particulates. The largest sources of $PM_{10}$ and $PM_{2.5}$ in Kern County are vehicle movement over paved and unpaved roads, demolition and construction activities, farming operations, and unplanned fires. $PM_{10}$ and $PM_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed. In the respiratory tract, very small particles of certain substances may produce injury by themselves or may contain absorbed gases that are injurious. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

**Table 3-3** shows that $PM_{10}$ levels regularly exceeded the CAAQS but not the NAAQS at two monitoring stations over the three-year period of 2015 through 2017. **Table 3-3** shows that $PM_{2.5}$ NAAQS were exceeded from 2015 through 2017. Similar levels can be expected to occur in the vicinity of the project site.

### 3.2.3. Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the San Joaquin Valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. CO does not irritate the respiratory tract, but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravating cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials.

**Table 3-3** reports no CO levels were recorded at any California monitoring stations during the three-year period from 2015 through 2017; historically Project area data for CO has been below the CAAQS and NAAQS.

### 3.2.4. Nitrogen Dioxide ($NO_2$) and Hydrocarbons

Kern County has been designated as an attainment area for the NAAQS for $NO_2$. $NO_2$ is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the county's $NO_x$ emissions, most of which is emitted as $NO_2$. Combustion in motor vehicle engines, power plants, refineries, and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form $NO_2$ and $O_3$. $NO_2$, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. $NO_x$ is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions, which produce photochemical oxidants.

**Table 3-3** shows that the Federal or State $NO_2$ standards have not been exceeded at the Project area-monitoring stations over the three-year period of 2015 through 2017. Hydrocarbons are not currently monitored.

### 3.2.5. Sulfur Dioxide ($SO_2$)

Kern County has been designated as an attainment area for the NAAQS for $SO_2$. $SO_2$ is the primary combustion product of sulfur or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. $SO_2$ levels are generally higher in the winter months. Decreasing levels of $SO_2$ in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, $SO_2$ irritates the upper respiratory tract. At lower concentrations, when respired in combination with particulates, $SO_2$ can result in greater harm by injuring lung tissues. Sulfur oxides ($SO_x$), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. $SO_x$ can also react to produce sulfates that reduce visibility and sunlight.

**Table 3-3** shows no data has been reported over the three-year period in California.

### 3.2.6. Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels in Fresno are well below the ambient standard and are expected to continue to decline; the data reported in **Table 3-3** shows the highest concentration and the measured number of days exceeding the standards. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

## 3.3. CLIMATE

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent

subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez Strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez Strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (°F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the more severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the project site is expected to be similar to the data recorded at the Taft monitoring station. This data is provided in **Table 3-4 – Taft Weather Data**, which contains average precipitation data recorded at the Taft monitoring station. Over the 68-year period from July of 1948 through June of 2016 (the most recent data available), the average annual precipitation was 5.39 inches.

**Table 3-4 – Taft Weather Data**

| **Period of Record Monthly Climate Summary for the Period 07/01/1948 to 6/10/2016** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** | **Annual** |
| Average Max. Temperature (F) | 57.8 | 62.2 | 69.6 | 75.2 | 84.2 | 91.8 | 98.4 | 97.3 | 91.8 | 79.6 | 66.1 | 58.4 | 77.7 |
| Average Min. Temperature (F) | 41.0 | 44.0 | 47.3 | 49.7 | 56.1 | 60.5 | 67.2 | 65.0 | 61.4 | 53.9 | 46.3 | 40.9 | 52.8 |
| Average Total Precipitation (in.) | 1.07 | 1.29 | 0.75 | 0.50 | 0.37 | 0.03 | 0.00 | 0.01 | 0.06 | 0.28 | 0.38 | 0.65 | 5.39 |
| Average Total Snowfall (in.) | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Average Snow Depth (in.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Percent of possible observations for period of record:<br>Max. Temp.: 11.6% Min. Temp.: 11.5% Precipitation: 17.8% Snowfall: 12.3% Snow Depth: 12.2% | | | | | | | | | | | | | |

**Source: Western Regional Climate Center, 2018.**

# 3.4. CLIMATE CHANGE AND GREENHOUSE GASES

## 3.4.1. Global Climate Change

Global climate change refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred by some scientists and policy makers to "global warming" because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36 degree Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide ($CO_2$) and other compounds cumulatively termed greenhouse gases. GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth's surface (USGCRP, 2014). Many scientists believe "most of the warming observed over the last 50 years is attributable to human activities" (IPCC, 2017). The increased amount of $CO_2$ and other GHGs in the atmosphere is the alleged primary cause of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include $CO_2$, methane ($CH_4$), nitrous oxide ($N_2O$), and $O_3$. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include $CO_2$, $CH_4$, and $N_2O$, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to $CO_2$, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of $CO_2$ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "$CO_2$ equivalents" ($CO_2e$).

Natural sources of $CO_2$ include the respiration (breathing) of humans and animals and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of $CO_2$ each year, far outweighing the 7 billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation,

cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of $CO_2$ from human activities. Consequently GHGs are building up in the atmosphere (Environpedia, 2017).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of $CH_4$ production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of $CH_4$ emitted annually. These anthropogenic sources include the mining and burning of fossil fuels; digestive processes in ruminant livestock such as cattle; rice cultivation; and the decomposition of waste in landfills. The major removal process for atmospheric $CH_4$, the chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, $CH_4$ concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of $CO_2e$ and have increased considerably since that time (United Nations, 2011). It is important to note that the global emissions inventory data are not all from the same year and may vary depending on the source of the data (U.S. EPA, 2016). Emissions from the top five emitting countries and the European Union accounted for approximately 55 percent of total global GHG emissions. The United States was the number two producer of GHG emissions. The primary GHG emitted by human activities in the United States was $CO_2$, representing approximately 84 percent of total GHG emissions (U.S. EPA, 2016).

In 2009, the United States emitted approximately 6.6 billion metric tons of $CO_2e$ or approximately 25 tons per year (tpy) per person. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 62 percent of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2006, total United States GHG emissions rose approximately 14.7 percent (U.S. EPA, 2016).

Worldwide $CO_2$ emissions are expected to increase by 1.9 percent annually between 2001 and 2025 (U.S. Energy Information Center, 2017). Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil fuel energy. Developing countries' emissions are expected to grow above the world average at 2.7 percent annually between 2001 and 2025, and surpass emissions of industrialized countries around 2018.

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the state of California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 1990 through 2008 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

California's 2017 net emissions of 424 million metric tons of $CO_2$ equivalent ($MMTCO_2e$) decreased 5 $MMTCO_2e$ from 2006 levels, with a decrease of 14 percent from maximum levels of 483.9 $MMTCO_2e$ in 2004 and 7 $MMTCO_2e$ below the 1990 emissions level which is the State's 2020 GHG limit. Transportation emissions continues to be the largest source of GHG emissions in the State. The annual increase of transportation emissions in 2017 has slowed down slightly compared to the previous three years. 2017 emissions also showed a 24 percent decrease per person since the peak year of 2001 dropping from 14.1 metric tons per person to 10.7 metric tons per person. (CARB 2019)

CARB estimates that transportation was the source of approximately 40 percent of California's GHG emissions in 2017, followed by industrial sources at 21 percent and the electricity sector at 15 percent which showed another

large drop due to the increase in renewable energy. Other sources of GHG emissions were residential plus commercial activities at 9.7 percent and agriculture at 7.6 percent. (CARB 2019)

### 3.4.2. Effects of Global Climate Change

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, could range from 1.1 degree Celsius (°C) to 6.4 °C (8 to 10.4 °Fahrenheit). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

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

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA, 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining in the range of 70 percent to 90 percent, threatening the state's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the Proposed Project area as it is a significant distance away from coastal areas.)
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- Increasing temperatures in a range of 8 to 10.4 °F under the higher emission scenarios, leading to a 25 percent to 35 percent increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 percent to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

### 3.4.3. Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete $O_3$ in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide ($CO_2$), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

The California Supreme Court's recent CEQA decision on the Newhall Ranch development case, *Center for Biological Diversity v. California Department of Fish and Wildlife* ((2015) 62 Cal.4th 2014), determined that the project's Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to the California's target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that "the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the state as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design." In the Court's final ruling it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals,
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less that significant, and
3. Lead agencies could also demonstrate compliance with locally adopted climate plans, or could apply specific numerical thresholds developed by some local agencies.

The current inventory and forecast for GHG emissions in the California Air Resources Board's 2014 First Update to the Climate Change Scoping Plan supports the recent changes to IPPC's 2011 estimates by calculating global warming potentials (GWP) of the various GHGs. CARB now uses GWPs in its climate change programs and to estimate the various impacts. Using the IPCCs Fourth Assessment Report, CARB has recalculated the 1990 GHG emissions level to be 431MMT$CO_2$e. Therefore, the 2020 emissions limit established in response to AB32 is now slightly higher than the 427MMT$CO_2$e that was identified in the initial Scoping Plan. It is widely understood that climate change is a "global" issue and, as such, GHG emissions are a cumulative problem and can only be evaluated as such.

As discussed in Section 4.1, Significance Criteria, the SJVAPCD, a CEQA Responsible Agency for this Project, has developed thresholds to determine significance of a proposed project – either implement Best Performance Standards or achieve a 29 percent reduction from BAU (a specific numerical threshold). Therefore the 29 percent reduction from BAU is applied to the subject Project in order to determine significance. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine significance using the project design features.

## 4.1. SIGNIFICANCE CRITERIA

To determine whether a proposed Project could create a potential CEQA impact, local, state, and federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB, and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate, and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Summary tables of these emission-based and concentration-based thresholds of significance for each pollutant are provided below along with a discussion of their applicability.

### 4.1.1. Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted guidelines to assist applicants in complying with the various requirements. According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for $O_3$ precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et. al). SJVAPCD's specific CEQA air quality thresholds are presented in **Table 4-1**.

**Table 4-1 SJVAPCD CEQA Thresholds of Significance**

| Criteria Pollutant | Significance Level | |
|---|---|---|
| | Construction | Operational |
| CO | 100 tons/yr | 100 tons/yr |
| $NO_x$ | 10 tons/yr | 10 tons/yr |
| ROG | 10 tons/yr | 10 tons/yr |
| $SO_x$ | 27 tons/yr | 27 tons/yr |
| $PM_{10}$ | 15 tons/yr | 15 tons/yr |
| $PM_{2.5}$ | 15 tons/yr | 15 tons/yr |
| *Source:* SJVAPCD 2015 | | |

### 4.1.2. Thresholds for Ambient Air Quality Impacts

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 3-1**) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the Project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation.*" Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the $O_3$ NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance. The Project will require new equipment that requires permit authorization from the SJVAPCD and will be subject to NSR and PSD under SJVAPCD rules

### 4.1.3. Thresholds for Hazardous Air Pollutants

The SJVAPCD's GAMAQI states, "From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors, and
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources" (SJVAPCD 2015).

**Table 4-2** presents the thresholds of significance uses with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

**Table 4-2 Measures of Significance – Toxic Air Contaminants**

| Agency | Level | Description |
|---|---|---|
| Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA | | |
| SJVAPCD | Carcinogens | Maximally Exposed Individual risk **equals or exceeds** 20 in one million. |
| | Non-Carcinogens | **Acute**: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual. |
| | | **Chronic**: Hazard Index **equals or exceeds** 1 for the Maximally Exposed Individual. |
| *Source:* SJVAPCD 2015 | | |

### 4.1.4. Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (APR 2005)* (SJVAPCD 2009), which outlined the SJVAPCD's methodology for assessing a project's significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further

environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement Best Performance Standards (BPS).

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to Business-as-Usual (BAU*), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

Additionally, under SJVAPCD policy *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and Trade Reduction (APR 2025)* (SJVAPCD 2014), the SJVAPCD finds that the Cap-and-Trade is a regulation plan approved by CARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with APR 2005 (SJVAPCD 2009), projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

## 4.2. PROJECT RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI identifies separate thresholds for a project's short-term (construction) and long-term (operational) emissions.

Project emissions were estimated for the following project development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using applicant assumptions for equipment and construction schedule for the development of the Project.
- Long-term (Operations) – Long term emissions were estimated using CalEEMod, EMFAC2017, WARM Model, AP-42, and stationary source emission factors.

### 4.2.1. Short-Term Emissions

Short-term emissions are primarily from the construction phase of a project, and would have temporary impacts on air quality.

The Project applicant provided a list of specific construction equipment and timeline and were therefore used in estimating the construction emissions. Applying Project applicant assumptions and model defaults, construction emissions were projected based on the estimated construction schedule. The estimated construction equipment, schedule and average employee count is as follows:

- Off-Road Equipment:
  - Two scrapers
  - One Grader
  - Two Compactors/Rollers
  - One Dozer
  - One Excavator
- Schedule
  - Site Preparation and Grading – 20 Days
  - Compost Pad Construction – 30 Days
  - Equipment Areas Pad Construction – 30 Days
  - Equipment Installation/Commissioning – 60 Days
  - Construction Activities – 5 days/week and 10 hours/day
- Employees
  - 9 Equipment Operators
  - 5-10 Laborers

In order to be conservative it was assumed all pieces of equipment would operate and there would be 19 construction workers present every day of the construction period. Additionally, it was assumed all construction would occur in 2019. If the total construction time is accurate, all estimated emission totals are believed to be conservative and reasonable and present a legally sufficient estimate of potential impacts to air quality.

SJVAPCD's required mitigation measures for all projects were also applied:

- Water exposed areas 3 times per day; and
- Reduce vehicle speeds to less than 15 miles per hour.

Table 4-3 presents the Project's short-term emissions based on the anticipated construction period.

## Table 4-1 – Short-Term Project Emissions

| Emissions Source | Pollutant (tons/year) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **Unmitigated Emissions** | | | | | | |
| Construction Emissions | 0.40 | 4.54 | 2.63 | 0.01 | 0.39 | 0.24 |
| **Mitigated Emissions** | | | | | | |
| Construction Emissions | 0.40 | 4.54 | 2.63 | 0.01 | 0.28 | 0.21 |
| | | | | | | |
| **Significance Threshold** | **10** | **10** | **100** | **27** | **15** | **15** |
| Is Threshold Exceeded For a Single Year After Mitigation? | No | No | No | No | No | No |
| *Source:* Insight Environmental Consultants, 2019<br>*Note:* 0.00 may represent <0.005 | | | | | | |

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during a given year and would therefore be *less than significant*.

### 4.2.2. Long-Term Operations Emissions

Long-term emissions are caused by operational mobile, area, and stationary sources. Long-term emissions would consist of the following components.

#### *4.2.2.1. Fugitive Dust Emissions*

Operation of the Project site at planned full operation is not expected to present a substantial source of fugitive dust ($PM_{10}$) emissions. The main source of $PM_{10}$ emissions would be from unpaved travel associated with equipment at the Project site.

$PM_{10}$ on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive $PM_{10}$ Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
  - Rule 8041 - Carryout and Trackout
  - Rule 8051 - Open Areas

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

#### *4.2.2.2. Exhaust Emissions*

Project-related transportation activities from employees and delivery trucks would generate mobile source ROG, $NO_x$, $SO_x$, CO, $PM_{10}$ and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include: level of activity, site characteristics, weather conditions, and number of employees. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated.

#### *4.2.2.3. Stationary Source Emissions*

Permitted stationary source emissions are not anticipated to change as a result of the proposed Project. However, baseline emissions and post-project (current permit levels) emissions were estimated. Stationary source emissions from the Project would consist of VOC, $PM_{10}$ and $PM_{2.5}$ emissions released to the atmosphere from the composting process.

#### *4.2.2.4. Projected Emissions*

The proposed project is expected to have long-term air quality impacts as shown in **Tables 4-4 and 4-5**. Emission calculations are available in Attachment B.

**Table 4-4 – Post-Project (Operational) Non-Stationary Source Emissions**

| Emissions Source | Pollutant (tons/year) | | | | | |
|---|---|---|---|---|---|---|
| | **ROG** | **$NO_x$** | **CO** | **$SO_x$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Baseline Emissions (10 Year Avg. 2008 – 2017) | 4.67 | 54.81 | 20.02 | 0.068 | 7.48 | 2.94 |
| Post-Project Unmitigated Emissions | 2.24 | 30.51 | 12.16 | 0.064 | 5.99 | 1.52 |
| **Project Incremental Emissions** | **-2.43** | **-24.30** | **-7.85** | **-0.004** | **-1.49** | **-1.41** |
| SJVAPCD Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded After Mitigation? | NO | NO | NO | NO | NO | NO |

Source: Insight Environmental Consultants 2019

As shown in Table 4-4, operations-related non-stationary source emissions, as calculated in Attachment B, would decrease compared to baseline emissions primarily due to the reduction in fleet average emission factors due to cleaner vehicles in the post-Project period compared to the baseline period. The Project also proposes the potential to mitigate non-stationary sources further by phasing in compressed natural gas (CNG) fueled delivery trucks in the future. However, CNG fueled delivery trucks were not analyzed in this analysis. Since the Project's incremental emissions will decrease, they will be less than the SJVAPCD significant threshold levels. Therefore, the proposed Project would have a *less than significant* impact during Project operations from non-stationary sources.

**Table 4-5 – Post-Project (Operational) Stationary Source Emissions**

| Emissions Source | Pollutant (tons/year) | | | | | |
|---|---|---|---|---|---|---|
| | **ROG** | **$NO_x$** | **CO** | **$SO_x$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Baseline Emissions (10 Year Avg. 2008 – 2017) | 30.58 | 0.16 | 0.02 | 0.13 | 0.02 | 0.02 |
| Post-Project Unmitigated Emissions | 80.21 | 0.43 | 0.09 | 0.14 | 0.06 | 0.06 |
| Project Incremental Increase (Unmitigated) | 49.64 | 0.27 | 0.08 | 0.01 | 0.04 | 0.04 |
| Mitigation (ERC Credits) | -49.64 | - | - | - | - | - |
| **Project Incremental Increase (Mitigated)** | **0.00** | **0.27** | **0.08** | **0.01** | **0.04** | **0.04** |
| SJVAPCD Threshold | 10 | 10 | 100 | 27 | 15 | 15 |
| Is Threshold Exceeded After Mitigation? | NO | NO | NO | NO | NO | NO |

Source: Insight Environmental Consultants 2019

As shown in Table 4-5, operations-related stationary source emissions, as calculated in Attachment B, would be greater than the SJVAPCD significance threshold levels for ROG emissions prior to mitigation. However, ROG emissions were mitigated through the surrender of emission reduction credits (ERCs). Since the Project is not proposing any changes to permitted tons processed there will not be any increase in permitted emissions, consequently, the post-Project stationary source emissions are equal to the currently permitted emissions. Therefore, the incremental ROG emissions increase from stationary sources has already been mitigated through the permitting process by fully surrendered ERCs S-2114-1, N-442-1, and N-4223-1 and partially surrendered S-2792-1 for a total of 105.33 tons (credit for 70.22 tons with distance offset ratio applied) of ROG emissions during the permitting process for the Project's facility. Therefore, the proposed Project would have a *less than significant* impact during Project operations from stationary sources.

## 4.3. POTENTIAL IMPACTS ON SENSITIVE RECEPTORS

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. There are scattered agricultural residences in the surrounding area to the Project site. These residential receptors represent the nearest sensitive receptors to the proposed Project site with the closest approximately

1.55 miles to the north of the Project. There are no known non-residential sensitive receptors within 2 miles of the Project site. As such, impacts to sensitive receptors are expected to be negligible and are considered less than significant.

## 4.4. POTENTIAL IMPACTS TO VISIBILITY TO NEARBY CLASS 1 AREAS

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Class 1 Areas are federal lands such as national parks, national wilderness areas, and national monuments. The nearest Class 1 Area to the project site would be the San Rafael Wilderness located approximately 54 kilometers to the southwest. Because the Project's $PM_{10}$ emissions increase are predicted to be less than the PSD threshold levels, an impact at any Class 1 area within 100 kilometers of the Project is extremely unlikely. Therefore, based on the Project's predicted less-than significant $PM_{10}$ emissions, the Project would be expected to have a less than significant impact to visibility at any Class 1 Area.

## 4.5. POTENTIAL IMPACTS FROM CARBON MONOXIDE

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed of one or more of these standards. If ambient levels already exceed a state or national standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD's GAMAQI by which CO "Hot Spot" modeling is required:

I. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F; or
II. A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

A traffic generation assessment impact study has been prepared for this project and determined that no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels and the Project will not reduce any street or intersection to a LOS E or F and will not worsen any already existing LOS F of any street or intersection after mitigation (Ruettgers & Schuler 2019). Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

## 4.6. PREDICTED HEALTH RISK IMPACTS

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of Hazardous Air Pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs.

The proposed Project would result in emissions of HAPs and would be located near existing residents and workers; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is required.

To predict the potential health risk to the population attributable to emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 70-year lifetime. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs. Potential HAPs associated with the Project are diesel particulate matter from off-road equipment and on-road vehicles and fugitive emissions from the composting activities.

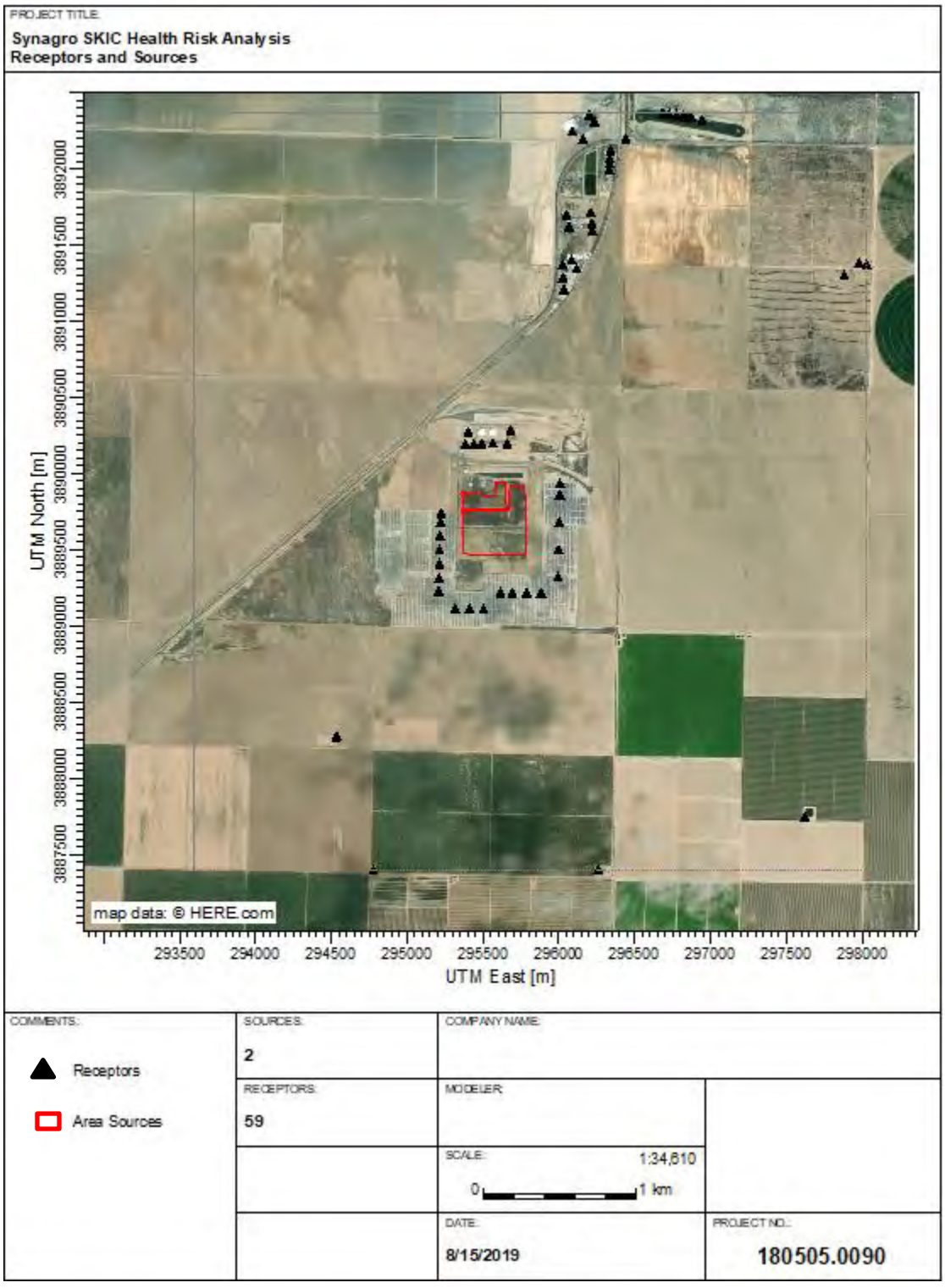
Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. Assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View 9.4.0 interface) was used to predict the dispersion of emissions from the proposed Project (Lakes Environmental Software 2017). The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

Since the incremental emissions from diesel particulate matter (DPM) will decrease over time, they were not modeled in this HRA. HAPs emitted from composting were estimated as a fraction of VOCs from the composting using a greenwaste compost speciation profile from SJVAPCD (SJVAPCD 2016). In addition ammonia emissions from composting were also evaluated in this HRA. HAPs emitted from material handling of compost were estimated as a fraction of $PM_{10}$ emissions from material handling operations using a greenwaste compost dust speciation profile from SJVAPCD (SJVAPCD 2016b).

Discrete receptors were placed on houses, businesses and potential agricultural workers within close proximity of the Project site. A total of 59 discrete off-site receptors were analyzed. Per SJVAPCD policy, elevated terrain options were employed even though there is not complex terrain in the Project area. **Figure 4-1** shows the location of modeled receptors and sources.

## Figure 4-1 – Modeled Receptors and Sources



SJVAPCD-provided, AERMET UStar processed meteorological datasets for the Bakersfield monitoring station, calendar years 2010 through 2014 was input to AERMOD (SJVAPCD 2018b). This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

Plot files generated by AERMOD were imported to HARP CONVERSION software (Villalvazo 2015). HARP CONVERSION was used to adjust the AERMOD-predicted air concentrations calculated with unit emission rates to pollutant-specific emission rates and to generate source, X/Q and emission import files for HARP.

The files generated in HARP CONVERSION were then uploaded into the HARP to HARP 2 Converter (Villalvazo 2015), then to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP 2) (CARB 2015). ADMRT post-processing was used to assess the potential for excess cancer risk and chronic non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA).

HARP post-processing was used to assess the potential for excess chronic non-cancer effects and cancer risk using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). HARP2 site parameters were set for the mandatory minimum pathways. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted at each receptor. A hazard index was computed for chronic and acute non-cancer health effects for each applicable endpoint and each receptor. SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of twenty in one million ($20 \times 10^{-6}$) and 1.0, respectively for the proposed Project. The PMIs, are identified by receptor location and risk, and are provided in **Table 4-6**. The electronic AERMOD and HARP2 output files are provided in **Attachment E**.

**Table 4-6 – Potential Maximum Impacts Predicted By HARP**

| | Value | UTM East Coordinate | UTM North Coordinate |
|---|---|---|---|
| Excess Cancer Risk | 1.20E-06 | 295219.37 | 3889684.04 |
| Chronic Hazard Index | 1.80E-01 | 295219.37 | 3889684.04 |
| Acute Hazard Index | 3.93E-01 | 295212.00 | 3889409.53 |
| UTM = Universal Transverse Mercator | | | |

As shown above in **Table 4-6**, the maximum predicted cancer risk for the proposed Project is 1.20 in a million. The maximum chronic non-cancer hazard index for the proposed Project is 0.180. The maximum acute non-cancer hazard index for the proposed Project is 0.393. Since the PMI remained below the significance threshold for cancer, chronic, and acute risk, this Project would not have an adverse effect to any of the surrounding communities.

*The potential health risk attributable to the proposed Project is determined to be less than significant* based on the following conclusions:

1) Potential carcinogenic risk from the proposed Project is *below* the significance level of twenty in a million at each of the modeled receptors; and
2) The hazard index for the potential chronic non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.
3) The hazard index for the potential acute non-cancer risk from the proposed Project is *below* the significance level of 1.0 at each of the modeled receptors.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be *less than significant*.

## 4.7. ODOR IMPACTS AND MITIGATION

The SJVAPCD's GAMAQI states "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources." (SJVAPCD 2015).

GAMAQI also states "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors." (SJVAPCD, 2015). Because operation of the Project is a state of the art covered and aerated static pile composting facility which utilizes a biofilter, it has not and is not expected to cause a public nuisance due to odor. The anticipated Project site is not listed in Table 6 of the GAMAQI as a source which would create objectionable odors, therefore the Project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI, the proposed Project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD, 2015). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the project site when it is in operation. Additionally, the Project emission estimates indicate that the proposed Project would not be expected to adversely impact surrounding receptors. As such, the proposed Project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source.

When the Project site was originally developed, the regulations of the California Integrated Waste Management Board, Title 14, CCR Section 17863.4 required all compostable material handling operations and facilities to prepare and maintain a site-specific Odor Impact Minimization Plan (OIMP) to minimize the potential for nuisance-level off-site odors. Synagro's SKIC facility developed an OIMP and maintains the plan with oversight by the Kern County Environmental Health Services Department.

In order to continue compliance with the OIMP, the plan will be updated to reflect the changes planned by the current project and will make adjustments to the Odor Monitoring Protocol, Operating Procedures to Minimize Odor and Contingency Plans as necessary. These changes to the OIMP will further ensure that the Project will not impact nearby receptors.

## 4.8. IMPACTS TO AMBIENT AIR QUALITY

An ambient air quality analysis, when required, determines if the proposed Project has the potential to cause a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. As demonstrated in *Section 4.2.2 Long Term Operational Emissions*, the Project's potential increase to any criteria pollutants is negligible and would not be anticipated to cause an exceedance of any ambient air quality thresholds; therefore, an ambient air quality analysis was not required. Therefore, the Project's contribution to potential violations of ambient air quality standards would be l*ess-than-significant*.

## 4.9. IMPACTS TO GREENHOUSE GASES AND CLIMATE CHANGE

The proposed Project's operational GHG emissions were estimated using the CalEEMod program (version 2016.3.2) for on-site mobile equipment, EMFAC2017 for on-road vehicles, Emission Estimation Methodology for Off-Highway Recreational Vehicles (CARB 2013) for on-site ATVs, California Climate Action Registry General Reporting Protocol Version 3.1 for electricity and water usage emissions and WARM (version 14) for composting emissions. Composting has GHG benefits including decreased soil erosion and decreased fertilizer usage which are taken into account by the WARM model when calculating GHG emissions. These emissions are summarized in Table 4-7.

**Table 4-7 – Estimated Annual GHG Emissions (MT/Year)**

| Source | $CO_2e$ |
|---|---|
| Mobile Incremental Emissions | -640.34 |
| Stationary Source Emissions | -74279.34 |
| Energy Emissions | 1,204 |
| Water Usage Emissions | 5.73 |
| **Project Emissions** | **-73,709.84** |

The Project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride ($SF_6$), the other gases identified as GHG in AB32. The proposed Project will be subject to any regulations developed under AB32 as determined by CARB. In order for the Project to be considered less than significant, it would need to conform to the goals of AB32. The proposed Project will have an overall net decrease in incremental GHG emissions due to the benefits of composting including decreased soil erosion and decreased fertilizer usage. Therefore, the GHG incremental emissions associated with this Project would have a *less than significant* individual and cumulative impact on global climate change.

### 4.9.1. Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented, which would affect the product delivery trucks and limits on idling.

While it is not possible to determine whether a Project individually would have a significant impact on global warming or climate change, a Project would potentially contribute to cumulative GHG emissions in California as well as to related health effects. A Project's emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the Project's contribution would be cumulatively considerable, within the meaning of CEQA Guidelines

Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems, the lower the thresholds for treating a project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32, which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the Project's $CO_2$ contribution may be considered cumulatively considerable. This determination is "speculative," given the lack of clear scientific evidence or other criteria for determining the significance of the Project's contribution of GHG to the air quality in the SJVAB.

The strategies currently being implemented by CARB may help in reducing the Project's GHG emissions and are summarized in the table below.

**Table 4-8 – Select CARB GHG Emission Reduction Strategies**

| Strategy | Description of Strategy |
|---|---|
| Vehicle Climate Change Standards | AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004. |
| Diesel Anti-Idling | In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling. These requirements are specified in Title 13, California Code of Regulations §2449(d)(2). |
| Other Light-Duty Vehicle Technology | New standards would be adopted to phase in beginning in the 2017 model year. |
| Alternative Fuels: Biodiesel Blends | CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel. |
| Alternative Fuels: Ethanol | Increased use of ethanol fuel. |
| Heavy-Duty Vehicle Emission Reduction Measures | Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector. |

Not all of these measures are currently appropriate or applicable to the proposed Project. While future legislation could further reduce the Project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the Project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The proposed Project will have an overall net decrease in incremental GHG emissions due to the benefits of composting including decreased soil erosion and decreased fertilizer usage. Therefore, the GHG incremental emissions associated with this Project would have a *less than significant* individual and cumulative impact on global climate change.

By its very nature, air pollution has a cumulative impact. The District's nonattainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CEQA Guidelines §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3), a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to, an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. (SJVAPCD 2015a)

GAMAQI also states "*If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant.*" (SJVAPCD 2015a). Based on the analysis conducted for this Project, it is individually *less than significant*. This AQIA, however, also considered impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative $O_3$ Impacts (ROG and $NO_x$) from numerous sources within the region including transport from outside the region. $O_3$ is formed through chemical reactions of ROG and $NO_x$ in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative $PM_{10}$ Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of $PM_{10}$ if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors from within the SJVAPCD recommended screening radius of one mile.

## 5.1. CUMULATIVE REGIONAL AIR QUALITY IMPACTS

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2015 annual inventory. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour $O_3$ Standards (SJVAPCD 2007). **Table 5-1** provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.

**Table 5-1 – Comparative Analysis Based on SJV Air Basin 2015 Inventory**

| Emissions Inventory Source | Pollutant (tons/year) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | $NO_x$ | CO | $SO_x$ | $PM_{10}$ | $PM_{2.5}$ |
| Kern County - 2015[1] | 22,484 | 20,842 | 33,872 | 511 | 13,688 | 3,833 |
| SJVAB - 2015[1] | 112,931 | 96,105 | 199,509 | 2,738 | 95,667 | 21,681 |
| Proposed Project Incremental | **-2.43** | **-24.02** | **-7.78** | **0.00** | **-1.45** | **-1.37** |
| Proposed Project's % of Kern [2] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proposed Project's % of SJVAB [2] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**NOTES:**
[1] This is the latest inventory available as of June 2018, excluding Natural Sources.
[2] 0.00 represents less than 0 percent since the Project's incremental emissions are less than 0.
SOURCE: CARB 2018b

As shown in Table 5-1 the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Tables 5-2 through 5-4 provide CARB Emissions Inventory projections for the year 2020 for both the SJVAB and the Kern County. Looking at the SJVAB Emissions predicted by the CARB year 2020 emissions inventory, the Kern County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Kern County and the entire SJVAB.

**Table 5-2 – Emission Inventory SJVAB 2020 Projection – Tons per Year**

| | ROG | $NO_X$ | $PM_{10}$ |
|---|---|---|---|
| Total Emissions | 108,113 | 74,205 | 162,425 |
| Percent Stationary Sources | 30.83% | 14.07% | 6.22% |
| Percent Area-Wide Sources | 51.59% | 3.89% | 11.96% |
| Percent Mobile Sources | 17.57% | 82.05% | 81.82% |
| Total Stationary Source Emissions | 33,335 | 10,439 | 10,111 |
| Total Area-Wide Source Emissions | 55,779 | 2,884 | 19,418 |
| Total Mobile Source Emissions | 18,991 | 60,882 | 132,897 |

Source: CARB 2018b
Note: Total may not add due to rounding.

**Table 5-3 - Emission Inventory Kern County 2020 Estimate**
**Projection – Tons per Year**

| | ROG | $NO_X$ | $PM_{10}$ |
|---|---|---|---|
| Total Emissions | 21,535 | 15,878 | 27,339 |
| Percent Stationary Sources | 52.03% | 18.39% | 14.82% |
| Percent Area-Wide Sources | 33.73% | 2.76% | 6.94% |
| Percent Mobile Sources | 14.24% | 78.62% | 78.24% |
| Total Stationary Source Emissions | 11,206 | 2,920 | 4,052 |
| Total Area-Wide Source Emissions | 7,264 | 438 | 1898 |
| Total Mobile Source Emissions | 3,066 | 12,483 | 21,389 |

Source: CARB 2018b
Note: Total may not add due to rounding.

**Table 5-4 - 2020 Emissions Projections – Proposed Project, Kern County, and San Joaquin Valley Air Basin**

| | ROG | $NO_X$ | $PM_{10}$ |
|---|---|---|---|
| **Proposed Project** | **-2.43** | **-24.02** | **-1.45** |
| Kern County | 21,535 | 15,878 | 13,651 |
| SJVAB | 108,113 | 74,205 | 96,652 |
| Proposed Project Percent of Kinga County | 0.00% | 0.00% | 0.00% |
| Proposed Project Percent of SJVAB | 0.00% | 0.00% | 0.00% |
| Kern County Percent of SJVAB | 19.92% | 21.40% | 14.12% |

Source: CARB 2018b
Notes: The emission estimates for Kern County and the SJVAB are based on 2020 projections. The Proposed Project emission estimates are for the proposed emissions that are not already included in the SJVAB Emissions Inventory. Project emissions are based on 2019 emissions estimates to present the most conservative comparison. The Project's emissions are expected to decline as cleaner, less polluting vehicles replace vehicles with higher emissions.

As shown above, the proposed Project would pose no impact on regional $O_3$ and $PM_{10}$ formation. Because the regional contribution to these cumulative impacts would be negligible, the Project would not be considered cumulatively considerable in its contribution to regional $O_3$ and $PM_{10}$ impacts.

## 5.2. CUMULATIVE LOCAL AIR QUALITY IMPACTS

KCPD provided a list of other projects within a one-mile and six-mile radius of the proposed Project. **Attachment E** contains a list of the 123 other projects located within six miles of the Proposed Project. *The number or size of cumulative projects is of no particular significance since no "cumulative" emissions thresholds have been established by the SJVAPCD or the Kern County Community Development Agency*. Because the proposed Project would have a decrease in incremental emissions, the Project-related operational impacts from criteria air pollutants are less than significant, additionally, the Project's contribution to cumulative air quality impacts would not be cumulatively considerable.

## 5.3. CUMULATIVE HAZARDOUS AIR POLLUTANTS

The GAMAQI states that when evaluating potential impacts related to HAPs, "*impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards.*" Because the Project would not be a significant sources of HAPS, the proposed Project would also *not be expected to pose a significant cumulative CO or HAPs impact*.

## 5.4. CUMULATIVE CARBON MONOXIDE (CO) - MOBILE SOURCES

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

According to the Project applicant, a traffic generation assessment impact study has been prepared for this project and determined that no adverse increase in vehicular traffic is anticipated when compared to existing traffic levels and the Project will not reduce any street or intersection to a LOS E or F and will not worsen any already existing LOS F of any street or intersection after mitigation (Ruettgers & Schuler 2019). Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed.

# 6. CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Kern County are controlled through policies and provisions of the SJVAPCD and the Kern County General Plan (KCCDA 2010). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for $O_3$ and $PM_{10}$. The SJVAPCD is required to submit a "Rate of Progress" document to the CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a 5 percent reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

## 6.1. REQUIRED EVALUATION GUIDELINES

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between the proposed project and the applicable AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed*. The SJVAPCD has implemented the current, modified, AQAP as approved by the CARB. The current AQAP is under review by the U.S. EPA.
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP*. The proposed project is included within the growth projected in the Kern County General Plan.
3. *The project must contain in its design all reasonably available and feasible air quality control measures*. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed project was anticipated by the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. The findings of the analysis show that the Project's no employment increases are planned for the project area; and
2. That, by definition, the proposed emissions from the project are below the SJVAPCD's established emissions impact thresholds

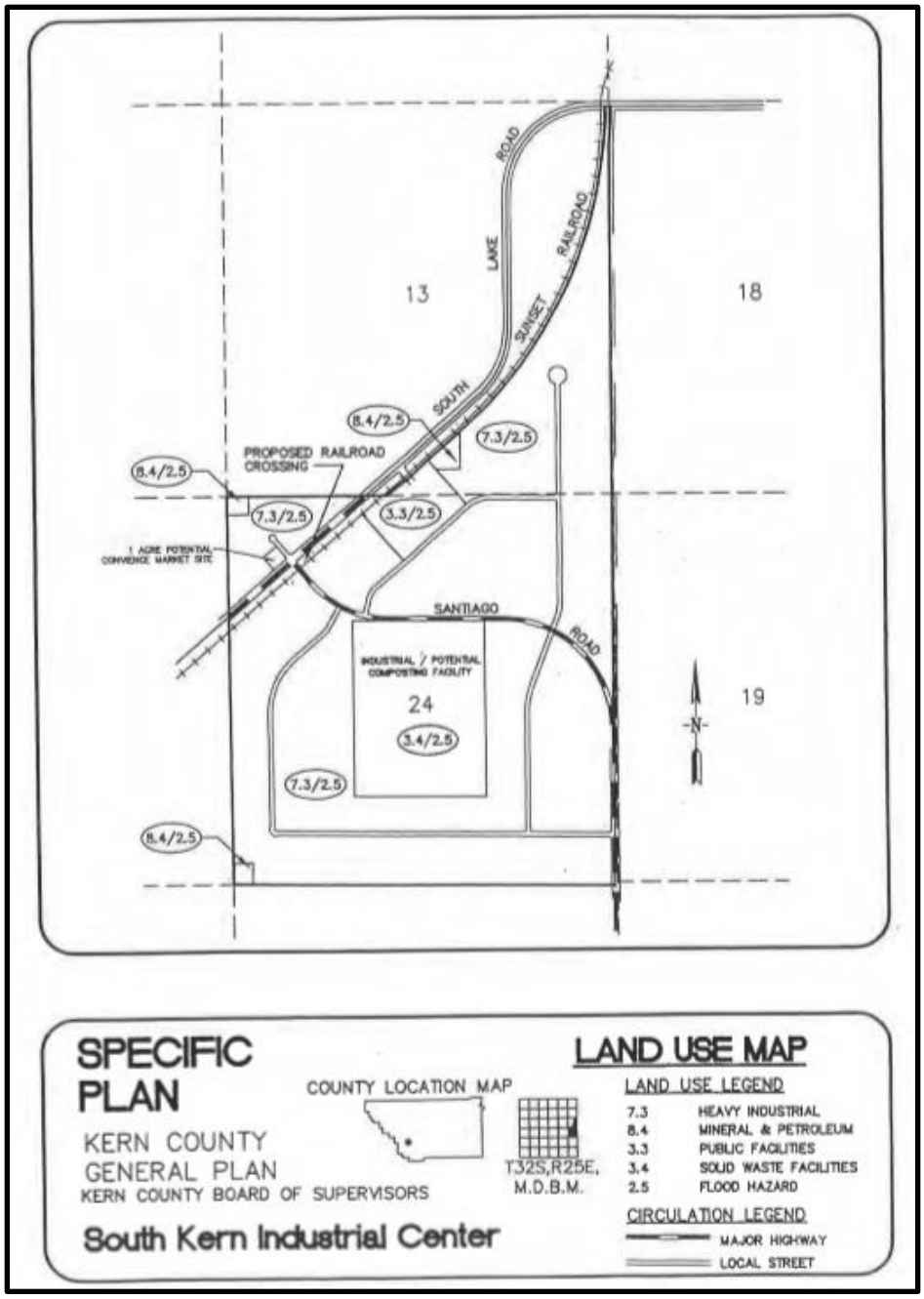
Based on these factors, the project appears to be *consistent with the AQAP*.

## 6.2. CONSISTENCY WITH THE KERN COUNTY ASSOCIATION OF GOVERNMENT'S AIR QUALITY CONFORMITY ANALYSIS

The Kern Council of Governments (Kern COG) Regional Conformity Analysis (Kern COG 2002) Determination demonstrates that the regional transportation expenditure plans (Destination 2030 Regional Transportation Plan and Federal Transportation Improvement Program) in the Kern County portion of the San Joaquin Valley air quality attainment areas would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, $O_3$ and $PM_{10}$). The analysis uses an adopted regional growth forecast, governed by both the adopted Kern COG Policy and Procedure Manual and a Memorandum of Understanding between the County of Kern and Kern COG (representing itself and outlying municipal member agencies).

The Kern COG Regional Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kern County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Regional Conformity Analysis were not incorporated into the Kern COG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Under the current South Kern Industrial Center Specific Plan, the project site is designated as "3.4 Solid Waste Facility" (see **Figure 6-1**).

**Figure 6-1 – SKIC Specific Plan Zoning**




Under current policies, only after a General Plan Amendment (GPA) is approved, can housing and employment assumptions be updated to reflect the capacity changes. Since the proposed development does not require a GPA and zone change, the existing growth forecast will not be modified to reflect these changes. In order to determine whether the forecasted growth for the project area is sufficient to account for the projected increases in employment, an analysis based on Kern COG regional forecast was conducted. Since no employment increase is proposed the forecast for the analysis area will be sufficient for the proposed Project.

As the estimated construction and operational emissions from the proposed Project would be *less than significant*, no specific mitigation measures would be required. However, to ensure that Project is in compliance with all applicable SJVAPCD rules and regulations and emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval:

## 7.1. SJVAPCD REQUIRED $PM_{10}$ REDUCTION MEASURES

As the project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20 percent opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20 percent opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, by using chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20 percent opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

## 7.2. OTHER MEASURES TO REDUCE PROJECT IMPACTS

The following measures are recommended to further reduce the potential for long-term emissions from the Project (if applicable). These measures are required as a matter of regulatory compliance:

- The project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy, if applicable.
- Applicants shall be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII, and Indirect Source Rules for the SJVAPCD, if applicable.

# 8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would result in short-term air quality impacts due to construction activities as well as vehicular emissions, but these emissions do not exceed applicable thresholds of significance. Accordingly, these impacts *were found to be less than significant*.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions, but these emissions do not exceed applicable thresholds of significance. Accordingly, these impacts *were found to be less than significant*.

The proposed Project in conjunction with other past, present and foreseeable future Projects will result in cumulative short-term and long-term impacts to air quality. The proposed Project's incremental contribution to these impacts would decrease emissions and are therefore below thresholds of significance and would not be considered cumulatively considerable. Therefore, the Project's contribution to cumulative impacts *were found to be less than significant*.

The proposed Project in conjunction with other past, present and foreseeable future projects would result in cumulative long-term impacts to global climate change. The proposed Project's incremental contribution to these impacts would decrease emissions and are therefore below thresholds of significance and are considered *less than significant.*

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# ATTACHMENT A: EXISTING AIR QUALITY MONITORING DATA

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## Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

**at Bakersfield-5558 California Avenue**

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| National: | | | | | | |
| First High: | Sep 9 | 54.5 | Oct 21 | 58.1 | Dec 15 | 66.0 |
| Second High: | Nov 21 | 52.7 | Oct 22 | 55.1 | Dec 14 | 63.1 |
| Third High: | Oct 12 | 52.5 | Sep 27 | 54.8 | Nov 22 | 61.5 |
| Fourth High: | Jan 8 | 52.2 | Nov 14 | 54.6 | Dec 29 | 61.1 |
| California: | | | | | | |
| First High: | Sep 9 | 54 | Oct 21 | 58 | Dec 15 | 66 |
| Second High: | Jan 8 | 52 | Oct 22 | 55 | Dec 14 | 63 |
| Third High: | Oct 12 | 52 | Sep 27 | 54 | Nov 22 | 61 |
| Fourth High: | Nov 21 | 52 | Nov 14 | 54 | Dec 12 | 61 |
| National: | | | | | | |
| 1-Hour Standard Design Value: | * | | * | | 52 | |
| 1-Hour Standard 98th Percentile: | 49.5 | | 49.8 | | 58.1 | |
| # Days Above the Standard: | 0 | | 0 | | 0 | |
| Annual Standard Design Value: | 11 | | 12 | | 13 | |
| California: | | | | | | |
| 1-Hour Std Designation Value: | 60 | | 60 | | 60 | |
| Expected Peak Day Concentration: | 57 | | 57 | | 63 | |
| # Days Above the Standard: | 0 | | 0 | | 0 | |
| Annual Std Designation Value: | 11 | | 12 | | 12 | |
| Annual Average: | 11 | | 12 | | 12 | |
| Year Coverage: | 97 | | 93 | | 97 | |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

**at Bakersfield-Municipal Airport**

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| National: | | | | | | |
| First High: | Oct 13 | 55.0 | Nov 14 | 58.1 | Oct 16 | 62.5 |
| Second High: | Oct 9 | 53.0 | Sep 8 | 56.1 | Dec 11 | 60.4 |
| Third High: | Jan 8 | 51.0 | Oct 22 | 50.2 | Dec 15 | 59.3 |
| Fourth High: | Jan 5 | 46.0 | Nov 7 | 49.4 | Dec 12 | 56.4 |
| California: | | | | | | |
| First High: | Oct 13 | 55 | Nov 14 | 58 | Oct 16 | 62 |
| Second High: | Oct 9 | 53 | Sep 8 | 56 | Dec 11 | 60 |
| Third High: | Jan 8 | 51 | Oct 22 | 50 | Dec 15 | 59 |
| Fourth High: | Jan 5 | 46 | Nov 7 | 49 | Dec 12 | 56 |
| National: | | | | | | |
| 1-Hour Standard Design Value: | 52 | | 48 | | 48 | |
| 1-Hour Standard 98th Percentile: | 45.0 | | 45.2 | | 52.9 | |
| # Days Above the Standard: | 0 | | 0 | | 0 | |
| Annual Standard Design Value: | 12 | | 11 | | 13 | |
| California: | | | | | | |
| 1-Hour Std Designation Value: | 70 | | 60 | | 60 | |
| Expected Peak Day Concentration: | 66 | | 62 | | 59 | |
| # Days Above the Standard: | 0 | | 0 | | 0 | |
| Annual Std Designation Value: | 14 | | 13 | | 12 | |
| Annual Average: | 12 | | 11 | | 12 | |
| Year Coverage: | 89 | | 99 | | 95 | |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

**at Bakersfield-5558 California Avenue**

iADAM

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| First High: | Sep 25 | 0.104 | Jun 5 | 0.092 | Sep 2 | 0.122 |
| Second High: | Oct 9 | 0.099 | Jul 26 | 0.091 | Sep 1 | 0.104 |
| Third High: | Jul 29 | 0.097 | Oct 22 | 0.091 | Aug 29 | 0.101 |
| Fourth High: | Sep 9 | 0.097 | Jul 2 | 0.090 | Jun 23 | 0.099 |
| California: | | | | | | |
| # Days Above the Standard: | 6 | | 0 | | 11 | |
| California Designation Value: | 0.10 | | 0.10 | | 0.10 | |
| Expected Peak Day Concentration: | 0.098 | | 0.097 | | 0.100 | |
| National: | | | | | | |
| *# Days Above the Standard:* | *0* | | *0* | | *0* | |
| *3-Year Estimated Expected Number of Exceedance Days:* | *0.0* | | *0.0* | | *0.0* | |
| *1-Year Estimated Expected Number of Exceedance Days:* | *0.0* | | *0.0* | | *0.0* | |
| *Nat'l Standard Design Value:* | *0.099* | | *0.098* | | *0.101* | |
| Year Coverage: | 99 | | 98 | | 99 | |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly ozone measurements and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. *orange* exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

**at Maricopa-Stanislaus Street**

iADAM

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | Measurement | Date | Measurement | Date | Measurement |
| First High: | Sep 9 | 0.094 | Jul 28 | 0.092 | Sep 2 | 0.117 |
| Second High: | Sep 25 | 0.092 | Jul 15 | 0.088 | Oct 17 | 0.093 |
| Third High: | Sep 10 | 0.090 | Jul 24 | 0.088 | Oct 18 | 0.089 |
| Fourth High: | Sep 20 | 0.088 | Jul 1 | 0.087 | May 23 | 0.086 |
| California: | | | | | | |
| # Days Above the Standard: | 0 | | 0 | | 1 | |
| California Designation Value: | 0.09 | | 0.09 | | 0.09 | |
| Expected Peak Day Concentration: | 0.091 | | 0.089 | | 0.091 | |
| National: | | | | | | |
| *# Days Above the Standard:* | *0* | | *0* | | *0* | |
| *3-Year Estimated Expected Number of Exceedance Days:* | *0.0* | | *0.0* | | *0.0* | |
| *1-Year Estimated Expected Number of Exceedance Days:* | *0.0* | | *0.0* | | *0.0* | |
| *Nat'l Standard Design Value:* | *0.090* | | *0.090* | | *0.092* | |
| Year Coverage: | 95 | | 97 | | 96 | |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Hourly ozone measurements and related statistics are available at Maricopa-Stanislaus Street between 1987 and 2017. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related to the national 1-hour ozone standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. *orange* exceeds the revoked 1-hour national ambient air quality standard.

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Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

**at Bakersfield-5558 California Avenue**

iADAM

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | 8-Hr Average | Date | 8-Hr Average | Date | 8-Hr Average |
| National 2015 Std (0.070 ppm): | | | | | | |
| First High: | Sep 25 | 0.096 | Jul 15 | 0.085 | Sep 2 | 0.104 |
| Second High: | Oct 9 | 0.090 | Aug 13 | 0.084 | Sep 1 | 0.094 |
| Third High: | Sep 20 | 0.089 | Sep 7 | 0.083 | Aug 29 | 0.092 |
| Fourth High: | Jun 25 | 0.088 | Jul 1 | 0.082 | Aug 28 | 0.089 |
| California Std (0.070 ppm): | | | | | | |
| First High: | Sep 25 | 0.097 | Jul 15 | 0.086 | Sep 2 | 0.104 |
| Second High: | Oct 9 | 0.091 | Aug 13 | 0.084 | Sep 1 | 0.095 |
| Third High: | Jun 25 | 0.089 | Aug 29 | 0.083 | Aug 29 | 0.092 |
| Fourth High: | Jun 30 | 0.089 | Sep 7 | 0.083 | Aug 28 | 0.089 |
| National 2015 Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | 52 | | 60 | | 85 | |
| Nat'l Standard Design Value: | 0.085 | | 0.084 | | 0.086 | |
| National Year Coverage: | 100 | | 99 | | 100 | |
| California Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | 54 | | 63 | | 87 | |
| California Designation Value: | 0.097 | | 0.093 | | 0.095 | |
| Expected Peak Day Concentration: | 0.097 | | 0.094 | | 0.095 | |
| California Year Coverage: | 99 | | 98 | | 99 | |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All averages expressed in parts per million.

orange exceeds a national ambient air quality standard.

yellow exceeds a California ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State and national statistics may differ for the following reasons:

National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

State criteria for ensuring that data are sufficiently complete for calculating 8-hour averages are more stringent than the national criteria.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

**at Maricopa-Stanislaus Street**

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | 8-Hr Average | Date | 8-Hr Average | Date | 8-Hr Average |
| National 2015 Std (0.070 ppm): | | | | | | |
| First High: | Sep 9 | 0.087 | Jul 28 | 0.087 | Sep 2 | 0.093 |
| Second High: | Sep 20 | 0.086 | Jul 15 | 0.085 | Oct 17 | 0.084 |
| Third High: | Sep 25 | 0.086 | Jul 1 | 0.083 | May 23 | 0.083 |
| Fourth High: | Jun 13 | 0.083 | Jul 24 | 0.083 | Sep 1 | 0.083 |
| California Std (0.070 ppm): | | | | | | |
| First High: | Sep 9 | 0.088 | Jul 28 | 0.087 | Sep 2 | 0.094 |
| Second High: | Sep 20 | 0.087 | Jul 15 | 0.085 | Sep 1 | 0.084 |
| Third High: | Sep 25 | 0.086 | Jul 1 | 0.083 | Oct 17 | 0.084 |
| Fourth High: | Jun 13 | 0.083 | Jul 24 | 0.083 | May 23 | 0.083 |
| National 2015 Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | | 32 | | 50 | | 38 |
| Nat'l Standard Design Value: | | 0.079 | | 0.081 | | 0.083 |
| National Year Coverage: | | 96 | | 98 | | 96 |
| California Std (0.070 ppm): | | | | | | |
| # Days Above the Standard: | | 32 | | 55 | | 42 |
| California Designation Value: | | 0.088 | | 0.087 | | 0.088 |
| Expected Peak Day Concentration: | | 0.088 | | 0.087 | | 0.089 |
| California Year Coverage: | | 93 | | 97 | | 96 |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Maricopa-Stanislaus Street between 1987 and 2017. Some years in this range may not be represented.

All averages expressed in parts per million.

orange exceeds a national ambient air quality standard.

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National 8-hour averages are truncated to three decimal places; State 8-hour averages are rounded to three decimal places.

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Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those 8-hour averages from days that have sufficient data for the day to be considered valid.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

**at Bakersfield-5558 California Avenue**

iADAM

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Jan 10 | 107.8 | Dec 21 | 66.4 | Dec 28 | 101.8 |
| Second High: | Jan 9 | 88.9 | Dec 22 | 63.6 | Dec 31 | 88.1 |
| Third High: | Jan 8 | 87.0 | Nov 9 | 55.7 | Dec 30 | 82.9 |
| Fourth High: | Jan 7 | 84.7 | Jan 1 | 54.6 | Dec 10 | 76.5 |
| California: | | | | | | |
| First High: | Jan 10 | 111.9 | Dec 21 | 66.4 | Dec 28 | 101.8 |
| Second High: | Jan 9 | 92.0 | Dec 22 | 63.6 | Dec 31 | 88.1 |
| Third High: | Jan 8 | 87.7 | Nov 9 | 57.4 | Dec 30 | 82.9 |
| Fourth High: | Jan 7 | 84.7 | Jan 1 | 54.6 | Dec 10 | 76.5 |
| National: | | | | | | |
| Estimated # Days > 24-Hour Std: | | 32.3 | | 25.5 | | 30.2 |
| Measured # Days > 24-Hour Std: | | 29 | | 23 | | 28 |
| 24-Hour Standard Design Value: | | 70 | | 61 | | 59 |
| 24-Hour Standard 98th Percentile: | | 57.2 | | 47.0 | | 71.8 |
| 2006 Annual Std Design Value: | | 18.3 | | 16.5 | | 15.7 |
| 2013 Annual Std Design Value: | | 18.3 | | 16.5 | | 15.7 |
| Annual Average: | | 16.2 | | 14.7 | | 15.9 |
| California: | | | | | | |
| Annual Std Designation Value: | | 19 | | 19 | | 16 |
| Annual Average: | | 16.6 | | 16.0 | | 15.9 |
| Year Coverage: | | 91 | | 90 | | 94 |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Daily PM2.5 averages and related statistics are available at Bakersfield-5558 California Avenue between 1999 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

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State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

**at Bakersfield-Golden State Highway**

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Jan 9 | 91.1 | Dec 20 | 53.9 | Dec 15 | 74.3 |
| Second High: | Jan 6 | 70.0 | Dec 29 | 52.7 | Dec 30 | 74.1 |
| Third High: | Jan 18 | 51.5 | Jan 1 | 51.4 | Dec 12 | 71.3 |
| Fourth High: | Feb 20 | 50.3 | Feb 6 | 48.8 | Dec 24 | 68.6 |
| California: | | | | | | |
| First High: | Jan 9 | 91.1 | Dec 20 | 53.9 | Dec 15 | 74.3 |
| Second High: | Jan 6 | 70.0 | Dec 29 | 52.7 | Dec 30 | 74.1 |
| Third High: | Jan 18 | 51.5 | Jan 1 | 51.4 | Dec 12 | 71.3 |
| Fourth High: | Feb 20 | 50.3 | Feb 6 | 48.8 | Dec 24 | 68.6 |

| | | | |
|---|---|---|---|
| National: | | | |
| Estimated # Days > 24-Hour Std: | 30.8 | 21.8 | 29.7 |
| Measured # Days > 24-Hour Std: | 9 | 7 | 9 |
| 24-Hour Standard Design Value: | * | 70 | 58 |
| 24-Hour Standard 98th Percentile: | 51.5 | 51.4 | 71.3 |
| 2006 Annual Std Design Value: | * | * | 15.9 |
| 2013 Annual Std Design Value: | * | 16.5 | 15.9 |
| Annual Average: | 16.6 | 14.8 | 16.1 |
| California: | | | |
| Annual Std Designation Value: | 17 | 17 | 17 |
| Annual Average: | 16.7 | 14.8 | 16.2 |
| Year Coverage: | 92 | 96 | 88 |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Daily PM2.5 averages and related statistics are available at Bakersfield-Golden State Highway between 1999 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

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* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

**at Bakersfield-5558 California Avenue**

iADAM

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Sep 9 | 104.7 | Feb 12 | 90.9 | Dec 15 | 138.0 |
| Second High: | Jan 6 | 97.7 | Sep 9 | 79.9 | Dec 9 | 106.7 |
| Third High: | Oct 9 | 82.3 | Nov 8 | 79.5 | Dec 27 | 94.9 |
| Fourth High: | Nov 14 | 78.1 | Oct 22 | 71.4 | Oct 17 | 90.9 |
| California: | | | | | | |
| First High: | Jan 6 | 103.6 | Feb 12 | 92.2 | Dec 15 | 143.6 |
| Second High: | Sep 9 | 99.6 | Nov 8 | 80.6 | Dec 9 | 112.1 |
| Third High: | Oct 9 | 80.1 | Sep 9 | 78.1 | Dec 27 | 99.5 |
| Fourth High: | Nov 14 | 79.1 | Dec 20 | 72.2 | Oct 17 | 90.9 |

| | | | |
|---|---|---|---|
| National: | | | |
| Estimated # Days > 24-Hour Std: | 0.0 | 0.0 | 0.0 |
| Measured # Days > 24-Hour Std: | 0 | 0 | 0 |
| 3-Yr Avg Est # Days > 24-Hr Std: | * | * | 0.0 |
| *Annual Average:* | *44.5* | *41.2* | *42.6* |
| *3-Year Average:* | *50* | *46* | *43* |
| California: | | | |
| Estimated # Days > 24-Hour Std: | 121.4 | 121.4 | 98.7 |
| Measured # Days > 24-Hour Std: | 20 | 21 | 16 |
| Annual Average: | 44.1 | 40.9 | 42.6 |
| 3-Year Maximum Annual Average: | 44 | 44 | 44 |
| Year Coverage: | 99 | 97 | 98 |

◄ Shift Backward 1 year Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

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All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

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- State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

## Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

**at Bakersfield-Golden State Highway**

iADAM

| | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|
| | Date | 24-Hr Average | Date | 24-Hr Average | Date | 24-Hr Average |
| National: | | | | | | |
| First High: | Sep 9 | 100.5 | Oct 21 | 91.6 | Dec 15 | 158.2 |
| Second High: | Nov 14 | 81.6 | Nov 8 | 88.2 | Dec 9 | 109.6 |
| Third High: | Oct 9 | 80.8 | Sep 9 | 87.9 | Dec 27 | 101.4 |
| Fourth High: | Aug 16 | 76.7 | Sep 21 | 86.8 | Oct 16 | 98.3 |
| California: | | | | | | |
| First High: | Sep 9 | 94.6 | Oct 21 | 91.6 | Dec 15 | 165.1 |
| Second High: | Nov 14 | 83.1 | Nov 8 | 89.2 | Dec 9 | 115.4 |
| Third High: | Oct 9 | 78.4 | Nov 14 | 87.8 | Dec 27 | 106.5 |
| Fourth High: | Dec 2 | 78.2 | Sep 9 | 85.7 | Oct 16 | 100.3 |

| | | | |
|---|---|---|---|
| National: | | | |
| Estimated # Days > 24-Hour Std: | * | 0.0 | 6.1 |
| Measured # Days > 24-Hour Std: | 0 | 0 | 1 |
| 3-Yr Avg Est # Days > 24-Hr Std: | * | * | * |
| *Annual Average:* | *47.0* | *47.5* | *48.3* |
| *3-Year Average:* | * | * | *48* |
| California: | | | |
| Estimated # Days > 24-Hour Std: | * | 157.9 | 145.5 |
| Measured # Days > 24-Hour Std: | 16 | 26 | 24 |
| Annual Average: | * | 47.3 | 48.4 |
| 3-Year Maximum Annual Average: | * | 47 | 48 |
| Year Coverage: | 73 | 100 | 100 |

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Bakersfield-Golden State Highway between 1994 and 2017. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

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Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

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* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

View a Different Site
View a Different Substance
Order a Data CD

# Annual Toxics Summary

## Bakersfield-5558 California Avenue

## Lead

nanograms per cubic meter

iADAM
FAQs

**Read About New Estimated Risk**

| Year | Months Present | Minimum | Median | Mean | 90th Percentile | Maximum | Standard Deviation | Number of Observations | Detection Limit | Estimated Risk |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 | ---▪-------- | 0.65 | 3.5 | * | 7.5 | 12.6 | 2.60 | 29 | 1.3 | * |
| 2016 | ----------▪ | 0.65 | 4.3 | * | 6.9 | 19.8 | 3.57 | 33 | 1.3 | * |
| 2015 | ---------- | 0.65 | 3.2 | 3.34 | 7.6 | 9.5 | 2.50 | 33 | 1.3 | 0.1 |
| 2014 | ▪▪▪▪▪▪------- | 0.85 | 3.6 | * | 8.8 | 14 | 3.78 | 16 | 1.7 | * |
| 2013 | --▪------▪▪▪ | 0.5 | 2.9 | * | 5.3 | 6.7 | 1.71 | 21 | 1.0 | * |
| 2012 | ---------- | 1.7 | 3.4 | 4.02 | 8.2 | 14 | 2.74 | 32 | 1.5 | 0.1 |
| 2011 | -▪▪▪▪▪------ | 0.75 | 4.0 | * | 9.1 | 11 | 2.90 | 20 | 1.5 | * |
| 2010 | ▪▪▪▪-------- | 0.75 | 2.5 | * | 5.7 | 8.2 | 2.07 | 18 | 1.5 | * |
| 2009 | ---------- | 1.5 | 4.5 | 5.27 | 11.2 | 14 | 3.22 | 29 | 1.5 | 0.2 |
| 2008 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 2007 | ---------▪▪- | 0.75 | 7.1 | * | 11.7 | 13 | 3.23 | 24 | 1.5 | * |
| 2006 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 2005 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 2004 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 2003 | --▪▪▪▪▪▪▪▪▪▪ | 4.0 | * | * | * | 7.0 | 1.64 | 5 | 3.0 | * |
| 2002 | ---------- | 1.5 | 7.0 | 6.78 | 10 | 17 | 3.34 | 36 | 3.0 | 0.2 |
| 2001 | ---------- | 2 | 5.0 | 5.83 | 9.2 | 26 | 4.41 | 39 | 4.0 | 0.2 |
| 2000 | ---------- | 2 | 5.0 | 5.92 | 14.1 | 22 | 4.76 | 40 | 4.0 | 0.2 |
| 1999 | ---------- | 2 | 5.0 | 5.70 | 11.2 | 25 | 4.55 | 39 | 4.0 | 0.2 |
| 1998 | ---------- | 2 | 7.0 | 9.43 | 14 | 78 | 11.8 | 42 | 4.0 | 0.3 |
| 1997 | ---------- | 2 | 7.0 | 7.92 | 14 | 20 | 4.40 | 34 | 4.0 | 0.3 |
| 1996 | ---------- | 2 | 7.0 | 7.69 | 14.5 | 35 | 6.10 | 36 | 4.0 | 0.3 |
| 1995 | ---------- | 2 | 8.0 | 8.68 | 15.1 | 21 | 5.14 | 30 | 4.0 | 0.3 |
| 1994 | ▪▪▪▪-------- | 2 | 10 | * | 16 | 39 | 7.11 | 25 | 4.0 | * |
| 1993 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 1992 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 1991 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 1990 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |
| 1989 | ▪▪▪▪▪▪▪▪▪▪ | * | * | * | * | * | * | 0 | * | * |

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# ATTACHMENT B: PROJECT EMISSION CALCULATIONS

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# Synagro Construction

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2020 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro Construction - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Construction Phase - Actual Construction Days

Off-road Equipment - Estimated Construction Activity

Demolition -

Off-road Equipment - Estimated Construction Activity

Trips and VMT - Estimated Construction work force including 2 trips a day for water trucks

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Construction Off-road Equipment Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblAreaCoating | ReapplicationRatePercent | 10 | 0 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | NumDays | 740.00 | 120.00 |
| tblConstructionPhase | NumDays | 75.00 | 20.00 |
| tblConstructionPhase | PhaseEndDate | 1/13/2023 | 12/13/2019 |
| tblConstructionPhase | PhaseEndDate | 3/13/2020 | 6/28/2019 |
| tblConstructionPhase | PhaseStartDate | 3/14/2020 | 6/29/2019 |
| tblConstructionPhase | PhaseStartDate | 11/30/2019 | 6/1/2019 |
| tblGrading | AcresOfGrading | 62.50 | 187.50 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Cranes | Scrapers |
| tblOffRoadEquipment | OffRoadEquipmentType | Forklifts | Graders |
| tblOffRoadEquipment | OffRoadEquipmentType | Generator Sets | Rollers |
| tblOffRoadEquipment | OffRoadEquipmentType | Tractors/Loaders/Backhoes | Rubber Tired Dozers |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentType | Tractors/Loaders/Backhoes | Rollers |
| tblOffRoadEquipment | OffRoadEquipmentType | Welders | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | UsageHours | 8.00 | 10.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 10.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 10.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 10.00 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 2.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 2.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 19.00 |
| tblTripsAndVMT | WorkerTripNumber | 18.00 | 19.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.3993 | 4.5427 | 2.6254 | 5.1000e-003 | 0.1922 | 0.1959 | 0.3881 | 0.0568 | 0.1802 | 0.2370 | 0.0000 | 458.4632 | 458.4632 | 0.1397 | 0.0000 | 461.9563 |
| **Maximum** | **0.3993** | **4.5427** | **2.6254** | **5.1000e-003** | **0.1922** | **0.1959** | **0.3881** | **0.0568** | **0.1802** | **0.2370** | **0.0000** | **458.4632** | **458.4632** | **0.1397** | **0.0000** | **461.9563** |

### 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 | | | | | |
| 2019 | 0.3993 | 4.5427 | 2.6254 | 5.1000e-003 | 0.0856 | 0.1959 | 0.2815 | 0.0250 | 0.1802 | 0.2052 | 0.0000 | 458.4626 | 458.4626 | 0.1397 | 0.0000 | 461.9558 |
| **Maximum** | **0.3993** | **4.5427** | **2.6254** | **5.1000e-003** | **0.0856** | **0.1959** | **0.2815** | **0.0250** | **0.1802** | **0.2052** | **0.0000** | **458.4626** | **458.4626** | **0.1397** | **0.0000** | **461.9558** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **55.44** | **0.00** | **27.46** | **55.99** | **0.00** | **13.41** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| 1 | 8-12-2019 | 9-30-2019 | 1.2608 | 1.2608 |
| | | Highest | 1.2608 | 1.2608 |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 6/1/2019 | 6/28/2019 | 5 | 20 | |
| 2 | Building Construction | Building Construction | 6/29/2019 | 12/13/2019 | 5 | 120 | |

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

**Acres of Grading (Grading Phase): 187.5**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Excavators | 1 | 10.00 | 158 | 0.38 |
| Building Construction | Scrapers | 2 | 10.00 | 367 | 0.48 |
| Building Construction | Graders | 1 | 10.00 | 187 | 0.41 |
| Building Construction | Rollers | 2 | 10.00 | 80 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 10.00 | 247 | 0.40 |
| Building Construction | Rubber Tired Dozers | 1 | 10.00 | 247 | 0.40 |
| Grading | Graders | 1 | 10.00 | 187 | 0.41 |
| Grading | Rollers | 2 | 10.00 | 80 | 0.38 |
| Grading | Scrapers | 2 | 10.00 | 367 | 0.48 |
| Building Construction | Excavators | 1 | 10.00 | 158 | 0.38 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Building Construction | 9 | 19.00 | 2.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 7 | 19.00 | 2.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Grading - 2019

**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 | | | | | 0.1747 | 0.0000 | 0.1747 | 0.0521 | 0.0000 | 0.0521 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0558 | 0.6456 | 0.3665 | 7.0000e-004 | | 0.0280 | 0.0280 | | 0.0257 | 0.0257 | 0.0000 | 62.7452 | 62.7452 | 0.0199 | 0.0000 | 63.2415 |
| **Total** | **0.0558** | **0.6456** | **0.3665** | **7.0000e-004** | **0.1747** | **0.0280** | **0.2027** | **0.0521** | **0.0257** | **0.0778** | **0.0000** | **62.7452** | **62.7452** | **0.0199** | **0.0000** | **63.2415** |

## 3.2 Grading - 2019

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 9.0000e-005 | 2.5600e-003 | 5.2000e-004 | 1.0000e-005 | 1.2000e-004 | 2.0000e-005 | 1.4000e-004 | 3.0000e-005 | 2.0000e-005 | 5.0000e-005 | 0.0000 | 0.5160 | 0.5160 | 5.0000e-005 | 0.0000 | 0.5172 |
| Worker | 1.1200e-003 | 8.3000e-004 | 8.0000e-003 | 2.0000e-005 | 2.3800e-003 | 2.0000e-005 | 2.4000e-003 | 6.3000e-004 | 2.0000e-005 | 6.5000e-004 | 0.0000 | 2.2336 | 2.2336 | 6.0000e-005 | 0.0000 | 2.2351 |
| **Total** | **1.2100e-003** | **3.3900e-003** | **8.5200e-003** | **3.0000e-005** | **2.5000e-003** | **4.0000e-005** | **2.5400e-003** | **6.6000e-004** | **4.0000e-005** | **7.0000e-004** | **0.0000** | **2.7496** | **2.7496** | **1.1000e-004** | **0.0000** | **2.7523** |

### 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 | | | | | 0.0681 | 0.0000 | 0.0681 | 0.0203 | 0.0000 | 0.0203 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0558 | 0.6456 | 0.3665 | 7.0000e-004 | | 0.0280 | 0.0280 | | 0.0257 | 0.0257 | 0.0000 | 62.7451 | 62.7451 | 0.0199 | 0.0000 | 63.2414 |
| **Total** | **0.0558** | **0.6456** | **0.3665** | **7.0000e-004** | **0.0681** | **0.0280** | **0.0961** | **0.0203** | **0.0257** | **0.0460** | **0.0000** | **62.7451** | **62.7451** | **0.0199** | **0.0000** | **63.2414** |

## 3.2 Grading - 2019

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 9.0000e-005 | 2.5600e-003 | 5.2000e-004 | 1.0000e-005 | 1.2000e-004 | 2.0000e-005 | 1.4000e-004 | 3.0000e-005 | 2.0000e-005 | 5.0000e-005 | 0.0000 | 0.5160 | 0.5160 | 5.0000e-005 | 0.0000 | 0.5172 |
| Worker | 1.1200e-003 | 8.3000e-004 | 8.0000e-003 | 2.0000e-005 | 2.3800e-003 | 2.0000e-005 | 2.4000e-003 | 6.3000e-004 | 2.0000e-005 | 6.5000e-004 | 0.0000 | 2.2336 | 2.2336 | 6.0000e-005 | 0.0000 | 2.2351 |
| **Total** | **1.2100e-003** | **3.3900e-003** | **8.5200e-003** | **3.0000e-005** | **2.5000e-003** | **4.0000e-005** | **2.5400e-003** | **6.6000e-004** | **4.0000e-005** | **7.0000e-004** | **0.0000** | **2.7496** | **2.7496** | **1.1000e-004** | **0.0000** | **2.7523** |

## 3.3 Building Construction - 2019

**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 | 0.3349 | 3.8734 | 2.1992 | 4.1900e-003 | | 0.1677 | 0.1677 | | 0.1543 | 0.1543 | 0.0000 | 376.4711 | 376.4711 | 0.1191 | 0.0000 | 379.4489 |
| **Total** | **0.3349** | **3.8734** | **2.1992** | **4.1900e-003** | | **0.1677** | **0.1677** | | **0.1543** | **0.1543** | **0.0000** | **376.4711** | **376.4711** | **0.1191** | **0.0000** | **379.4489** |

## 3.3 Building Construction - 2019

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 5.5000e-004 | 0.0154 | 3.0900e-003 | 3.0000e-005 | 7.2000e-004 | 1.1000e-004 | 8.3000e-004 | 2.1000e-004 | 1.1000e-004 | 3.1000e-004 | 0.0000 | 3.0960 | 3.0960 | 2.8000e-004 | 0.0000 | 3.1031 |
| Worker | 6.7500e-003 | 5.0100e-003 | 0.0480 | 1.5000e-004 | 0.0143 | 1.0000e-004 | 0.0144 | 3.7900e-003 | 9.0000e-005 | 3.8900e-003 | 0.0000 | 13.4013 | 13.4013 | 3.7000e-004 | 0.0000 | 13.4106 |
| **Total** | **7.3000e-003** | **0.0204** | **0.0511** | **1.8000e-004** | **0.0150** | **2.1000e-004** | **0.0152** | **4.0000e-003** | **2.0000e-004** | **4.2000e-003** | **0.0000** | **16.4973** | **16.4973** | **6.5000e-004** | **0.0000** | **16.5137** |

### 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 | 0.3349 | 3.8734 | 2.1992 | 4.1900e-003 | | 0.1677 | 0.1677 | | 0.1543 | 0.1543 | 0.0000 | 376.4706 | 376.4706 | 0.1191 | 0.0000 | 379.4484 |
| **Total** | **0.3349** | **3.8734** | **2.1992** | **4.1900e-003** | | **0.1677** | **0.1677** | | **0.1543** | **0.1543** | **0.0000** | **376.4706** | **376.4706** | **0.1191** | **0.0000** | **379.4484** |

### 3.3 Building Construction - 2019

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 5.5000e-004 | 0.0154 | 3.0900e-003 | 3.0000e-005 | 7.2000e-004 | 1.1000e-004 | 8.3000e-004 | 2.1000e-004 | 1.1000e-004 | 3.1000e-004 | 0.0000 | 3.0960 | 3.0960 | 2.8000e-004 | 0.0000 | 3.1031 |
| Worker | 6.7500e-003 | 5.0100e-003 | 0.0480 | 1.5000e-004 | 0.0143 | 1.0000e-004 | 0.0144 | 3.7900e-003 | 9.0000e-005 | 3.8900e-003 | 0.0000 | 13.4013 | 13.4013 | 3.7000e-004 | 0.0000 | 13.4106 |
| **Total** | **7.3000e-003** | **0.0204** | **0.0511** | **1.8000e-004** | **0.0150** | **2.1000e-004** | **0.0152** | **4.0000e-003** | **2.0000e-004** | **4.2000e-003** | **0.0000** | **16.4973** | **16.4973** | **6.5000e-004** | **0.0000** | **16.5137** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 14.70 | 6.60 | 6.60 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.472669 | 0.031291 | 0.166276 | 0.125679 | 0.021211 | 0.006775 | 0.020722 | 0.144029 | 0.001634 | 0.001785 | 0.006011 | 0.000972 | 0.000946 |

# 5.0 Energy Detail

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 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/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

### Fire Pumps and Emergency Generators

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

### Boilers

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

### User Defined Equipment

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

## 11.0 Vegetation

| Baseline Non-Stationary Operational Emissions Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2e |
| 2017 | 1.68 | 20.83 | 8.87 | 0.04 | 5.62 | 1.30 | 3833.54 |
| 2016 | 2.63 | 33.61 | 12.05 | 0.06 | 6.25 | 1.80 | 6297.71 |
| 2015 | 3.40 | 41.33 | 15.34 | 0.06 | 6.71 | 2.22 | 6868.66 |
| 2014 | 3.84 | 46.75 | 16.98 | 0.07 | 6.97 | 2.45 | 7323.57 |
| 2013 | 4.34 | 50.99 | 18.88 | 0.07 | 7.26 | 2.72 | 7445.85 |
| 2012 | 5.40 | 61.55 | 22.72 | 0.07 | 7.93 | 3.34 | 8044.58 |
| 2011 | 5.96 | 68.69 | 24.54 | 0.08 | 8.23 | 3.62 | 8293.59 |
| 2010 | 6.08 | 70.28 | 25.30 | 0.08 | 8.33 | 3.72 | 8200.10 |
| 2009 | 6.64 | 77.09 | 27.40 | 0.08 | 8.70 | 4.06 | 8736.84 |
| 2008 | 6.69 | 76.95 | 28.10 | 0.08 | 8.78 | 4.14 | 8465.49 |
| **10-Year Average** | **4.67** | **54.81** | **20.02** | **0.07** | **7.48** | **2.94** | **7350.99** |

| Baseline Stationary Operational Emissions Summary | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | NH3 | CO2e |
| 2017 | 9.69 | 0.43 | 0.09 | 0.14 | 0.02 | 0.02 | 8.91 | -12580.46 |
| 2016 | 30.24 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 27.83 | -39801.81 |
| 2015 | 30.03 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 27.64 | -39441.78 |
| 2014 | 31.82 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 29.28 | -41743.11 |
| 2013 | 29.59 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 27.23 | -38925.81 |
| 2012 | 33.22 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 30.57 | -43476.19 |
| 2011 | 35.28 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 32.47 | -45916.16 |
| 2010 | 35.39 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 32.58 | -46300.00 |
| 2009 | 36.41 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 33.52 | -47455.60 |
| 2008 | 34.08 | 0.13 | 0.01 | 0.13 | 0.02 | 0.02 | 31.36 | -18750.68 |
| **10-Year Average** | **30.58** | **0.16** | **0.02** | **0.13** | **0.02** | **0.02** | **28.14** | **-37439.16** |

| Baseline Total Operational Emissions Summary | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | NH3 | CO2e |
| 2017 | 11.37 | 21.27 | 8.96 | 0.17 | 5.64 | 1.32 | 8.91 | -8746.92 |
| 2016 | 32.87 | 33.74 | 12.06 | 0.19 | 6.27 | 1.82 | 27.83 | -33504.10 |
| 2015 | 33.43 | 41.46 | 15.35 | 0.19 | 6.73 | 2.24 | 27.64 | -32573.12 |
| 2014 | 35.66 | 46.88 | 16.99 | 0.20 | 6.99 | 2.47 | 29.28 | -34419.54 |
| 2013 | 33.92 | 51.12 | 18.89 | 0.20 | 7.28 | 2.74 | 27.23 | -31479.96 |
| 2012 | 38.62 | 61.68 | 22.73 | 0.20 | 7.95 | 3.36 | 30.57 | -35431.61 |
| 2011 | 41.24 | 68.82 | 24.55 | 0.21 | 8.25 | 3.64 | 32.47 | -37622.56 |
| 2010 | 41.48 | 70.41 | 25.31 | 0.21 | 8.35 | 3.75 | 32.58 | -38099.90 |
| 2009 | 43.05 | 77.22 | 27.41 | 0.21 | 8.73 | 4.08 | 33.52 | -38718.76 |
| 2008 | 40.77 | 77.08 | 28.11 | 0.21 | 8.81 | 4.17 | 31.36 | -10285.19 |
| **10-Year Average** | **35.24** | **54.97** | **20.04** | **0.20** | **7.50** | **2.96** | **28.14** | **-30088.17** |

## Project Operational Delivery Trucks T7 Exhaust Emissions - EMFAC2017

Based on:

| | | |
|---|---|---|
| 80% Waste Trips Miles/Trip: | 250 | (Average Roundtrip Distance from trips originating in LA and Orange Counties) |
| 20% Waste Trips Miles/Trip: | 50 | (Average Roundtrip Distance from trips originating locally) |
| 20% Product Trips Miles/Trip: | 250 | (Average Roundtrip Distance from trips heading to LA and Orange Counties) |
| 40% Product Trips Miles/Trip: | 150 | (Average Roundtrip Distance from trips heading to northern locations) |
| 40% Product Trips Miles/Trip: | 50 | (Average Roundtrip Distance from trips heading locally) |

| | Waste Trips | Waste Tons | Product Trips | Product Tons | Annual Miles | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 3402 | 80841.83 | 4743 | 115656.96 | 1331010 | 0.65 | 10.87 | 2.07 | 0.02 | 0.43 | 0.32 | 2489.73 | 0.03 | 0.39 | 2611.68 |
| 2016 Tons/year | 10780 | 252615.85 | 2199 | 54293.24 | 2549670 | 1.52 | 22.82 | 4.90 | 0.05 | 0.98 | 0.77 | 4820.80 | 0.07 | 0.76 | 5057.19 |
| 2015 Tons/year | 10147 | 250836 | 4462 | 110570.36 | 2710930 | 2.19 | 29.56 | 7.14 | 0.05 | 1.36 | 1.13 | 5267.68 | 0.10 | 0.83 | 5526.49 |
| 2014 Tons/year | 10752 | 265774.34 | 4604 | 112689.14 | 2856440 | 2.58 | 34.56 | 8.41 | 0.05 | 1.59 | 1.34 | 5687.61 | 0.12 | 0.89 | 5966.94 |
| 2013 Tons/year | 10044 | 247146.98 | 5749 | 142878.35 | 2856610 | 2.97 | 37.90 | 9.68 | 0.05 | 1.82 | 1.56 | 5793.69 | 0.14 | 0.91 | 6078.51 |
| 2012 Tons/year | 11076 | 277476.74 | 5893 | 148592.59 | 3092050 | 3.96 | 47.75 | 13.06 | 0.06 | 2.44 | 2.13 | 6354.25 | 0.18 | 1.00 | 6667.09 |
| 2011 Tons/year | 11953 | 294721.71 | 5232 | 133587.49 | 3190290 | 4.50 | 54.74 | 14.66 | 0.06 | 2.73 | 2.40 | 6586.44 | 0.21 | 1.03 | 6911.07 |
| 2010 Tons/year | 11936 | 295667.79 | 4833 | 147305.01 | 3134850 | 4.58 | 55.83 | 15.07 | 0.06 | 2.81 | 2.49 | 6492.35 | 0.21 | 1.02 | 6812.37 |
| 2009 Tons/year | 12421 | 304191.67 | 5935 | 148166.84 | 3379960 | 5.12 | 62.62 | 16.92 | 0.07 | 3.17 | 2.82 | 6999.04 | 0.24 | 1.10 | 7344.23 |
| 2008 Tons/year | 11591 | 284661.79 | 6288 | 154643.15 | 3251550 | 5.16 | 62.45 | 17.32 | 0.06 | 3.26 | 2.91 | 6739.50 | 0.24 | 1.06 | 7072.15 |
| **10-Year Average Tons/year** | **10410.20** | **255393.47** | **4993.80** | **126838.31** | **2835336.00** | **3.32** | **41.91** | **10.92** | **0.05** | **2.06** | **1.79** | **5723.11** | **0.15** | **0.90** | **6004.77** |

[1] PM accounts for PM from running, tire wear and break wear.

## Project Unpaved Road Travel Fugitive Dust from Delivery Truck Emissions

Assumptions:

Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)

Mean Vehicle Weight: 19 tons

Based on:

Avg unpaved miles/trip: 0.03

| | PM10 | PM2.5 |
|---|---|---|
| Em. Factor (lbs/VMT) | 1.95E+00 | 1.95E-01 |
| 2017 Tons/year | 0.05 | 0.005 |
| 2016 Tons/year | 0.08 | 0.008 |
| 2015 Tons/year | 0.09 | 0.009 |
| 2014 Tons/year | 0.10 | 0.010 |
| 2013 Tons/year | 0.10 | 0.010 |
| 2012 Tons/year | 0.11 | 0.011 |
| 2011 Tons/year | 0.11 | 0.011 |
| 2010 Tons/year | 0.11 | 0.011 |
| 2009 Tons/year | 0.12 | 0.012 |
| 2008 Tons/year | 0.11 | 0.011 |
| **10-Year Average Tons/year** | **0.10** | **0.01** |

*61% Control for water surpression 3 times daily

*44% Control for reducing speed to less than 15 mph

AP 42 Chapter 13, Section 13.2.2 Equation 1a

## Project Operational On-Road Employee Trip Exhaust Emissions (LDA & LDT1)

| Based on: | Years 2008-2015 | Years 2016-2017 |
|---|---|---|
| Employee Round Trips/year: | 8760 | 5110 |
| Miles/Trip: | 60 | 60 |
| Total miles traveled/year: | 525,600 | 306,600 |

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 0.02 | 0.06 | 0.65 | 1.14E-03 | 1.60E-02 | 6.78E-03 | 115.19 | 0.004 | 0.004 | 116.62 |
| 2016 Tons/year | 0.02 | 0.08 | 0.78 | 1.17E-03 | 1.60E-02 | 6.84E-03 | 117.94 | 0.005 | 0.005 | 119.60 |
| 2015 Tons/year | 0.05 | 0.16 | 1.60 | 2.05E-03 | 2.77E-02 | 1.19E-02 | 207.04 | 0.010 | 0.010 | 210.37 |
| 2014 Tons/year | 0.06 | 0.19 | 1.89 | 2.10E-03 | 2.79E-02 | 1.21E-02 | 210.81 | 0.012 | 0.012 | 214.69 |
| 2013 Tons/year | 0.08 | 0.23 | 2.25 | 2.13E-03 | 2.82E-02 | 1.24E-02 | 215.12 | 0.014 | 0.013 | 219.55 |
| 2012 Tons/year | 0.09 | 0.25 | 2.50 | 2.17E-03 | 2.84E-02 | 1.26E-02 | 219.56 | 0.016 | 0.015 | 224.44 |
| 2011 Tons/year | 0.11 | 0.28 | 2.74 | 2.19E-03 | 2.87E-02 | 1.28E-02 | 221.61 | 0.018 | 0.016 | 226.94 |
| 2010 Tons/year | 0.11 | 0.30 | 2.91 | 2.21E-03 | 2.89E-02 | 1.31E-02 | 223.54 | 0.019 | 0.017 | 229.21 |
| 2009 Tons/year | 0.13 | 0.33 | 3.15 | 2.22E-03 | 2.92E-02 | 1.33E-02 | 227.98 | 0.021 | 0.018 | 234.07 |
| 2008 Tons/year | 0.14 | 0.36 | 3.46 | 2.23E-03 | 2.96E-02 | 1.37E-02 | 228.25 | 0.023 | 0.020 | 234.85 |
| **10-Year Average Tons/year** | **0.08** | **0.23** | **2.19** | **0.00** | **0.03** | **0.01** | **198.70** | **0.01** | **0.01** | **203.03** |

**Since employee vehicles are not know, a 50% LDA and 50% LDT1 split was assumed to be conservative

[1] PM accounts for PM from running, tire wear and break wear.

## 10-Year Operational Baseline Exhaust and Unpaved Fugitive Emissions (Total)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| Delivery Trucks | 3.32 | 41.91 | 10.92 | 0.05 | 2.06 | 1.79 | 5723.11 | 0.15 | 0.90 | 6004.77 |
| Employee Trips | 0.08 | 0.23 | 2.19 | 0.00 | 0.03 | 0.01 | 198.70 | 0.01 | 0.01 | 203.03 |
| Unpaved Travel | - | - | - | - | 0.10 | 0.01 | - | - | - | - |
| **Operational total emissions (tons/year)** | **3.40** | **42.14** | **13.12** | **0.06** | **2.18** | **1.81** | **5921.81** | **0.17** | **0.91** | **6207.81** |

## Project Operational On-Site Equipment Exhaust Emissions (CalEEMod)

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 1.00 | 9.89 | 6.09 | 0.01 | 0.54 | 0.50 | 1093.08 | 0.301 | 0.000 | 1100.60 |
| 2016 Tons/year | 1.08 | 10.71 | 6.33 | 0.01 | 0.60 | 0.56 | 1108.69 | 0.302 | 0.000 | 1116.25 |
| 2015 Tons/year | 1.16 | 11.61 | 6.55 | 0.01 | 0.65 | 0.61 | 1119.48 | 0.304 | 0.000 | 1127.07 |
| 2014 Tons/year | 1.20 | 11.99 | 6.63 | 0.01 | 0.68 | 0.63 | 1129.52 | 0.305 | 0.000 | 1137.15 |
| 2013 Tons/year | 1.28 | 12.86 | 6.90 | 0.01 | 0.73 | 0.68 | 1135.27 | 0.307 | 0.000 | 1142.95 |
| 2012 Tons/year | 1.34 | 13.53 | 7.11 | 0.01 | 0.77 | 0.72 | 1140.45 | 0.309 | 0.000 | 1148.16 |
| 2011 Tons/year | 1.35 | 13.67 | 7.09 | 0.01 | 0.78 | 0.73 | 1142.91 | 0.310 | 0.000 | 1150.73 |
| 2010 Tons/year | 1.39 | 14.14 | 7.27 | 0.01 | 0.80 | 0.75 | 1145.87 | 0.312 | 0.000 | 1153.66 |
| 2009 Tons/year | 1.39 | 14.14 | 7.27 | 0.01 | 0.80 | 0.75 | 1145.87 | 0.312 | 0.000 | 1153.66 |
| 2008 Tons/year | 1.39 | 14.14 | 7.27 | 0.01 | 0.80 | 0.75 | 1145.87 | 0.312 | 0.000 | 1153.66 |
| **10-Year Average Tons/year** | **1.26** | **12.67** | **6.85** | **0.01** | **0.72** | **0.67** | **1130.70** | **0.31** | **0.00** | **1138.39** |

1. CalEEMod does not have an operational year of 2008 or 2009, therefore to be conservative Year 2010 was used for both.
2. Hours/day are CalEEMod defaults of 8 hours/day
3. Horsepower and load factors for each type of equipment are CalEEMod defaults unless noted.
4. Light Towers (assumed 15 kW) were modeld as Generator Sets with 25 HP.
5. Water Truck was modeled as Other Constrution Equipment with 300 HP.
6. Dump Trucks modeled as Off-Highway Trucks.

## Project Unpaved Road Travel Fugitive Dust from On-Site Equipment Emissions

Assumptions:
Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 22 tons

Based on:
Avg unpaved miles/year: 20075.00

| | PM10 | PM2.5 |
|---|---|---|
| Em. Factor (lbs/VMT) | 2.09E+00 | 2.09E-01 |
| 2017 Tons/year | 4.58 | 0.46 |
| 2016 Tons/year | 4.58 | 0.46 |
| 2015 Tons/year | 4.58 | 0.46 |
| 2014 Tons/year | 4.58 | 0.46 |
| 2013 Tons/year | 4.58 | 0.46 |
| 2012 Tons/year | 4.58 | 0.46 |
| 2011 Tons/year | 4.58 | 0.46 |
| 2010 Tons/year | 4.58 | 0.46 |
| 2009 Tons/year | 4.58 | 0.46 |
| 2008 Tons/year | 4.58 | 0.46 |
| **10-Year Average Tons/year** | **4.58** | **0.46** |

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph
AP 42 Chapter 13, Section 13.2.2 Equation 1a

## Project Operational On-Site Equipment Exhaust Emissions (Diesel Pickup Trucks - EMFAC)

Based on: Years 2008-2017
Miles/day: 10
Total miles traveled/year: 3,650

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 0.002 | 0.005 | 0.009 | 0.000 | 0.002 | 0.002 | 3.100 | 0.000 | 0.000 | 3.254 |
| 2016 Tons/year | 0.002 | 0.005 | 0.009 | 0.000 | 0.002 | 0.002 | 3.105 | 0.000 | 0.000 | 3.258 |
| 2015 Tons/year | 0.003 | 0.005 | 0.010 | 0.000 | 0.002 | 0.002 | 3.122 | 0.000 | 0.000 | 3.277 |
| 2014 Tons/year | 0.002 | 0.004 | 0.009 | 0.000 | 0.002 | 0.002 | 3.150 | 0.000 | 0.000 | 3.305 |
| 2013 Tons/year | 0.002 | 0.005 | 0.009 | 0.000 | 0.002 | 0.002 | 3.175 | 0.000 | 0.000 | 3.332 |
| 2012 Tons/year | 0.002 | 0.005 | 0.008 | 0.000 | 0.002 | 0.002 | 3.196 | 0.000 | 0.001 | 3.353 |
| 2011 Tons/year | 0.002 | 0.005 | 0.009 | 0.000 | 0.002 | 0.002 | 3.156 | 0.000 | 0.000 | 3.312 |
| 2010 Tons/year | 0.002 | 0.005 | 0.009 | 0.000 | 0.002 | 0.002 | 3.153 | 0.000 | 0.000 | 3.309 |
| 2009 Tons/year | 0.002 | 0.005 | 0.009 | 0.000 | 0.002 | 0.002 | 3.147 | 0.000 | 0.000 | 3.302 |
| 2008 Tons/year | 0.003 | 0.005 | 0.010 | 0.000 | 0.002 | 0.002 | 3.104 | 0.000 | 0.000 | 3.257 |
| **10-Year Average Tons/year** | **0.002** | **0.005** | **0.009** | **0.000** | **0.002** | **0.002** | **3.141** | **0.000** | **0.000** | **3.296** |

## Project Operational On-Site Equipment Exhaust Emissions (Gasoline Pickup Trucks - EMFAC)

Based on: Years 2008-2017
Miles/Trip: 5
Total miles traveled/year: 1,825

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 0.000 | 0.001 | 0.009 | 0.000 | 0.000 | 0.000 | 1.145 | 0.000 | 0.000 | 1.161 |
| 2016 Tons/year | 0.001 | 0.001 | 0.011 | 0.000 | 0.000 | 0.000 | 1.174 | 0.000 | 0.000 | 1.194 |
| 2015 Tons/year | 0.001 | 0.001 | 0.013 | 0.000 | 0.000 | 0.000 | 1.207 | 0.000 | 0.000 | 1.230 |
| 2014 Tons/year | 0.001 | 0.001 | 0.015 | 0.000 | 0.000 | 0.000 | 1.234 | 0.000 | 0.000 | 1.261 |
| 2013 Tons/year | 0.001 | 0.001 | 0.018 | 0.000 | 0.000 | 0.000 | 1.256 | 0.000 | 0.000 | 1.286 |
| 2012 Tons/year | 0.001 | 0.002 | 0.020 | 0.000 | 0.000 | 0.000 | 1.277 | 0.000 | 0.000 | 1.309 |
| 2011 Tons/year | 0.001 | 0.002 | 0.021 | 0.000 | 0.000 | 0.000 | 1.284 | 0.000 | 0.000 | 1.319 |
| 2010 Tons/year | 0.001 | 0.002 | 0.022 | 0.000 | 0.000 | 0.000 | 1.292 | 0.000 | 0.000 | 1.328 |
| 2009 Tons/year | 0.001 | 0.002 | 0.023 | 0.000 | 0.000 | 0.000 | 1.315 | 0.000 | 0.000 | 1.353 |
| 2008 Tons/year | 0.002 | 0.002 | 0.025 | 0.000 | 0.000 | 0.000 | 1.309 | 0.000 | 0.000 | 1.349 |
| **10-Year Average Tons/year** | **0.001** | **0.001** | **0.018** | **0.000** | **0.000** | **0.000** | **1.249** | **0.000** | **0.000** | **1.279** |

## Project Operational On-Site Equipment Exhaust Emissions (ATVs - RV2013)

Based on: Years 2008-2017
Miles/day: 5
Total miles traveled/year: 1,825
4-Stoke engine assumed

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| lb/mile | 0.0015 | 0.00108 | 0.0437 | 0.00 | 0.0001 | 0.0001 | 0.2417 | 0.00 | 0.00 |

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2016 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2015 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2014 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2013 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2012 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2011 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2010 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2009 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| 2008 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |
| **10-Year Average Tons/year** | **0.001** | **0.001** | **0.040** | **0.000** | **0.000** | **0.000** | **0.221** | **0.000** | **0.000** | **0.221** |

## 10-Year Operational Baseline Exhaust and Unpaved Fugitive Emissions (Total)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| Onsite Equipment Exhaust | 1.26 | 12.67 | 6.92 | 0.01 | 0.72 | 0.67 | 1135.31 | 0.31 | 0.00 | 1143.19 |
| Unpaved Travel | - | - | - | - | 4.58 | 0.46 | - | - | - | - |
| **Operational total emissions (tons/year)** | **1.26** | **12.67** | **6.92** | **0.01** | **5.30** | **1.13** | **1135.31** | **0.31** | **0.00** | **1143.19** |

## S-4212-1 - Receiving/Mixing

| | NOx | SO2 | PM10 - hopper | PM10 - xfer points | CO | VOC | NH3 |
|---|---|---|---|---|---|---|---|
| EMISSION FACTORS (lb/ton) | 0.000 | 0 | 0.0001 | 4.50E-05 | 0.000 | 0.001 | 0.000 |

| | **Throughput** | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **NH3** |
|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 80841.83 | 0.05 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| 2016 Tons/year | 252615.85 | 0.14 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2015 Tons/year | 250836 | 0.14 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2014 Tons/year | 265774.34 | 0.15 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2013 Tons/year | 247146.98 | 0.14 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2012 Tons/year | 277476.74 | 0.16 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2011 Tons/year | 294721.71 | 0.17 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2010 Tons/year | 295667.79 | 0.17 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2009 Tons/year | 304191.67 | 0.17 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| 2008 Tons/year | 284661.79 | 0.16 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 |
| **10-Year Average Tons/year** | **255393.47** | **0.15** | **0.00** | **0.00** | **0.00** | **0.02** | **0.02** | **0.01** |

## S-4212-2 - ASP Composting

| | NOx | SO2 | PM10 | CO | VOC | NH3 |
|---|---|---|---|---|---|---|
| EMISSION FACTORS (lb/ton) | 0.000 | 0 | 0 | 0.000 | 0.238 | 0.220 |

| | **Throughput** | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **NH3** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 80841.83 | 9.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.90 | -13088.41 |
| 2016 Tons/year | 252615.85 | 30.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 27.83 | -39804.69 |
| 2015 Tons/year | 250836 | 29.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 27.63 | -39444.66 |
| 2014 Tons/year | 265774.34 | 31.66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.28 | -41745.99 |
| 2013 Tons/year | 247146.98 | 29.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 27.22 | -38928.69 |
| 2012 Tons/year | 277476.74 | 33.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 30.56 | -43479.07 |
| 2011 Tons/year | 294721.71 | 35.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 32.46 | -45919.04 |
| 2010 Tons/year | 295667.79 | 35.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 32.57 | -46302.88 |
| 2009 Tons/year | 304191.67 | 36.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.51 | -47458.48 |
| 2008 Tons/year | 284661.79 | 33.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 31.36 | -18753.56 |
| **10-Year Average Tons/year** | **255393.47** | **30.43** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **28.13** | **-37492.55** |

### S-4212-4 - IC Engine

| | | |
|---|---|---|
| EQUIPMENT DESCRIPTION: | 415 | hp |
| Fuel Type | | Diesel |
| Operating Hours | 0.5 | hr/day |
| | 50 | hr/yr |
| Fuel Consumption | 5.63 | gals/hr |
| HHV | 0.138 | mmBtu/gal |

| | NOx | SO2 | PM10 | CO | VOC | | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| EMISSION FACTORS (g/hp-hr) | 5.700 | 0.0051 | 0.08 | 0.400 | 0.140 | kg/mmBtu | 73.960 | 0.003 | 0.0006 |

| | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **CO2** | **CH4** | **N2O** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2016 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2015 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2014 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2013 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2012 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2011 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2010 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2009 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| 2008 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |
| **10-Year Average Tons/year** | **0.003** | **0.13** | **0.01** | **0.13** | **0.002** | **0.002** | **2.87** | **0.00** | **0.00** | **2.88** |

### S-4212-8 - IC Engine

| | | |
|---|---|---|
| EQUIPMENT DESCRIPTION: | 125 | hp |
| Fuel Type | | Diesel |
| Operating Hours | 24 | hr/day |
| | 8760 | hr/yr |
| Fuel Consumption | 5.63 | gals/hr |
| HHV | 0.138 | mmBtu/gal |

| | NOx | SO2 | PM10 | CO | VOC | | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| EMISSION FACTORS (g/hp-hr) | 0.250 | 0.0051 | 0.01 | 0.070 | 0.010 | kg/mmBtu | 73.960 | 0.003 | 0.0006 |

| | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **CO2** | **CH4** | **N2O** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|
| 2017 Tons/year | 0.012 | 0.302 | 0.084 | 0.006 | 0.012 | 0.012 | 503.37 | 0.02 | 0.004 | 505.066 |
| 2016 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2015 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2014 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2013 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2012 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2011 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2010 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2009 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2008 Tons/year | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| **10-Year Average Tons/year** | **0.001** | **0.03** | **0.01** | **0.00** | **0.001** | **0.001** | **50.34** | **0.00** | **0.00** | **50.51** |

# Synagro - 2008, 2009, or 2010 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2010 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2008, 2009, or 2010 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 7.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 7.00 |
| tblConstructionPhase | PhaseEndDate | 2/14/2013 | 12/31/2009 |
| tblConstructionPhase | PhaseEndDate | 4/15/2010 | 12/31/2009 |
| tblConstructionPhase | PhaseStartDate | 4/16/2010 | 1/1/2010 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |

| | | | |
|---|---|---|---|
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | **Highest** | | |

### 2.2 Overall Operational

**Unmitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.3907 | 14.1374 | 7.2726 | 0.0121 | | 0.8042 | 0.8042 | | 0.7517 | 0.7517 | 0.0000 | 1,145.8686 | 1,145.8686 | 0.3118 | 0.0000 | 1,153.6639 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.3907** | **14.1374** | **7.2726** | **0.0121** | **0.0000** | **0.8042** | **0.8042** | **0.0000** | **0.7517** | **0.7517** | **0.0000** | **1,145.8686** | **1,145.8686** | **0.3118** | **0.0000** | **1,153.6639** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.3907 | 14.1374 | 7.2726 | 0.0121 | | 0.8042 | 0.8042 | | 0.7517 | 0.7517 | 0.0000 | 1,145.8686 | 1,145.8686 | 0.3118 | 0.0000 | 1,153.6639 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.3907** | **14.1374** | **7.2726** | **0.0121** | **0.0000** | **0.8042** | **0.8042** | **0.0000** | **0.7517** | **0.7517** | **0.0000** | **1,145.8686** | **1,145.8686** | **0.3118** | **0.0000** | **1,153.6639** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2010 | 12/31/2009 | 7 | 0 | |
| 2 | Operation | Building Construction | 1/1/2010 | 12/31/2009 | 7 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

### 3.1 Mitigation Measures Construction

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

### 4.2 Trip Summary Information

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

### 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.1145 | 0.6523 | 0.3941 | 8.3000e-004 | | 0.0407 | 0.0407 | | 0.0407 | 0.0407 | 0.0000 | 61.3990 | 61.3990 | 9.2900e-003 | 0.0000 | 61.6313 |
| Off-Highway Trucks | 0.4229 | 5.4288 | 2.2837 | 4.8300e-003 | | 0.2097 | 0.2097 | | 0.1930 | 0.1930 | 0.0000 | 471.7592 | 471.7592 | 0.1373 | 0.0000 | 475.1922 |
| Other Construction Equipment | 0.1637 | 2.3467 | 1.2996 | 2.0000e-003 | | 0.0887 | 0.0887 | | 0.0816 | 0.0816 | 0.0000 | 195.3108 | 195.3108 | 0.0569 | 0.0000 | 196.7321 |
| Pumps | 0.2079 | 1.3355 | 0.7473 | 1.2000e-003 | | 0.1076 | 0.1076 | | 0.1076 | 0.1076 | 0.0000 | 103.1504 | 103.1504 | 0.0169 | 0.0000 | 103.5724 |
| Sweepers/Scrubbers | 0.1742 | 1.4574 | 0.7773 | 9.2000e-004 | | 0.1245 | 0.1245 | | 0.1146 | 0.1146 | 0.0000 | 90.5717 | 90.5717 | 0.0264 | 0.0000 | 91.2308 |
| Tractors/Loaders/Backhoes | 0.3077 | 2.9168 | 1.7707 | 2.2900e-003 | | 0.2329 | 0.2329 | | 0.2142 | 0.2142 | 0.0000 | 223.6775 | 223.6775 | 0.0651 | 0.0000 | 225.3052 |
| **Total** | **1.3907** | **14.1374** | **7.2726** | **0.0121** | | **0.8042** | **0.8042** | | **0.7517** | **0.7517** | **0.0000** | **1,145.8686** | **1,145.8686** | **0.3118** | **0.0000** | **1,153.6639** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Synagro - 2011 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2011 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2011 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/14/2014 | 4/15/2011 |
| tblConstructionPhase | PhaseEndDate | 4/15/2011 | 12/31/2010 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |

Synagro - 2011 Baseline - Kern-San Joaquin County, Annual

| | | | |
|---|---|---|---|
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated 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 | | | | | |
| 2011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

Synagro - 2011 Baseline - Kern-San Joaquin County, Annual

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.3505 | 13.6666 | 7.0858 | 0.0121 | | 0.7806 | 0.7806 | | 0.7295 | 0.7295 | 0.0000 | 1,142.9720 | 1,142.9720 | 0.3103 | 0.0000 | 1,150.7288 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.3505** | **13.6666** | **7.0858** | **0.0121** | **0.0000** | **0.7806** | **0.7806** | **0.0000** | **0.7295** | **0.7295** | **0.0000** | **1,142.9720** | **1,142.9720** | **0.3103** | **0.0000** | **1,150.7288** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.3505 | 13.6666 | 7.0858 | 0.0121 | | 0.7806 | 0.7806 | | 0.7295 | 0.7295 | 0.0000 | 1,142.9720 | 1,142.9720 | 0.3103 | 0.0000 | 1,150.7288 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.3505** | **13.6666** | **7.0858** | **0.0121** | **0.0000** | **0.7806** | **0.7806** | **0.0000** | **0.7295** | **0.7295** | **0.0000** | **1,142.9720** | **1,142.9720** | **0.3103** | **0.0000** | **1,150.7288** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2011 | 12/31/2010 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/16/2011 | 4/15/2011 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

### 3.3 Operation - 2011

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.1096 | 0.6383 | 0.3786 | 8.3000e-004 | | 0.0387 | 0.0387 | | 0.0387 | 0.0387 | 0.0000 | 61.3990 | 61.3990 | 8.9700e-003 | 0.0000 | 61.6232 |
| Off-Highway Trucks | 0.4260 | 5.3084 | 2.2401 | 4.8300e-003 | | 0.2062 | 0.2062 | | 0.1897 | 0.1897 | 0.0000 | 470.3785 | 470.3785 | 0.1373 | 0.0000 | 473.8100 |
| Other Construction Equipment | 0.1532 | 2.2013 | 1.1821 | 2.0000e-003 | | 0.0827 | 0.0827 | | 0.0761 | 0.0761 | 0.0000 | 194.9843 | 194.9843 | 0.0569 | 0.0000 | 196.4068 |
| Pumps | 0.1939 | 1.2649 | 0.7399 | 1.2000e-003 | | 0.1028 | 0.1028 | | 0.1028 | 0.1028 | 0.0000 | 103.1504 | 103.1504 | 0.0158 | 0.0000 | 103.5451 |
| Sweepers/Scrubbers | 0.1704 | 1.4213 | 0.7749 | 9.3000e-004 | | 0.1234 | 0.1234 | | 0.1136 | 0.1136 | 0.0000 | 90.3453 | 90.3453 | 0.0264 | 0.0000 | 91.0044 |
| Tractors/Loaders/Backhoes | 0.2975 | 2.8325 | 1.7702 | 2.2800e-003 | | 0.2267 | 0.2267 | | 0.2086 | 0.2086 | 0.0000 | 222.7145 | 222.7145 | 0.0650 | 0.0000 | 224.3393 |
| **Total** | **1.3505** | **13.6666** | **7.0858** | **0.0121** | | **0.7806** | **0.7806** | | **0.7295** | **0.7295** | **0.0000** | **1,142.9720** | **1,142.9720** | **0.3103** | **0.0000** | **1,150.7288** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Synagro - 2012 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2012 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2012 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/13/2015 | 4/13/2012 |
| tblConstructionPhase | PhaseEndDate | 4/13/2012 | 12/30/2011 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |

| | | | |
|---|---|---|---|
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2012 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.3445 | 13.5302 | 7.1107 | 0.0121 | | 0.7740 | 0.7740 | | 0.7227 | 0.7227 | 0.0000 | 1,140.4506 | 1,140.4506 | 0.3086 | 0.0000 | 1,148.1642 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.3445** | **13.5302** | **7.1107** | **0.0121** | **0.0000** | **0.7740** | **0.7740** | **0.0000** | **0.7227** | **0.7227** | **0.0000** | **1,140.4506** | **1,140.4506** | **0.3086** | **0.0000** | **1,148.1642** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.3445 | 13.5302 | 7.1107 | 0.0121 | | 0.7740 | 0.7740 | | 0.7227 | 0.7227 | 0.0000 | 1,140.4506 | 1,140.4506 | 0.3086 | 0.0000 | 1,148.1642 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.3445** | **13.5302** | **7.1107** | **0.0121** | **0.0000** | **0.7740** | **0.7740** | **0.0000** | **0.7227** | **0.7227** | **0.0000** | **1,140.4506** | **1,140.4506** | **0.3086** | **0.0000** | **1,148.1642** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2012 | 12/30/2011 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/14/2012 | 4/13/2012 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

### 3.3 Operation - 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.1053 | 0.6239 | 0.3624 | 8.3000e-004 | | 0.0366 | 0.0366 | | 0.0366 | 0.0366 | 0.0000 | 61.3990 | 61.3990 | 8.5400e-003 | 0.0000 | 61.6124 |
| Off-Highway Trucks | 0.4346 | 5.2875 | 2.2521 | 4.8300e-003 | | 0.2067 | 0.2067 | | 0.1902 | 0.1902 | 0.0000 | 469.2006 | 469.2006 | 0.1373 | 0.0000 | 472.6321 |
| Other Construction Equipment | 0.1564 | 2.1995 | 1.1993 | 2.0000e-003 | | 0.0835 | 0.0835 | | 0.0768 | 0.0768 | 0.0000 | 194.4916 | 194.4916 | 0.0569 | 0.0000 | 195.9140 |
| Pumps | 0.1793 | 1.1883 | 0.7323 | 1.2000e-003 | | 0.0962 | 0.0962 | | 0.0962 | 0.0962 | 0.0000 | 103.1504 | 103.1504 | 0.0145 | 0.0000 | 103.5134 |
| Sweepers/Scrubbers | 0.1718 | 1.4219 | 0.7817 | 9.2000e-004 | | 0.1248 | 0.1248 | | 0.1148 | 0.1148 | 0.0000 | 90.1188 | 90.1188 | 0.0264 | 0.0000 | 90.7779 |
| Tractors/Loaders/Backhoes | 0.2972 | 2.8092 | 1.7828 | 2.2800e-003 | | 0.2262 | 0.2262 | | 0.2081 | 0.2081 | 0.0000 | 222.0902 | 222.0902 | 0.0650 | 0.0000 | 223.7144 |
| **Total** | **1.3445** | **13.5302** | **7.1107** | **0.0121** | | **0.7740** | **0.7740** | | **0.7227** | **0.7227** | **0.0000** | **1,140.4505** | **1,140.4505** | **0.3086** | **0.0000** | **1,148.1642** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Synagro - 2013 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2013 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2013 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/15/2016 | 4/15/2013 |
| tblConstructionPhase | PhaseEndDate | 4/15/2013 | 12/31/2012 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |

| | | | |
|---|---|---|---|
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2013 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.2797 | 12.8591 | 6.8995 | 0.0121 | | 0.7302 | 0.7302 | | 0.6816 | 0.6816 | 0.0000 | 1,135.2746 | 1,135.2746 | 0.3071 | 0.0000 | 1,142.9509 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.2797** | **12.8591** | **6.8995** | **0.0121** | **0.0000** | **0.7302** | **0.7302** | **0.0000** | **0.6816** | **0.6816** | **0.0000** | **1,135.2746** | **1,135.2746** | **0.3071** | **0.0000** | **1,142.9509** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.2797 | 12.8591 | 6.8995 | 0.0121 | | 0.7302 | 0.7302 | | 0.6816 | 0.6816 | 0.0000 | 1,135.2746 | 1,135.2746 | 0.3071 | 0.0000 | 1,142.9509 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.2797** | **12.8591** | **6.8995** | **0.0121** | **0.0000** | **0.7302** | **0.7302** | **0.0000** | **0.6816** | **0.6816** | **0.0000** | **1,135.2746** | **1,135.2746** | **0.3071** | **0.0000** | **1,142.9509** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2013 | 12/31/2012 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/16/2013 | 4/15/2013 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

### 3.3 Operation - 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.1014 | 0.6094 | 0.3462 | 8.3000e-004 | | 0.0344 | 0.0344 | | 0.0344 | 0.0344 | 0.0000 | 61.3990 | 61.3990 | 8.2100e-003 | 0.0000 | 61.6043 |
| Off-Highway Trucks | 0.4152 | 4.9783 | 2.1415 | 4.8300e-003 | | 0.1933 | 0.1933 | | 0.1778 | 0.1778 | 0.0000 | 467.0649 | 467.0649 | 0.1373 | 0.0000 | 470.4981 |
| Other Construction Equipment | 0.1500 | 2.0859 | 1.1336 | 2.0000e-003 | | 0.0788 | 0.0788 | | 0.0725 | 0.0725 | 0.0000 | 193.1980 | 193.1980 | 0.0568 | 0.0000 | 194.6181 |
| Pumps | 0.1647 | 1.1130 | 0.7249 | 1.2000e-003 | | 0.0886 | 0.0886 | | 0.0886 | 0.0886 | 0.0000 | 103.1504 | 103.1504 | 0.0134 | 0.0000 | 103.4862 |
| Sweepers/Scrubbers | 0.1624 | 1.3546 | 0.7731 | 9.3000e-004 | | 0.1186 | 0.1186 | | 0.1091 | 0.1091 | 0.0000 | 89.6660 | 89.6660 | 0.0264 | 0.0000 | 90.3251 |
| Tractors/Loaders/Backhoes | 0.2861 | 2.7179 | 1.7802 | 2.2800e-003 | | 0.2165 | 0.2165 | | 0.1992 | 0.1992 | 0.0000 | 220.7963 | 220.7963 | 0.0649 | 0.0000 | 222.4193 |
| **Total** | **1.2797** | **12.8591** | **6.8995** | **0.0121** | | **0.7301** | **0.7301** | | **0.6816** | **0.6816** | **0.0000** | **1,135.2746** | **1,135.2746** | **0.3071** | **0.0000** | **1,142.9510** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Synagro - 2014 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2014 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2014 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/14/2017 | 4/15/2014 |
| tblConstructionPhase | PhaseEndDate | 4/15/2014 | 12/31/2013 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |

| | | | |
|---|---|---|---|
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2014 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated 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 | | | | | |
| 2014 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.1954 | 11.9916 | 6.6335 | 0.0121 | | 0.6760 | 0.6760 | | 0.6310 | 0.6310 | 0.0000 | 1,129.5193 | 1,129.5193 | 0.3053 | 0.0000 | 1,137.1522 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.1954** | **11.9916** | **6.6335** | **0.0121** | **0.0000** | **0.6760** | **0.6760** | **0.0000** | **0.6310** | **0.6310** | **0.0000** | **1,129.5193** | **1,129.5193** | **0.3053** | **0.0000** | **1,137.1522** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.1954 | 11.9916 | 6.6335 | 0.0121 | | 0.6760 | 0.6760 | | 0.6310 | 0.6310 | 0.0000 | 1,129.5193 | 1,129.5193 | 0.3053 | 0.0000 | 1,137.1522 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.1954** | **11.9916** | **6.6335** | **0.0121** | **0.0000** | **0.6760** | **0.6760** | **0.0000** | **0.6310** | **0.6310** | **0.0000** | **1,129.5193** | **1,129.5193** | **0.3053** | **0.0000** | **1,137.1522** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2014 | 12/31/2013 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/16/2014 | 4/15/2014 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

### 3.3 Operation - 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.0978 | 0.5955 | 0.3311 | 8.3000e-004 | | 0.0324 | 0.0324 | | 0.0324 | 0.0324 | 0.0000 | 61.3990 | 61.3990 | 7.9900e-003 | 0.0000 | 61.5989 |
| Off-Highway Trucks | 0.3869 | 4.6079 | 2.0407 | 4.8300e-003 | | 0.1766 | 0.1766 | | 0.1624 | 0.1624 | 0.0000 | 464.8448 | 464.8448 | 0.1374 | 0.0000 | 468.2790 |
| Other Construction Equipment | 0.1337 | 1.8497 | 1.0041 | 1.9900e-003 | | 0.0682 | 0.0682 | | 0.0627 | 0.0627 | 0.0000 | 191.6659 | 191.6659 | 0.0566 | 0.0000 | 193.0818 |
| Pumps | 0.1503 | 1.0456 | 0.7177 | 1.2000e-003 | | 0.0806 | 0.0806 | | 0.0806 | 0.0806 | 0.0000 | 103.1504 | 103.1504 | 0.0122 | 0.0000 | 103.4544 |
| Sweepers/Scrubbers | 0.1578 | 1.3141 | 0.7715 | 9.3000e-004 | | 0.1157 | 0.1157 | | 0.1064 | 0.1064 | 0.0000 | 89.2131 | 89.2131 | 0.0264 | 0.0000 | 89.8722 |
| Tractors/Loaders/Backhoes | 0.2690 | 2.5788 | 1.7685 | 2.2800e-003 | | 0.2026 | 0.2026 | | 0.1864 | 0.1864 | 0.0000 | 219.2461 | 219.2461 | 0.0648 | 0.0000 | 220.8659 |
| **Total** | **1.1954** | **11.9916** | **6.6336** | **0.0121** | | **0.6760** | **0.6760** | | **0.6309** | **0.6309** | **0.0000** | **1,129.5193** | **1,129.5193** | **0.3053** | **0.0000** | **1,137.1522** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Synagro - 2015 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2015 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/14/2018 | 4/15/2015 |
| tblConstructionPhase | PhaseEndDate | 4/15/2015 | 12/31/2014 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |

Synagro - 2015 Baseline - Kern-San Joaquin County, Annual

| | | | |
|---|---|---|---|
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2015 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated 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 | | | | | |
| 2015 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.1610 | 11.6051 | 6.5549 | 0.0121 | | 0.6511 | 0.6511 | | 0.6073 | 0.6073 | 0.0000 | 1,119.4767 | 1,119.4767 | 0.3038 | 0.0000 | 1,127.0724 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.1610** | **11.6051** | **6.5549** | **0.0121** | **0.0000** | **0.6511** | **0.6511** | **0.0000** | **0.6073** | **0.6073** | **0.0000** | **1,119.4767** | **1,119.4767** | **0.3038** | **0.0000** | **1,127.0724** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.1610 | 11.6051 | 6.5549 | 0.0121 | | 0.6511 | 0.6511 | | 0.6073 | 0.6073 | 0.0000 | 1,119.4767 | 1,119.4767 | 0.3038 | 0.0000 | 1,127.0724 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.1610** | **11.6051** | **6.5549** | **0.0121** | **0.0000** | **0.6511** | **0.6511** | **0.0000** | **0.6073** | **0.6073** | **0.0000** | **1,119.4767** | **1,119.4767** | **0.3038** | **0.0000** | **1,127.0724** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2015 | 12/31/2014 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/16/2015 | 4/15/2015 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

### 3.3 Operation - 2015

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.0944 | 0.5824 | 0.3175 | 8.3000e-004 | | 0.0305 | 0.0305 | | 0.0305 | 0.0305 | 0.0000 | 61.3990 | 61.3990 | 7.6700e-003 | 0.0000 | 61.5908 |
| Off-Highway Trucks | 0.3781 | 4.4527 | 2.0029 | 4.8300e-003 | | 0.1701 | 0.1701 | | 0.1565 | 0.1565 | 0.0000 | 460.1921 | 460.1921 | 0.1374 | 0.0000 | 463.6267 |
| Other Construction Equipment | 0.1316 | 1.7906 | 0.9763 | 1.9900e-003 | | 0.0660 | 0.0660 | | 0.0607 | 0.0607 | 0.0000 | 189.5507 | 189.5507 | 0.0566 | 0.0000 | 190.9654 |
| Pumps | 0.1359 | 0.9688 | 0.7111 | 1.2000e-003 | | 0.0728 | 0.0728 | | 0.0728 | 0.0728 | 0.0000 | 103.1505 | 103.1505 | 0.0111 | 0.0000 | 103.4273 |
| Sweepers/Scrubbers | 0.1580 | 1.3051 | 0.7764 | 9.3000e-004 | | 0.1157 | 0.1157 | | 0.1064 | 0.1064 | 0.0000 | 88.3074 | 88.3074 | 0.0264 | 0.0000 | 88.9665 |
| Tractors/Loaders/Backhoes | 0.2631 | 2.5055 | 1.7707 | 2.2800e-003 | | 0.1961 | 0.1961 | | 0.1804 | 0.1804 | 0.0000 | 216.8770 | 216.8770 | 0.0648 | 0.0000 | 218.4957 |
| **Total** | **1.1610** | **11.6051** | **6.5549** | **0.0121** | | **0.6511** | **0.6511** | | **0.6073** | **0.6073** | **0.0000** | **1,119.4767** | **1,119.4767** | **0.3038** | **0.0000** | **1,127.0724** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Synagro - 2016 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2016 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2016 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/14/2019 | 4/14/2016 |
| tblConstructionPhase | PhaseEndDate | 4/14/2016 | 12/31/2015 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |

Synagro - 2016 Baseline - Kern-San Joaquin County, Annual

| | | | |
|---|---|---|---|
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2016 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2016 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.0813 | 10.7067 | 6.3261 | 0.0121 | | 0.5965 | 0.5965 | | 0.5563 | 0.5563 | 0.0000 | 1,108.6916 | 1,108.6916 | 0.3022 | 0.0000 | 1,116.2472 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.0813** | **10.7067** | **6.3261** | **0.0121** | **0.0000** | **0.5965** | **0.5965** | **0.0000** | **0.5563** | **0.5563** | **0.0000** | **1,108.6916** | **1,108.6916** | **0.3022** | **0.0000** | **1,116.2472** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.0813 | 10.7067 | 6.3261 | 0.0121 | | 0.5965 | 0.5965 | | 0.5563 | 0.5563 | 0.0000 | 1,108.6916 | 1,108.6916 | 0.3022 | 0.0000 | 1,116.2472 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.0813** | **10.7067** | **6.3261** | **0.0121** | **0.0000** | **0.5965** | **0.5965** | **0.0000** | **0.5563** | **0.5563** | **0.0000** | **1,108.6916** | **1,108.6916** | **0.3022** | **0.0000** | **1,116.2472** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2016 | 12/31/2015 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/15/2016 | 4/14/2016 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

### 3.3 Operation - 2016

**Unmitigated Construction On-Site**

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

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.0921 | 0.5720 | 0.3101 | 8.3000e-004 | | 0.0291 | 0.0291 | | 0.0291 | 0.0291 | 0.0000 | 61.3990 | 61.3990 | 7.4500e-003 | 0.0000 | 61.5854 |
| Off-Highway Trucks | 0.3455 | 3.9808 | 1.8539 | 4.8300e-003 | | 0.1502 | 0.1502 | | 0.1382 | 0.1382 | 0.0000 | 454.8559 | 454.8559 | 0.1372 | 0.0000 | 458.2859 |
| Other Construction Equipment | 0.1247 | 1.6586 | 0.9267 | 1.9900e-003 | | 0.0611 | 0.0611 | | 0.0562 | 0.0562 | 0.0000 | 187.5311 | 187.5311 | 0.0566 | 0.0000 | 188.9453 |
| Pumps | 0.1221 | 0.8960 | 0.7049 | 1.2000e-003 | | 0.0650 | 0.0650 | | 0.0650 | 0.0650 | 0.0000 | 103.1504 | 103.1504 | 9.9800e-003 | 0.0000 | 103.3999 |
| Sweepers/Scrubbers | 0.1483 | 1.2232 | 0.7693 | 9.3000e-004 | | 0.1082 | 0.1082 | | 0.0995 | 0.0995 | 0.0000 | 87.4017 | 87.4017 | 0.0264 | 0.0000 | 88.0608 |
| Tractors/Loaders/Backhoes | 0.2486 | 2.3762 | 1.7612 | 2.2700e-003 | | 0.1830 | 0.1830 | | 0.1683 | 0.1683 | 0.0000 | 214.3536 | 214.3536 | 0.0647 | 0.0000 | 215.9700 |
| **Total** | **1.0813** | **10.7067** | **6.3261** | **0.0121** | | **0.5965** | **0.5965** | | **0.5563** | **0.5563** | **0.0000** | **1,108.6916** | **1,108.6916** | **0.3022** | **0.0000** | **1,116.2472** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Synagro - 2017 Baseline

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2017 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2017 Baseline - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Construction Phase - This is an operational equipment run only

Off-road Equipment - Equipment List provided by Synagro

Grading - x

Trips and VMT - x

Off-road Equipment - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/14/2020 | 4/14/2017 |
| tblConstructionPhase | PhaseEndDate | 4/14/2017 | 12/30/2016 |
| tblFleetMix | HHD | 0.12 | 0.00 |
| tblFleetMix | LDA | 0.40 | 0.00 |
| tblFleetMix | LDT1 | 0.05 | 0.00 |
| tblFleetMix | LDT2 | 0.15 | 0.00 |
| tblFleetMix | LHD1 | 0.05 | 0.00 |
| tblFleetMix | LHD2 | 0.01 | 0.00 |
| tblFleetMix | MCY | 7.8530e-003 | 0.00 |
| tblFleetMix | MDV | 0.19 | 0.00 |
| tblFleetMix | MH | 2.0800e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 1.7530e-003 | 0.00 |

Synagro - 2017 Baseline - Kern-San Joaquin County, Annual

| | | | |
|---|---|---|---|
| tblFleetMix | SBUS | 1.1280e-003 | 0.00 |
| tblFleetMix | UBUS | 2.3680e-003 | 0.00 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | OffRoadEquipmentType | Excavators | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | Rubber Tired Dozers | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | Graders | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | Scrapers | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Generator Sets |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Pumps |
| tblOffRoadEquipment | OffRoadEquipmentType | | Sweepers/Scrubbers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 0.00 | 4.00 |
| tblOffRoadEquipment | PhaseName | | Grading |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOffRoadEquipment | PhaseName | | Operation |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 20.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2017 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated 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 | | | | | |
| 2017 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.0046 | 9.8926 | 6.0911 | 0.0120 | | 0.5409 | 0.5409 | | 0.5044 | 0.5044 | 0.0000 | 1,093.0784 | 1,093.0784 | 0.3007 | 0.0000 | 1,100.5969 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.0046** | **9.8926** | **6.0911** | **0.0120** | **0.0000** | **0.5409** | **0.5409** | **0.0000** | **0.5044** | **0.5044** | **0.0000** | **1,093.0784** | **1,093.0784** | **0.3007** | **0.0000** | **1,100.5969** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.0046 | 9.8926 | 6.0911 | 0.0120 | | 0.5409 | 0.5409 | | 0.5044 | 0.5044 | 0.0000 | 1,093.0784 | 1,093.0784 | 0.3007 | 0.0000 | 1,100.5969 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.0046** | **9.8926** | **6.0911** | **0.0120** | **0.0000** | **0.5409** | **0.5409** | **0.0000** | **0.5044** | **0.5044** | **0.0000** | **1,093.0784** | **1,093.0784** | **0.3007** | **0.0000** | **1,100.5969** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2017 | 12/30/2016 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/15/2017 | 4/14/2017 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 8 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

### 3.3 Operation - 2017

**Unmitigated Construction On-Site**

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

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 2 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 4 | 8.00 | 365 | 97 | 0.37 | Diesel |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Generator Sets | 0.0902 | 0.5632 | 0.3054 | 8.3000e-004 | | 0.0278 | 0.0278 | | 0.0278 | 0.0278 | 0.0000 | 61.3990 | 61.3990 | 7.3500e-003 | 0.0000 | 61.5827 |
| Off-Highway Trucks | 0.3199 | 3.6075 | 1.7187 | 4.8200e-003 | | 0.1339 | 0.1339 | | 0.1232 | 0.1232 | 0.0000 | 447.3410 | 447.3410 | 0.1371 | 0.0000 | 450.7676 |
| Other Construction Equipment | 0.1175 | 1.5318 | 0.8603 | 1.9900e-003 | | 0.0561 | 0.0561 | | 0.0516 | 0.0516 | 0.0000 | 184.3756 | 184.3756 | 0.0565 | 0.0000 | 185.7879 |
| Pumps | 0.1092 | 0.8271 | 0.6993 | 1.2000e-003 | | 0.0574 | 0.0574 | | 0.0574 | 0.0574 | 0.0000 | 103.1504 | 103.1504 | 8.8900e-003 | 0.0000 | 103.3727 |
| Sweepers/Scrubbers | 0.1366 | 1.1410 | 0.7600 | 9.3000e-004 | | 0.0986 | 0.0986 | | 0.0907 | 0.0907 | 0.0000 | 86.0431 | 86.0431 | 0.0264 | 0.0000 | 86.7022 |
| Tractors/Loaders/Backhoes | 0.2313 | 2.2220 | 1.7475 | 2.2700e-003 | | 0.1671 | 0.1671 | | 0.1537 | 0.1537 | 0.0000 | 210.7693 | 210.7693 | 0.0646 | 0.0000 | 212.3838 |
| **Total** | **1.0046** | **9.8926** | **6.0911** | **0.0120** | | **0.5409** | **0.5409** | | **0.5044** | **0.5044** | **0.0000** | **1,093.0784** | **1,093.0784** | **0.3007** | **0.0000** | **1,100.5969** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2008 to 12/31/2008**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (18,753.56)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 40,433.09 | - | (5,915.85) |
| Mixed Organics | NA | - | - | 79,363.70 | - | (12,837.71) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2009 to 12/31/2009**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (47,458.48)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 113,101.47 | - | (16,548.10) |
| Mixed Organics | NA | - | - | 191,090.20 | - | (30,910.37) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2010 to 12/31/2010**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (46,302.88)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 98,650.56 | - | (14,433.76) |
| Mixed Organics | NA | - | - | 197,017.23 | - | (31,869.12) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2011 to 12/31/2011**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (45,919.04)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 113,593.15 | - | (16,620.04) |
| Mixed Organics | NA | - | - | 181,128.56 | - | (29,299.00) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2012 to 12/31/2012**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (43,479.07)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 90,963.18 | - | (13,309.01) |
| Mixed Organics | NA | - | - | 186,513.56 | - | (30,170.06) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2013 to 12/31/2013**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (38,928.69)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 67,934.18 | - | (9,939.59) |
| Mixed Organics | NA | - | - | 179,212.80 | - | (28,989.11) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2014 to 12/31/2014**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (41,745.99)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 80,612.44 | - | (11,794.57) |
| Mixed Organics | NA | - | - | 185,161.90 | - | (29,951.42) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2015 to 12/31/2015**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (39,444.66)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 73,163.14 | - | (10,704.65) |
| Mixed Organics | NA | - | - | 177,672.86 | - | (28,740.01) |
| | | | | | | 0 |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2016 to 12/31/2016**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (39,804.69)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 69,866.00 | - | (10,222.24) |
| Food Waste | NA | - | - | 1,487.56 | - | (261.83) |
| Mixed Organics | NA | - | - | 181,262.29 | - | (29,320.63) |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2017 to 12/31/2017**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (13,088.41)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Yard Trimmings | NA | - | - | 4,494.67 | - | (657.62) |
| Food Waste | NA | - | - | 5,684.12 | - | (1,000.47) |
| Mixed Organics | NA | - | - | 70,663.04 | - | (11,430.31) |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:

Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

| Post-Project Non-Stationary Operational Emissions Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2e |
| 2019 | 2.24 | 30.51 | 12.16 | 0.06 | 5.99 | 1.52 | 6468.10 |

| Post-Project Stationary Operational Emissions Summary | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | NH3 | CO2e |
| 2019 | 80.21 | 0.43 | 0.09 | 0.14 | 0.06 | 0.06 | 73.82 | -111718.50 |

| Post-Project Total Operational Emissions Summary | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | NH3 | CO2e |
| 2019 | 82.45 | 30.94 | 12.26 | 0.20 | 6.05 | 1.59 | 73.82 | -105250.40 |

## Project Operational Delivery Trucks T7 Exhaust Emissions - EMFAC2017

Based on:

| | | |
|---|---|---|
| 80% Waste Trips Miles/Trip: | 250 | (Average Roundtrip Distance from trips originating in LA and Orange Counties) |
| 20% Waste Trips Miles/Trip: | 50 | (Average Roundtrip Distance from trips originating locally) |
| 20% Product Trips Miles/Trip: | 250 | (Average Roundtrip Distance from trips heading to LA and Orange Counties) |
| 40% Product Trips Miles/Trip: | 150 | (Average Roundtrip Distance from trips heading to northern locations) |
| 40% Product Trips Miles/Trip: | 50 | (Average Roundtrip Distance from trips heading locally) |

| | Waste Trips | Waste Tons | Product Trips | Product Tons | Annual Miles | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 3396 | 670000 | 14000 | 350000 | 2533160 | 1.01 | 18.66 | 3.17 | 0.04 | 0.69 | 0.49 | 4680.15 | 0.05 | 0.74 | 4909.18 |

[1] PM accounts for PM from running, tire wear and break wear.

## Project Unpaved Road Travel Fugitive Dust from Delivery Truck Emissions

Assumptions:

Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)

Mean Vehicle Weight: 19 tons

Based on:

Avg unpaved miles/trip: 0.03

| | PM10 | PM2.5 |
|---|---|---|
| Em. Factor (lbs/VMT) | 1.95E+00 | 1.95E-01 |
| 2019 Tons/year | 0.11 | 0.011 |

*61% Control for water surpression 3 times daily

*44% Control for reducing speed to less than 15 mph

AP 42 Chapter 13, Section 13.2.2 Equation 1a

## Project Operational On-Road Employee Trip Exhaust Emissions (LDA & LDT1)

Based on: Years 2019

Employee Round Trips/year: 5110

Miles/Trip: 60

Total miles traveled/year: 306,600

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.01 | 0.04 | 0.47 | 1.08E-03 | 1.59E-02 | 6.70E-03 | 109.47 | 0.003 | 0.003 | 110.53 |

**Since employee vehicles are not know, a 50% LDA and 50% LDT1 split was assumed to be conservative

[1] PM accounts for PM from running, tire wear and break wear.

## Operational Post-Project Exhaust and Unpaved Fugitive Emissions (Total)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| Delivery Trucks | 1.01 | 18.66 | 3.17 | 0.04 | 0.69 | 0.49 | 4680.15 | 0.05 | 0.74 | 4909.18 |
| Employee Trips | 0.01 | 0.04 | 0.47 | 0.00 | 0.02 | 0.01 | 109.47 | 0.00 | 0.00 | 110.53 |
| Unpaved Travel | - | - | - | - | 0.11 | 0.01 | - | - | - | - |
| **Operational total emissions (tons/year)** | **1.02** | **18.70** | **3.64** | **0.05** | **0.81** | **0.51** | **4789.61** | **0.05** | **0.74** | **5019.71** |

## Project Operational On-Site Equipment Exhaust Emissions (CalEEMod)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 1.22 | 11.81 | 8.47 | 0.02 | 0.59 | 0.55 | 1674.10 | 0.492 | 0.000 | 1686.39 |

1. Hours/day are CalEEMod defaults of 8 hours/day
2. Horsepower and load factors for each type of equipment are CalEEMod defaults unless noted.
3. Light Towers (assumed 15 kW) were modeld as Generator Sets with 25 HP.
4. Water Truck was modeled as Other Construtions Equipment with 300 HP.
5. Dump Trucks modeled as Off-Highway Trucks.

## Project Unpaved Road Travel Fugitive Dust from On-Site Equipment Emissions

Assumptions:
Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 22 tons

Based on:
Avg unpaved miles/year: 20075.00

| | PM10 | PM2.5 |
|---|---|---|
| Em. Factor (lbs/VMT) | 2.09E+00 | 2.09E-01 |
| 2019 Tons/year | 4.58 | 0.46 |

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph
AP 42 Chapter 13, Section 13.2.2 Equation 1a

## Project Operational On-Site Equipment Exhaust Emissions (Diesel Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/day: 10
Total miles traveled/year: 3,650

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.002 | 0.004 | 0.009 | 0.000 | 0.001 | 0.001 | 3.077 | 0.000 | 0.000 | 3.229 |

## Project Operational On-Site Equipment Exhaust Emissions (Gasoline Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/Trip: 5
Total miles traveled/year: 1,825

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.000 | 0.001 | 0.007 | 0.000 | 0.000 | 0.000 | 1.086 | 0.000 | 0.000 | 1.099 |

## Project Operational On-Site Equipment Exhaust Emissions (ATVs - RV2013)

Based on: Years 2019
Miles/day: 5
Total miles traveled/year: 1,825
4-Stoke engine assumed

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| lb/mile | 0.0015 | 0.00108 | 0.0437 | 0.00 | 0.0001 | 0.0001 | 0.2417 | 0.00 | 0.00 |

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |

## Operational Post-Project Exhaust and Unpaved Fugitive Emissions (Total)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| Onsite Equipment Exhaust | 1.22 | 11.81 | 8.53 | 0.02 | 0.60 | 0.55 | 1678.49 | 0.49 | 0.00 | 1690.94 |
| Unpaved Travel | - | - | - | - | 4.58 | 0.46 | - | - | - | - |
| **Operational total emissions (tons/year)** | **1.22** | **11.81** | **8.53** | **0.02** | **5.17** | **1.01** | **1678.49** | **0.49** | **0.00** | **1690.94** |

## Project Operational On-Site Equipment Exhaust Emissions (CalEEMod)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 1.22 | 11.81 | 8.47 | 0.02 | 0.59 | 0.55 | 1674.10 | 0.492 | 0.000 | 1686.39 |

1. Hours/day are CalEEMod defaults of 8 hours/day
2. Horsepower and load factors for each type of equipment are CalEEMod defaults unless noted.
3. Light Towers (assumed 15 kW) were modeld as Generator Sets with 25 HP.
4. Water Truck was modeled as Other Construtions Equipment with 300 HP.
5. Dump Trucks modeled as Off-Highway Trucks.

## Project Unpaved Road Travel Fugitive Dust from On-Site Equipment Emissions

Assumptions:
Surface Material Silt Content: 6.4% (From AP-42 Table 13.2.2-1)
Mean Vehicle Weight: 22 tons

Based on:
Avg unpaved miles/year: 20075.00

| | PM10 | PM2.5 |
|---|---|---|
| Em. Factor (lbs/VMT) | 2.09E+00 | 2.09E-01 |
| 2019 Tons/year | 4.58 | 0.46 |

*61% Control for water surpression 3 times daily
*44% Control for reducing speed to less than 15 mph
AP 42 Chapter 13, Section 13.2.2 Equation 1a

## Project Operational On-Site Equipment Exhaust Emissions (Diesel Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/day: 10
Total miles traveled/year: 3,650

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.002 | 0.004 | 0.009 | 0.000 | 0.001 | 0.001 | 3.077 | 0.000 | 0.000 | 3.229 |

## Project Operational On-Site Equipment Exhaust Emissions (Gasoline Pickup Trucks - EMFAC)

Based on: Years 2019
Miles/Trip: 5
Total miles traveled/year: 1,825

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.000 | 0.001 | 0.007 | 0.000 | 0.000 | 0.000 | 1.086 | 0.000 | 0.000 | 1.099 |

## Project Operational On-Site Equipment Exhaust Emissions (ATVs - RV2013)

Based on: Years 2019
Miles/day: 5
Total miles traveled/year: 1,825
4-Stoke engine assumed

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| lb/mile | 0.0015 | 0.00108 | 0.0437 | 0.00 | 0.0001 | 0.0001 | 0.2417 | 0.00 | 0.00 |

| | ROG | NOx | CO | SOX | PM10[1] | PM2.5[1] | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.001 | 0.001 | 0.040 | 0.000 | 0.000 | 0.000 | 0.221 | 0.000 | 0.000 | 0.221 |

## Operational Post-Project Exhaust and Unpaved Fugitive Emissions (Total)

| | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|
| Onsite Equipment Exhaust | 1.22 | 11.81 | 8.53 | 0.02 | 0.60 | 0.55 | 1678.49 | 0.49 | 0.00 | 1690.94 |
| Unpaved Travel | - | - | - | - | 4.58 | 0.46 | - | - | - | - |
| **Operational total emissions (tons/year)** | **1.22** | **11.81** | **8.53** | **0.02** | **5.17** | **1.01** | **1678.49** | **0.49** | **0.00** | **1690.94** |

### S-4212-1 - Receiving/Mixing

| | NOx | SO2 | PM10 - hopper | PM10 - xfer points | CO | VOC | NH3 |
|---|---|---|---|---|---|---|---|
| EMISSION FACTORS (lb/ton) | 0.000 | 0 | 0.0001 | 4.50E-05 | 0.000 | 0.001 | 0.000 |

| | **Throughput** | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **NH3** |
|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 670000 | 0.38 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.02 |

### S-4212-2 - ASP Composting

| | NOx | SO2 | PM10 | CO | VOC | NH3 |
|---|---|---|---|---|---|---|
| EMISSION FACTORS (lb/ton) | 0.000 | 0 | 0 | 0.000 | 0.238 | 0.220 |

| | **Throughput** | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **NH3** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 670000 | 79.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 73.80 | -112226.45 |

### S-4212-4 - IC Engine

| | | |
|---|---|---|
| EQUIPMENT DESCRIPTION: | 415 | hp |
| Fuel Type | | Diesel |
| Operating Hours | 0.5 | hr/day |
| | 50 | hr/yr |
| Fuel Consumption | 5.63 | gals/hr |
| HHV | 0.138 | mmBtu/gal |

| | NOx | SO2 | PM10 | CO | VOC | | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| EMISSION FACTORS (g/hp-hr) | 5.700 | 0.0051 | 0.08 | 0.400 | 0.140 | kg/mmBtu | 73.960 | 0.003 | 0.0006 |

| | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **CO2** | **CH4** | **N2O** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.003 | 0.13 | 0.01 | 0.13 | 0.002 | 0.002 | 2.87 | 0.0001 | 0.00002 | 2.883 |

### S-4212-8 - IC Engine

| | | |
|---|---|---|
| EQUIPMENT DESCRIPTION: | 125 | hp |
| Fuel Type | | Diesel |
| Operating Hours | 24 | hr/day |
| | 8760 | hr/yr |
| Fuel Consumption | 5.63 | gals/hr |
| HHV | 0.138 | mmBtu/gal |

| | NOx | SO2 | PM10 | CO | VOC | | CO2 | CH4 | N2O |
|---|---|---|---|---|---|---|---|---|---|
| EMISSION FACTORS (g/hp-hr) | 0.250 | 0.0051 | 0.01 | 0.070 | 0.010 | kg/mmBtu | 73.960 | 0.003 | 0.0006 |

| | **VOC** | **NOx** | **CO** | **SOX** | **PM10** | **PM2.5** | **CO2** | **CH4** | **N2O** | **CO2e** |
|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Tons/year | 0.012 | 0.302 | 0.084 | 0.006 | 0.012 | 0.012 | 503.37 | 0.02 | 0.004 | 505.066 |

# Synagro - 2019 Post-Project

**Kern-San Joaquin County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 45.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.7 | **Precipitation Freq (Days)** | 32 |
| **Climate Zone** | 3 | | | **Operational Year** | 2019 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Synagro - 2019 Post-Project - Kern-San Joaquin County, Annual

Project Characteristics -

Land Use - Acreage Based on Google Maps

Construction Phase - This is an operational equipment run only

Off-road Equipment - Operational Run Only

Off-road Equipment - x

Trips and VMT - x

Grading - x

Consumer Products - Operational Equipment Run Only

Landscape Equipment - Operational Equipment Run Only

Operational Off-Road Equipment - Equipment list provided by Synagro. Light Towers = Generator Set. Water Truck = Other Construction Equipment. Dump Trucks = Off-Highway Trucks.

Area Coating - x

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 150 | 250 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 150 | 250 |
| tblAreaCoating | Area_EF_Residential_Exterior | 150 | 250 |
| tblAreaCoating | Area_EF_Residential_Interior | 150 | 250 |
| tblAreaCoating | ReapplicationRatePercent | 10 | 0 |
| tblConstructionPhase | NumDays | 740.00 | 0.00 |
| tblConstructionPhase | NumDays | 75.00 | 0.00 |
| tblConstructionPhase | PhaseEndDate | 2/14/2022 | 4/15/2019 |
| tblConstructionPhase | PhaseEndDate | 4/15/2019 | 12/31/2018 |
| tblLandUse | LotAcreage | 0.00 | 45.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 84.00 | 25.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 300.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 4.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 4.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperDaysPerYear | 260.00 | 365.00 |
| tblOperationalOffRoadEquipment | OperFuelType | Diesel | CNG |
| tblOperationalOffRoadEquipment | OperHorsePower | 84.00 | 25.00 |
| tblOperationalOffRoadEquipment | OperHorsePower | 172.00 | 300.00 |
| tblOperationalOffRoadEquipment | OperLoadFactor | 0.20 | 0.20 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 4.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 2.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 7.00 |
| tblOperationalOffRoadEquipment | OperOffRoadEquipmentNumber | 0.00 | 1.00 |
| tblTripsAndVMT | WorkerTripNumber | 45.00 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated 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 | | | | | |
| 2019 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Maximum** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| | | Highest | | |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.2167 | 11.8060 | 8.4714 | 0.0188 | | 0.5944 | 0.5944 | | 0.5524 | 0.5524 | 0.0000 | 1,674.1039 | 1,674.1039 | 0.4916 | 0.0000 | 1,686.3948 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.2167** | **11.8060** | **8.4714** | **0.0188** | **0.0000** | **0.5944** | **0.5944** | **0.0000** | **0.5524** | **0.5524** | **0.0000** | **1,674.1039** | **1,674.1039** | **0.4916** | **0.0000** | **1,686.3948** |

## 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 | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Mobile | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Offroad | 1.2167 | 11.8060 | 8.4714 | 0.0188 | | 0.5944 | 0.5944 | | 0.5524 | 0.5524 | 0.0000 | 1,674.1039 | 1,674.1039 | 0.4916 | 0.0000 | 1,686.3948 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **1.2167** | **11.8060** | **8.4714** | **0.0188** | **0.0000** | **0.5944** | **0.5944** | **0.0000** | **0.5524** | **0.5524** | **0.0000** | **1,674.1039** | **1,674.1039** | **0.4916** | **0.0000** | **1,686.3948** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/1/2019 | 12/31/2018 | 5 | 0 | |
| 2 | Operation | Building Construction | 4/16/2019 | 4/15/2019 | 5 | 0 | |

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

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

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Grading | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Grading | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Grading | Pumps | 1 | 8.00 | 84 | 0.74 |
| Grading | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Grading | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Generator Sets | 2 | 8.00 | 25 | 0.74 |
| Operation | Off-Highway Trucks | 2 | 8.00 | 402 | 0.38 |
| Operation | Other Construction Equipment | 1 | 8.00 | 300 | 0.42 |
| Operation | Pumps | 1 | 8.00 | 84 | 0.74 |
| Operation | Sweepers/Scrubbers | 2 | 8.00 | 64 | 0.46 |
| Operation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Operation | Cranes | 1 | 7.00 | 231 | 0.29 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Operation | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Operation | Welders | 1 | 8.00 | 46 | 0.45 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 18 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Operation | 17 | 0.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

## 3.3 Operation - 2019

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Unmitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 3.3 Operation - 2019

**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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

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

## 4.2 Trip Summary Information

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

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| User Defined Industrial | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Industrial | 0.466291 | 0.031960 | 0.164877 | 0.131500 | 0.023119 | 0.007290 | 0.020969 | 0.142348 | 0.001645 | 0.001858 | 0.006120 | 0.000997 | 0.001026 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

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

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0000** | | | | | **0.0000** | **0.0000** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| User Defined Industrial | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| User Defined Industrial | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | | **0.0000** | **0.0000** | **0.0000** | **0.0000** |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|---|---|---|---|---|---|---|
| Generator Sets | 2 | 8.00 | 365 | 25 | 0.74 | Diesel |
| Off-Highway Trucks | 4 | 8.00 | 365 | 402 | 0.38 | Diesel |
| Other Construction Equipment | 1 | 8.00 | 365 | 300 | 0.42 | Diesel |
| Pumps | 1 | 8.00 | 365 | 84 | 0.74 | Diesel |
| Sweepers/Scrubbers | 2 | 8.00 | 365 | 64 | 0.46 | Diesel |
| Tractors/Loaders/Backhoes | 7 | 8.00 | 365 | 97 | 0.37 | Diesel |
| Forklifts | 1 | 8.00 | 365 | 89 | 0.20 | CNG |

**UnMitigated/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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Type | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Forklifts | 0.0293 | 0.2620 | 0.2190 | 2.8000e-004 | | 0.0203 | 0.0203 | | 0.0187 | 0.0187 | 0.0000 | 25.1781 | 25.1781 | 7.9700e-003 | 0.0000 | 25.3772 |
| Generator Sets | 0.0871 | 0.5474 | 0.2979 | 8.3000e-004 | | 0.0255 | 0.0255 | | 0.0255 | 0.0255 | 0.0000 | 61.3990 | 61.3990 | 7.1300e-003 | 0.0000 | 61.5773 |
| Off-Highway Trucks | 0.5182 | 5.2484 | 2.9177 | 9.6500e-003 | | 0.1909 | 0.1909 | | 0.1756 | 0.1756 | 0.0000 | 866.0385 | 866.0385 | 0.2740 | 0.0000 | 872.8886 |
| Other Construction Equipment | 0.0947 | 1.1581 | 0.6762 | 1.9900e-003 | | 0.0416 | 0.0416 | | 0.0383 | 0.0383 | 0.0000 | 178.5930 | 178.5930 | 0.0565 | 0.0000 | 180.0057 |
| Pumps | 0.0858 | 0.6997 | 0.6901 | 1.2000e-003 | | 0.0434 | 0.0434 | | 0.0434 | 0.0434 | 0.0000 | 103.1504 | 103.1504 | 6.9000e-003 | 0.0000 | 103.3228 |
| Sweepers/Scrubbers | 0.1042 | 0.9045 | 0.7289 | 9.3000e-004 | | 0.0734 | 0.0734 | | 0.0675 | 0.0675 | 0.0000 | 83.3260 | 83.3260 | 0.0264 | 0.0000 | 83.9851 |
| Tractors/Loaders/Backhoes | 0.2974 | 2.9860 | 2.9417 | 3.9700e-003 | | 0.1993 | 0.1993 | | 0.1834 | 0.1834 | 0.0000 | 356.4190 | 356.4190 | 0.1128 | 0.0000 | 359.2382 |
| **Total** | **1.2167** | **11.8059** | **8.4714** | **0.0189** | | **0.5944** | **0.5944** | | **0.5524** | **0.5524** | **0.0000** | **1,674.1039** | **1,674.1039** | **0.4916** | **0.0000** | **1,686.3948** |

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# GHG Emissions Analysis -- Summary Report

Version 14

**GHG Emissions Waste Management Analysis for**

**Prepared by:**

**Project Period for this Analysis: 01/01/2019 to 12/31/2019**

*Note: If you wish to save these results, rename this file (e.g., WARM-MN1) and save it. Then the "Analysis Inputs" sheet of the "WARM" file will be blank when you are ready to make another model run.*

**GHG Emissions from Baseline Waste Management ($MTCO_2E$): (112,226.45)**

| Material | Tons Recycled | Tons Landfilled | Tons Combusted | Tons Composted | Tons Anaerobically Digested | Total $MTCO_2E$ |
|---|---|---|---|---|---|---|
| Food Waste | NA | - | - | 270,000.00 | - | (47,523.25) |
| Mixed Organics | NA | - | - | 400,000.00 | - | (64,703.21) |
| | | | | | | - |
| | | | | | | 0 |

*Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.*

a) For explanation of methodology, see the EPA WARM Documentation:
Documentation Chapters for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)

-- available on the Internet at https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

c) The GHG emissions results estimated in WARM indicate the full life-cycle benefits waste management alternatives. Due to the timing of the GHG emissions from the waste management pathways, (e.g., avoided landfilling and increased recycling), the actual GHG implications may accrue over the long-term. Therefore, one should not interpret the GHG emissions implications as occurring all in one year, but rather through time.

| Project Incremental Non-Stationary Operational Emissions Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | CO2e |
| 10 Year Baseline Avg | 4.67 | 54.81 | 20.02 | 0.07 | 7.48 | 2.94 | 7350.99 |
| 2019 | 2.24 | 30.51 | 12.16 | 0.06 | 5.99 | 1.52 | 6468.10 |
| Incremental Increase | -2.43 | -24.30 | -7.85 | 0.00 | -1.49 | -1.41 | -882.89 |

| Project Incremental Stationary Operational Emissions Summary | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | NH3 | CO2e |
| 10 Year Baseline Avg | **30.58** | **0.16** | **0.02** | **0.13** | **0.02** | **0.02** | **28.14** | **-37439.16** |
| 2019 | 80.21 | 0.43 | 0.09 | 0.14 | 0.06 | 0.06 | 73.82 | -111718.50 |
| Incremental Increase | 49.64 | 0.27 | 0.08 | 0.01 | 0.04 | 0.04 | 45.68 | -74279.34 |

| Project Incremental Total Operational Emissions Summary | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Annual Emissions (tons/year) | | | | | | | (MT/Year) |
| Year | ROG | NOx | CO | SOX | PM10 | PM2.5 | NH3 | CO2e |
| 10 Year Baseline Avg | **35.24** | **54.97** | **20.04** | **0.20** | **7.50** | **2.96** | **28.14** | **-30088.17** |
| 2019 | 82.45 | 30.94 | 12.26 | 0.20 | 6.05 | 1.59 | 73.82 | -105250.40 |
| Incremental Increase | 47.21 | -24.02 | -7.78 | 0.00 | -1.45 | -1.37 | 45.68 | -75162.24 |

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# ATTACHMENT C: CARB 2015 AND 2020 ESTIMATED EMISSION INVENTORIES

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# 2016 SIP Emission Projection Data
## 2015 Estimated Annual Average Emissions
### KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.
See detailed information.
Start a new query.

## KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---|---|---|---|---|---|---|---|---|
| FUEL COMBUSTION | 0.5 | 0.1 | 0.7 | 2.4 | 0.2 | 0.4 | 0.4 | 0.3 | 0.0 |
| WASTE DISPOSAL | 7.6 | 0.1 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| CLEANING AND SURFACE COATINGS | 0.9 | 0.8 | - | - | - | 0.0 | 0.0 | 0.0 | - |
| PETROLEUM PRODUCTION AND MARKETING | 0.2 | 0.2 | - | - | - | - | - | - | - |
| INDUSTRIAL PROCESSES | 0.1 | 0.1 | 9.3 | 16.7 | 7.4 | 3.3 | 2.7 | 1.6 | 0.1 |
| *** TOTAL STATIONARY SOURCES** | **9.3** | **1.2** | **10.0** | **19.1** | **7.6** | **3.7** | **3.0** | **1.9** | **0.1** |
| **AREAWIDE SOURCES** | **TOG** | **ROG** | **CO** | **NOX** | **SOX** | **PM** | **PM10** | **PM2.5** | **NH3** |
| SOLVENT EVAPORATION | 1.4 | 1.3 | - | - | - | - | - | - | 1.4 |
| MISCELLANEOUS PROCESSES | 3.4 | 1.2 | 11.0 | 0.6 | 0.0 | 18.3 | 9.5 | 2.5 | 0.7 |
| *** TOTAL AREAWIDE SOURCES** | **4.9** | **2.4** | **11.0** | **0.6** | **0.0** | **18.3** | **9.5** | **2.5** | **2.1** |
| **MOBILE SOURCES** | **TOG** | **ROG** | **CO** | **NOX** | **SOX** | **PM** | **PM10** | **PM2.5** | **NH3** |
| ON-ROAD MOTOR VEHICLES | 1.9 | 1.7 | 12.4 | 6.3 | 0.0 | 0.3 | 0.3 | 0.2 | 0.2 |
| OTHER MOBILE SOURCES | 5.2 | 5.1 | 23.7 | 6.4 | 0.3 | 3.0 | 3.0 | 2.9 | 0.0 |
| *** TOTAL MOBILE SOURCES** | **7.1** | **6.8** | **36.1** | **12.7** | **0.3** | **3.4** | **3.3** | **3.1** | **0.2** |
| **TOTAL KERN COUNTY IN MOJAVE DESERT** | **21.2** | **10.4** | **57.0** | **32.3** | **8.0** | **25.4** | **15.8** | **7.6** | **2.3** |

## KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---|---|---|---|---|---|---|---|---|
| FUEL COMBUSTION | 13.0 | 1.9 | 10.3 | 8.3 | 0.7 | 2.8 | 2.7 | 2.7 | 1.5 |
| WASTE DISPOSAL | 207.8 | 11.4 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 4.9 |
| CLEANING AND SURFACE COATINGS | 2.8 | 2.5 | - | - | - | 0.0 | 0.0 | 0.0 | - |
| PETROLEUM PRODUCTION AND MARKETING | 47.2 | 12.9 | 1.0 | 0.4 | 0.4 | 0.2 | 0.1 | 0.1 | 0.0 |
| INDUSTRIAL PROCESSES | 2.2 | 2.0 | 0.1 | 0.1 | 0.1 | 3.3 | 1.4 | 0.5 | 0.1 |
| *** TOTAL STATIONARY SOURCES** | **273.0** | **30.8** | **11.5** | **8.8** | **1.2** | **6.4** | **4.3** | **3.4** | **6.7** |

| AREAWIDE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---|---|---|---|---|---|---|---|---|
| SOLVENT EVAPORATION | 10.5 | 9.6 | - | - | - | - | - | - | 28.0 |
| MISCELLANEOUS PROCESSES | 63.6 | 9.9 | 5.2 | 1.3 | 0.0 | 61.6 | 30.7 | 5.6 | 17.0 |
| *** TOTAL AREAWIDE SOURCES** | **74.0** | **19.5** | **5.2** | **1.3** | **0.0** | **61.6** | **30.7** | **5.6** | **45.0** |
| **MOBILE SOURCES** | **TOG** | **ROG** | **CO** | **NOX** | **SOX** | **PM** | **PM10** | **PM2.5** | **NH3** |
| ON-ROAD MOTOR VEHICLES | 7.9 | 7.1 | 48.6 | 33.2 | 0.1 | 1.8 | 1.7 | 0.9 | 0.9 |
| OTHER MOBILE SOURCES | 4.8 | 4.2 | 27.4 | 13.9 | 0.0 | 0.7 | 0.7 | 0.7 | 0.0 |
| *** TOTAL MOBILE SOURCES** | **12.7** | **11.3** | **76.0** | **47.1** | **0.2** | **2.5** | **2.5** | **1.6** | **0.9** |
| **TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY** | **359.7** | **61.6** | **92.8** | **57.1** | **1.4** | **70.5** | **37.5** | **10.5** | **52.5** |
| **GRAND TOTAL FOR KERN COUNTY** | **380.9** | **72.1** | **149.8** | **89.5** | **9.4** | **96.0** | **53.4** | **18.1** | **54.8** |

Start a new query.

# 2016 SIP Emission Projection Data
## 2020 Estimated Annual Average Emissions
### KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.
See detailed information.
Start a new query.

## KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---|---|---|---|---|---|---|---|---|
| FUEL COMBUSTION | 0.5 | 0.1 | 0.8 | 2.4 | 0.2 | 0.4 | 0.4 | 0.4 | 0.0 |
| WASTE DISPOSAL | 8.4 | 0.1 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| CLEANING AND SURFACE COATINGS | 0.9 | 0.8 | - | - | - | 0.0 | 0.0 | 0.0 | - |
| PETROLEUM PRODUCTION AND MARKETING | 0.1 | 0.1 | - | - | - | - | - | - | - |
| INDUSTRIAL PROCESSES | 0.1 | 0.1 | 10.2 | 18.4 | 8.1 | 3.7 | 2.9 | 1.7 | 0.1 |
| *** TOTAL STATIONARY SOURCES** | **10.2** | **1.3** | **11.0** | **20.8** | **8.3** | **4.1** | **3.3** | **2.1** | **0.1** |
| **AREAWIDE SOURCES** | **TOG** | **ROG** | **CO** | **NOX** | **SOX** | **PM** | **PM10** | **PM2.5** | **NH3** |
| SOLVENT EVAPORATION | 1.6 | 1.4 | - | - | - | - | - | - | 1.3 |
| MISCELLANEOUS PROCESSES | 3.5 | 1.2 | 11.0 | 0.6 | 0.0 | 18.6 | 9.7 | 2.6 | 0.7 |
| *** TOTAL AREAWIDE SOURCES** | **5.0** | **2.6** | **11.0** | **0.6** | **0.0** | **18.6** | **9.7** | **2.6** | **2.0** |
| **MOBILE SOURCES** | **TOG** | **ROG** | **CO** | **NOX** | **SOX** | **PM** | **PM10** | **PM2.5** | **NH3** |
| ON-ROAD MOTOR VEHICLES | 1.1 | 1.1 | 7.2 | 4.1 | 0.0 | 0.3 | 0.3 | 0.1 | 0.1 |
| OTHER MOBILE SOURCES | 5.0 | 4.9 | 23.8 | 5.5 | 0.3 | 3.0 | 2.9 | 2.9 | 0.0 |
| *** TOTAL MOBILE SOURCES** | **6.2** | **5.9** | **31.0** | **9.6** | **0.3** | **3.3** | **3.2** | **3.0** | **0.1** |
| **TOTAL KERN COUNTY IN MOJAVE DESERT** | **21.4** | **9.8** | **53.0** | **31.0** | **8.6** | **26.0** | **16.2** | **7.7** | **2.3** |

## KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

| STATIONARY SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---|---|---|---|---|---|---|---|---|
| FUEL COMBUSTION | 12.6 | 1.8 | 9.9 | 7.6 | 0.7 | 2.7 | 2.6 | 2.5 | 1.6 |
| WASTE DISPOSAL | 224.6 | 12.2 | 0.2 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 5.4 |
| CLEANING AND SURFACE COATINGS | 3.0 | 2.7 | - | - | - | 0.0 | 0.0 | 0.0 | - |
| PETROLEUM PRODUCTION AND MARKETING | 46.2 | 11.8 | 0.9 | 0.3 | 0.4 | 0.2 | 0.1 | 0.1 | 0.0 |
| INDUSTRIAL PROCESSES | 2.4 | 2.3 | 0.1 | 0.1 | 0.1 | 3.7 | 1.6 | 0.6 | 0.2 |
| *** TOTAL STATIONARY SOURCES** | **288.8** | **30.7** | **11.1** | **8.0** | **1.1** | **6.7** | **4.4** | **3.3** | **7.2** |

| AREAWIDE SOURCES | TOG | ROG | CO | NOX | SOX | PM | PM10 | PM2.5 | NH3 |
|---|---|---|---|---|---|---|---|---|---|
| SOLVENT EVAPORATION | 10.9 | 10.0 | - | - | - | - | - | - | 26.5 |
| MISCELLANEOUS PROCESSES | 63.6 | 9.9 | 5.2 | 1.2 | 0.0 | 61.8 | 30.9 | 5.7 | 17.1 |
| *** TOTAL AREAWIDE SOURCES** | **74.5** | **19.9** | **5.2** | **1.2** | **0.0** | **61.8** | **30.9** | **5.7** | **43.6** |
| **MOBILE SOURCES** | **TOG** | **ROG** | **CO** | **NOX** | **SOX** | **PM** | **PM10** | **PM2.5** | **NH3** |
| ON-ROAD MOTOR VEHICLES | 5.4 | 4.9 | 31.4 | 23.5 | 0.1 | 1.7 | 1.6 | 0.7 | 0.8 |
| OTHER MOBILE SOURCES | 4.0 | 3.5 | 27.2 | 10.8 | 0.0 | 0.6 | 0.5 | 0.5 | 0.0 |
| *** TOTAL MOBILE SOURCES** | **9.4** | **8.4** | **58.6** | **34.2** | **0.2** | **2.2** | **2.2** | **1.2** | **0.8** |
| **TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY** | **372.7** | **59.0** | **74.9** | **43.5** | **1.4** | **70.7** | **37.4** | **10.2** | **51.7** |
| **GRAND TOTAL FOR KERN COUNTY** | **394.0** | **68.8** | **127.9** | **74.4** | **10.0** | **96.7** | **53.6** | **17.9** | **54.0** |

Start a new query.

# ATTACHMENT D: HEALTH RISK ANALYSIS (ELECTRONIC FILES)

# ATTACHMENT E: CUMULATIVE PROJECTS LIST

# Synagro - SKIC Composting Facility: 6-Mile Project List

| CaseID | Name | ProjectLocation | Request | CaseTypeCode | NUMBER | MAP | SECTION | Notes | TownshipRangeSection | APN | Acreage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7240<br>7454<br>7239 | HAMPTON, BOB/SEAN EDGAR | N/S CEDAR ST, E OF HWY 119 PTN SEC 7 | GPA TO 3.4<br>ZC TO NR(5)<br>SMALL VOLUME TRANSFER FACILITY | GPA<br>ZCC<br>CUP | 1<br>16<br>20 | 157 | | | | | |
| 2668<br>2669 | KOCH OIL CO. | | ZC TO M-3<br>COMMERCIAL COACH FOR OFFICE | ZCC<br>CUP | 5<br>2 | 159 | | | | | |
| 15034 | Algonquin Power Company Attn Julian Ristow | Santiago Rd. and Souoth Lake Rd. | EOT for previously-approved CUP 6, Map 158 (Resolutions 111-11, 112-11, and 113-11). SKIC Solar | CUP | 6 | 158 | | | | 220-110-79 | , 0.00 |
| 12892 | ANTERRA ENERGY SERVICES | HWY. 166, EAST OF MARICOPA | NONHAZARDOUS WASTE TREATMENT & RECYCLE FACILITY | CUP | 2 | 205 | | | 11/22-4 | 239-080-75 | , 0.00 |
| 8269 | ANTONGIOVANNI, STAN/McINTOSH ASSOC | SE/4 SEC 25 | DAIRY | CUP | | 159 | | | | | |
| 6555 | BAKERSFIELD CELLULAR/D & D | S/S ST RT 166, NE/4 SEC 11 | CELLULAR COMM FACILITY | CUP | 1 | 204 | | | | | |
| 5905 | BAKERSFIELD CELLULAR/KLASSEN | 19296 NORD AVENUE | CELLULAR COMM FACILITY | CUP | 4 | 159 | | | | | |
| 9238 | BANDUCCI FARMING, LLC | DAIRY RD & ADOHR RD | DAIRIES (2) | CUP | | 159 | | | | | |
| 281 | BARRY & EWING CORP. | | COMM COACH OFFICE | CUP | 12 | 157 | | | | | |
| 402 | BILLINGSLEY, ALLAN & PATSY | NE COR WESTERN MIN. RD & SHORT RD | MH IN-LIEU | CUP | 9 | 206 | | | | | |
| 10211 | BONANZA FARMS/DAVID ALBERS | OLD RIVER RD, 2 MI S/I-5 | DAIRY | CUP | 6 | 159 | 14 | | 32/26-14 | 295-100-03 | 3,811.00 |
| 6729 | BORBA & SON/MARTY LEVINE | SE/4 SEC 2 | B/S: DAIRY | CUP | 12 | 141 | | | | | |
| 6104 | BOS, JOHN/MARTIN LEVINE | PTN SEC 27 | DAIRY WO #97239 | CUP | 9 | 141 | | | | | |
| 546 | BRUMMET, JAMES/ JOHN HOFFMAN | S OF MARICOPA HWY, SEC 7 | CONTRACTORS STORAGE YARD | CUP | 10 | 206 | | | | | |
| 9710 | BRUMMETT, JAMES/AMERISTAR | SWC MARICOPA HWY & BRUMMETT WAY | MOBILEHOME AS PRIMARY USE | CUP | 18 | 206 | | | | | |
| 587 | BURKE, JOHN | | MH IN LIEU | CUP | 11 | 157 | | | | | |
| 9908 | CHEEMA, HANSRAJ/D & D | SWC OLEN AVE & S ENOS LN | AGRICULTURAL TRUCKING FACILITY | CUP | 5 | 140 | | | | | |
| 8658 | CITY OF LA HYPERION TREATMENT PLANT/CITY OF LA PW | S/2 SW/4 SEC 8 | PUBLIC AGENCY BLDG | CUP | 15 | 141 | | | | | |
| 5992 | COMMUNICATION SYSTEM DEVELOPMT | PTN SE/4 SEC 22 ON E/S I-5 | CELLULAR COMM FACILITY | CUP | 8 | 141 | | | | | |
| 5764 | CONTEL CELLULAR/MBF SERVICES | 24265 HIGHWAY 166 | CELLULAR COMM FACILITY | CUP | 14 | 206 | | | | | |
| 10216 | COSTAMAGNA, ERNIE/MACEDO ENG'G | S/S SO LAKE RD, 1/2 MI W/HILL RD | DAIRY (BUENA VIEW) | CUP | 5 | 159 | 17 | | 32/26-17 | 295-040-36 | 1,285.00 |
| 10217 | COSTAMAGNA, ERNIE/MACEDO ENG'G | S/S S LAKE RD, 2.5 MI E/GDNR FLD RD | DAIRY (GARDNER VIEW) | CUP | 4 | 158 | 29 | | 32/25-29 | 220-170-07 | 1,124.00 |
| 10218 | COSTAMAGNA, ERNIE/MACEDO ENG'G | N/S S LAKE ROAD, 2 MI W/SUNSET RR | DAIRY (SUNSET EXPRESS) | CUP | 3 | 158 | | | | | |
| 1358 | EXCEL MINERALS CO. INC | PTN SEC 28 | RECLAMATION PLAN | CUP | 16 | 157 | | | | | |
| 14218 | Fresno MSA Limited | West of Old River and SR-166 | 150 Cell Tower | CUP | 2 | 204 | | | 11/21-07 | 239-350-09 | , 38.50 |
| 1623 | GENERAL PRODUCTION SERVICE | SEC 19, W OF HWY 33 | TEMP. BATCH PLANT (CONCRETE) | CUP | 14 | 157 | | | | | |
| 12059 | GRAVIS, CORKY /METRO READY MIX | SEC ENOS LANE @ UNION | CONCRETE BATCH PLANT | CUP | | 140 | | | 31/25-13 | 184-030-07 | , 4.50 |
| 1738 | GRIFFITH, RANDY | SW 1/4 SEC 7 | SKI LAKE & R-V PARK | CUP | 3 | 159 | | | | | |
| 13758 | HERNANDEZ, JOSE | GARDENER FIELD RD. | COMMUNITY CENTER | CUP | | 157 | | | 32/24-23 | 220-030-13 | , 10.50 |
| 2215 | JONES, BILL/VALLEY MANUF HOMES | N/2 NW/4 SW/4 SEC 26 | MOBILEHOME W/O FOUNDATION STND | CUP | | 157 | | | | | |
| 2223 | JONES, JEFF | PTN NE 1/4 SEC 26 | COMMERCIAL COACHES (SKYDIVING) | CUP | 17 | 157 | | | | | |
| 8711 | KERN COUNTY TRAP & SKEET/McINTOSH & ASSOC | N/S IRONBARK RD, W/ENOS LANE | SHOOTING RANGE | CUP | 4 | 140 | | | | | |
| 2661 | KLOTZ, DWAYNE | PTN NE 1/4 SEC 7 | SINGLE FAMILY DWELLING-MH | CUP | 12 | 206 | | | | | |
| 10074 | LAYTON MELTON PRODUCTIONS/D MELTON ET AL | PTN SEC 10 | RACE TRACK | CUP | 21 | 157 | | | | | |
| 7026 | LINDSAY, DOUGLAS | SWC ENOS LN & UNION RD | MOTORCYCLE RACE TRACK | CUP | | 140 | | | | | |

# Synagro - SKIC Composting Facility: 6-Mile Project List

| CaseID | Name | ProjectLocation | Request | CaseTypeCode | NUMBER | MAP | SECTION | Notes | TownshipRangeSection | APN | Acreage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15254 | Maricopa Sun by Jeff Roberts | Maricopa Sun Solar Re-Activate | CUP | CUP | | 159 | 19 | | 19/32-26 | | , 0.00 |
| 14399 | Massimo Freda | 19300 Copus Road, Bakersfield | CUP for alcoholic Apple Cider (brewery) | CUP | | 158 | | | 32/25-36 | 220-160-40 | , 9.60 |
| 15057 | Matthew Estrada | 11006 Enos Lane, Bakersfield | A CUP for an indoor non-lethal simulated firearms training facility | CUP | | 140 | | | | 184-012-27 | , 0.00 |
| 13612 | MATTIVI BROS LEASING | OFF HWY. 166 | BATCH PLANT - 3 YEAR PERIOD | CUP | 3 | 205 | | | 11/22-24 | 239-090-41 | , 0.00 |
| 10662 | NEXTEL COMM/J LIENERT | N/S PIERI RD, W/HILL RD | CELLULAR COMM FACILITY | CUP | 16 | 141 | | | | | |
| 7263 | NEXTEL COMMUNICATION/T QUINN | SW/4 SEC 10 | CELLULAR COMM FACILITY | CUP | 18 | 157 | | | | | |
| 6140 | O'BRIEN, S/PERRIS VALLEY SKY | SEC DUVAL ST & SOUTH LAKE RD | MODIFY CUP FOR RV PARK & REST | CUP | 17 | 157 | | | | | |
| 5922 | PALLA FARMS/MARTIN LEVINE | PTN S/2 SEC 19, 20, 21, N/2 SEC 28 | DAIRIES WO #97214 | CUP | 7 | 141 | | | | | |
| 3419 | PALLA ROSA FARMS/ LIVIO PALLA | SEC 25 | DAIRY | CUP | 5 | 141 | | | | | |
| 14770 | Pensco Trust Company et. al. (see Attachment) | Santiago Road | CUP for Solar Power Generation Facility | CUP | | 158 | | | 32/25- | 220-110-61 | 118.459 |
| 5159<br>5778<br>6300<br>6327 | PLANTENGA, GEORGE/L WIELENGA | PTN SEC 36 | DAIRY<br>EXTENSION OF TIME<br>EXTENSION OF TIME<br>DELETION OF CONDITION | CUP | 6 | 141 | | | | | |
| 6704<br>7925<br>7272 | PLANTENGA, GEORGE/L WIELENGA | S/S BEAR MTN BLVD, N/S MILLUX RD | DAIRY<br>EXTENSION OF TIME<br>EXTENSION OF TIME | CUP | 11 | 141 | | | | | |
| 13705 | QUAN PHU BY ROGER FRYMIRE (VIKON) | SOUTH LAKE ROAD | POUTRY PROCESSING PLANT | CUP | | 158 | | | 32/25-22 | 220-110-14 | ,120.00 |
| 13115 | R. WYATT SANDERS TRUST BY T-SQUARED | 23102 SOUTH LAKE RD. TAFT, CA 93268 | CUP & WILLIAMSON ACT LAND USE CANCELLATION TO ALLOW FOR THE DEVELOPMENT OF A 253 ACRE SOLAR FARM | CUP | | 158 | | | 32/25-20 | 220-120-09 | ,253.00 |
| 14086<br>13978 | R.T. Martin | 13453 Olen Ave | CUP for Equestrian Facility | CUP | 6 | 140 | | | | 184-012-18 | , 0.00 |
| 8873 | RENFROE, WILLIAM | PTN SEC 34,W/S BASIC SCHOOL RD | PRIVATE AIRSTRIP, SKYDIVING SCHOOL & RV PARK | CUP | | 189 | | | | | |
| 3708 | RESOURCE RENEWAL TECHNOLOGIES | W/2 NW/4 NE/4 SEC 8 | ASPHALT PLANT-TEMPORARY | CUP | 13 | 206 | | | | | |
| 8557 | RESPONSIBLE COMPOST MNG/COFFIN, JOHN | 1 MI S/TAFT HWY, 1/2 MI W/I-5 | COMPOSTING FACILITY | CUP | 14 | 141 | | | 31/26-07 | 184-090-09 | ,200.00 |
| 8967 | ROTH, JOHN | | MILLING & SCREENING OF PUMICE | CUP | 17 | 206 | | | | | |
| 10077 | ROTH, JOHN | 25103 HIGHWAY 166 | MOBILEHOME AS PRIMARY USE | CUP | 19 | 206 | | | | | |
| 5034 | RRT, INC/INSIGHT ENG'G CONS | | RECYCLE CONSTR MATERIALS | CUP | | 206 | | | | | |
| 5035 | RRT, INC/INSIGHT ENG'G CONS | WO # 98207 | PERMANENT BATCH PLANT | CUP | 15 | 206 | | | | | |
| 6796<br>9656 | SATTAR, MOHAMMED | 15751 COPUS RD PTN NW/4 SEC 32 | SLAUGHTER HOUSE | CUP | 2 | 187 | | | | | |
| 14957 | SKIC Development Company, LLC by Porter & Associat | South Lake Road & Santiago Road | CUP for solar pv facility | CUP | 8 | 158 | 24 | | 32/25- | 220-110-55 | |
| 7787 | SPECTRA SITE COMM/MATT SIMS | PTN NW/4 SEC 7 | CELLULAR COMM FACILITY | CUP | 3 | 140 | | | | | |
| 11552 | SYNAGRO/ELIZABETH OSTOICH | | MODIFICATION OF CONDITIONAL USE PERMIT | CUP | 2 | 158 | | | | | , 0.00 |
| 15280 | T&R Enterprise LLC (Jordan Treaster/ Partner) | S/E corner of S Enos & Union Rd | Allow a bulk soil amendment storage | CUP | | 140 | | | 31/25-13 | 184-030-07 | , 0.00 |
| 7469 | VANDERHAM, PETE/L WIELENGA | PTN SEC 1 | DAIRY | CUP | | 159 | | | | | |
| 13944 | Vulcan Materials Company | 16101 HWY 166 | SMARA for expansion of existing mine site. EIR will be required | CUP | 4 | 205 | | | | | , 0.00 |
| 9475 | WATSON, C JAY/JOHN WILSON | S/2 SE/4 SEC 2 (11333 ENOS LANE) | ROCK, GRAVEL, SAND CRUSHING & PROCESSING | CUP | | 140 | | | | | |
| 4748 | WESTERN STATES MT CO | PTN SEC 23 | TRANSMISSION TOWER | CUP | 4 | 141 | | | | | |
| 15372 | Wiley D. Hughes Surveying, Inc. | Ss Hwy 119 apprx 1/2 mi west of I-5 | To allow a hotel, convenience mkt, auto and trucking fueling station | CUP | 3 | 141 | | | | 184-090-58 | , 9.68 |

# Synagro - SKIC Composting Facility: 6-Mile Project List

| CaseID | Name | ProjectLocation | Request | CaseTypeCode | NUMBER | MAP | SECTION | Notes | TownshipRangeSection | APN | Acreage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9013<br>7243 | KERN COUNTY PLANNING | RRT, INC<br>N/S HWY 166, APP 2 1/2MI E/MARICOPA | REVOCATION<br>REVOCATION OF CUP 15 | CUP | 15 | 206 | | | | | |
| 8349<br>7279 | NEXTEL COMMUNICATION/STEVE WINN | 26782 E CEDAR ST, TAFT | EXTENSION OF TIME<br>CELLULAR COMM FACILITY | CUP | 19 | 157 | | | | | |
| 8983 | PLANTENGA, GEORGE/KLASSEN CORP | | DELETE MAJOR & SECONDARY ALIGNMENTS | GPA | 5 | 141 | | | | | |
| 10512 | SELINGER, STEVE | SEC 8 & 18 - BUENA VISTA HILLS | SPECIFIC PLAN 4.3 | GPA | | 140 | | | 13/25-18 | 298-090-20 | ,787.72 |
| 7112<br>7236 | SMITH, BILL ET AL/WILSON & ASS | PTN SEC 8 & 17 | PC: CIRC AMENDMENT WO#00010A | GPA | 5 | 140 | | | | | |
| 12165 | WESTERN MEADOWS SPORTS, INC. BY DANIEL SCALES | NEC ENOS LN & SHOTGUN RD | DEVELOPMENT OF A SPECIFIC PLAN | GPA | | 140 | | | 31/25-14 | 184-030-53 | ,287.95 |
| 10309<br>10310 | SCHACKMAN, CONRAD & SCOTT BY WILEY HUGHES SURVEY | SEC TAFT HWY & ENOS LANE | GPA TO 7.1<br>ZC TO M-1 | GPA<br>ZCC | 7<br>13 | 140 | | | 31/25-01 | 184-010-82 | , 18.12 |
| 12087<br>12088 | KENNETH KERR | Enos Lane and Hwy 119 SWC | 8.4 to 6.3 A to M-1 8.4 to 6.3 A to M-1<br>INCLUDES EXCLUSION TO AG PRESERVE AS ONLY THE 10 ACRES WAS EXCLUDED NOT THE 30 | GPA<br>ZCC | 8<br>14 | 140 | | | 31/25-2 | 184-010-93 | , 30.00 |
| 6615<br>6616 | JHAJ, RUPINDER/PASQUINI ENG'G | SWC TAFT HWY (SR 119) & ENOS LN | GPA TO 6.2 WO #98259<br>ZC TO M-1 PD WP # 98259 | GPA<br>ZCC | 4<br>10 | 140 | | | | | |
| 9627<br>9628 | KERR, KENNETH/B ANDERSON | S/S TAFY HWY, 1/2 MI W/ENOS LANE | GPA TO LI - B/S APPROVED 6.3<br>ZC TO M-1 PD | GPA<br>ZCC | 6<br>12 | 140 | | | | | |
| 11354<br>11355 | MITCHELL, MARA | 1.5 MI S ROUTE 119/ ENOS LANE | ZC TO E ( 2 1/2 ) & C-2 | GPA<br>ZCC | | 140 | 11 | | 31/25- | 184-010-75 | , 80.00 |
| 6646<br>5033 | RRT, INC/INSIGHT ENG'G | PTN NE/4 SEC 8 | GPA TO 7.2 WO 98207 ZC TO NR(5) WO #98207 | GPA<br>ZCC | 2<br>21 | 206 | | | | | |
| 14346<br>14679 | San Joaquin Land and Cattle Co. | 10131 Enos Lane | GPA from 8.3 to 7.1<br>ZCC from A to M-1 PD | GPA<br>ZCC | | 140 | | | 31/25-02 | 184-012-47 | , 39.15 |
| 8422<br>8423 | WEST SIDE WASTE/SEAN EDGAR | PTN SEC 7; N/S CEDAR ST | GPA TO 7.1<br>ZC TO M-1 PD | GPA<br>ZCC | 2<br>17 | 157 | | | | | |
| 13258<br>13259 | MARICOPA SUN LLC | LAKE ROAD AREA | 700 MW SOLAR PROJECT | GPA<br>CUP | 5<br>5 | 158 | 19 | | 32/25-19 | 220-110-08 | 6,046.00 |
| 13260<br>13261 | MARICOPA SUN LLC | COPUS RO AREA, W OF I-5 | 700 MW SOLAR PROJECT | GPA<br>CUP | 1<br>7 | 159 | | | 32/26-23 | 295-030-17 | 6,046.00 |
| 6576<br>6534 | BORBA DAIRY/MARTY LEVINE | PACIFICANA SP | PACIFICANA SP #98256<br>DAIRY WO #98256 RESCIND | GPA<br>CUP | 2<br>10 | 141 | | | | | |
| 11922 | BOWLES, HENRY M | NWC GOLF COURSE RD & IRONBARK RD | 4.3 TO 4.1 (SPECIFIC PLAN) | SPA | | 140 | 08 | | 31/25-08 | 184-020-52 | ,120.15 |
| 123 | ANDREWS, DON/PORTER-ROBERTSON | PTN SEC 36 | ZC TO ADD FPS | ZCC | 4 | 158 | | | | | |
| 8083 | BARTON BROS. FARMS/SIMPSON V C | NE COR OLD RIVER RD & MARICOPA HWY | MINI-MART FARM OFF PD PLAN | ZCC | 7 | 204 | | | | | |
| 383 | BERRY PETRO. CO./BORTON ET AL | 2 1/2 MI. S. OF TAFT | ZC TO NR(20) | ZCC | 9 | 157 | | | | | |
| 13438 | BERRY PETROLEUM CO/DEWALT CORP | HWY 33/2 MILES SOUTH OF TAFT | TO NR (5) | ZCC | 18 | 157 | | | 32/24-31 | 220-080-17 | , 38.00 |
| 547 | BRUMMET, JAMES/JOHN HOFFMAN | S OF MARICOPA HWY, SEC 7 | ZC TO NR(5) | ZCC | 17 | 206 | | | | | |
| 853 | CHEVRON USA/ DEWALT-PORTER | PTN SEC 10 | ZC TO NR(5) | ZCC | 3 | 205 | | | | | |
| 856 | CHEVRON USA/KCPADS | SEC 31 | ZC TO NR(20) | ZCC | 4 | 189 | | | | | |
| 859 | CHEVRON USA/KCPADS | SEC 5,9 PTNS SEC 7, 16 | ZC TO NR(20) & A | ZCC | 20 | 206 | | | | | |
| 863 | CHEVRON/KCPADS | VARIOUS | ZCC TO NR(20) & A | ZCC | 13 | 157 | | | | | |
| 865 | CHEVRON/KCPADS | PTN SEC 34 | ZC TO A | ZCC | 5 | 189 | | | | | |
| 993 | CORROSION CONTROLS, INC. | | ZC TO M-2 | ZCC | 8 | 157 | | | | | |
| 14869 | Darryl Jones | N/side of Olen Ave, west of Enos Ln | ZC from A to NR for oilfield service yard | ZCC | | 140 | 2 | | 31/25-02 | 184-012-21 | , 20.00 |
| 1647 | GLASER, SCOTT ET AL/ RWD&D | SE COR I-5 & TAFT HWY | ZC TO C-2 PD | ZCC | 5 | 141 | | | | | |
| 1649 | GLASER, SCOTT/RWDD | PTN NE 1/4 SEC 6 | ZC TO A | ZCC | 6 | 141 | | | | | |

# Synagro - SKIC Composting Facility: 6-Mile Project List

| CaseID | Name | ProjectLocation | Request | CaseTypeCode | NUMBER | MAP | SECTION | Notes | TownshipRangeSection | APN | Acreage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12769 | GOETTING, CHARLES/BRUCE ANDERSON | 12611 SO. ENOS LANE | Z.C. TO NR 20 | ZCC | 16 | 140 | | | 31/25-11 | 184-010-75 | , 20.00 |
| 1728 | GREENLEE, JEFFERY/ RWDD | 11664 VALPREDO RD | ZC TO ADD FPS | ZCC | 1 | 187 | | | | | |
| 1805 | HALL, WAYNE / TERRY KYNER | PTN SEC 18 | ZC TO ADD FPS | ZCC | 7 | 159 | | | | | |
| 8103 | HUGHES AIRCRAFT CO/S. GRIMES | SOUTH LAKE RD, PTN SEC 13 | SATELLITE SYSTEMS PD PLAN | ZCC | 3 | 158 | | | | | |
| 7945 | JENKINS, LARRY & DEBBIE/D & D | N/2 NE/4 SEC 11 | ZC TO NR(5) PD | ZCC | 11 | 140 | | | | | |
| 2651 | KIRSTIN DEV. CORP/BERRY & ASSO | PTNS 16 & 17 | ZC TO ADD FPS | ZCC | 4 | 205 | | | | | |
| 2806 | LEWIS, OCIE & BETTY | PTN NW 1/4 SEC 35 | ZC TO A | ZCC | 14 | 157 | | | | | |
| 4032 | SHELL WESTERN/KCPADS | PTN SEC 31 | ZC TO NR(20) | ZCC | 12 | 157 | | | | | |
| 4086 | SLAVICH,NELLIE/JOHN WILSON | E 1/2 SEC 10 | ZC TO A FPS | ZCC | 19 | 206 | | | | | |
| 13195 | SLAYDECO, INC./BRUCE ANDERSON | E/S BASIC SCHOOL RD. | ZC TO A | ZCC | 24 | 206 | | | 11/23-2 | 239-131-06 | , 40.00 |
| 11240 | SLAYDECO, INC./DEE SLAYMAN | E/SIDE BASIC SCHOOL ROAD | ZC TO A | ZCC | | 206 | | | 11/23-2 | 239-131-06 | , 38.49 |
| 4416 | TENNECO WEST INC/S. G. LADD | SEC 4 | ZC TO ADD FPS | ZCC | 8 | 204 | | | | | |
| 8011 | TENNECO WEST, INC. /ALTA ENG. | | STORAGE TANKS - ABOVE GROUND | ZCC | 6 | 159 | | | | | |
| 6974<br>7256 | TEXACO EXPL & PROD/SMITH TECH | PTN SEC 10 | PC: ZC TO NR(20)PD WO #99023A | ZCC | 15 | 157 | | | | | |
| 4552 | VALLEY COMMUNITIES, INC/S-V IN | SW COR TAFT HWY & I-5 | ZC TO C-2 PD | ZCC | 7 | 141 | | | | | |
| 12586 | WATSON, C.J./BRUCE ANDERSON | W/S ENOS LANE | ZC A TO NR(20) | ZCC | 15 | 140 | | | 31/25-2 | 184-012-07 | , 80.00 |
| 6771 | WILDLANDS CONSERVANCY/R ABBOTT | | ZC TO A WO #99214 | ZCC | 9 | 204 | | | | | |
| 6772 | WILDLANDS CONSERVANCY/R ABBOTT | | ZC TO A | ZCC | 22 | 206 | | | | | |
| 9087 | WILLOW BROOK, LLC/D & D | PTN S/2 SE/4 SE/4 SEC 22 | ZC TO C-2 PD | ZCC | 10 | 141 | | | | | |
| 6806<br>6993 | GAMMON, WILLIAM | SW/4 SEC 2 | PC: ZC TO A<br>B/S: ZC TO A WO #99017A | ZCC | 23 | 206 | | | | | |
| 1054<br>1055 | D & L CONSTRUCTION INC | N/S CEDAR ST/ E OF HWY 119 | ZC TO NR-5<br>CONTRACTOR'S STORAGE YARD | ZCC<br>CUP | 10<br>13 | 157 | | | | | |
| 1237<br>1238 | DeCLUE, RAY ET AL/J. HOFFMAN | S/S MARICOPA HWY., PTN SEC 7 | ZC TO NR(5)<br>CONTRACTOR'S STORAGE YARD(OIL) | ZCC<br>CUP | 18<br>11 | 206 | | | | | |
| 4686<br>4687 | WATKINS CONST. BY JOHN HOFFMAN | N/S CEDAR ST.,PTN SEC 7 | ZC TO NR(5)<br>OILFIELD EQUIPMENT STORAGE | ZCC<br>CUP | 11<br>15 | 157 | | | | | |
| 3158<br>3159 | MORTON RECYCLING | PTN E/2 SEC 34 | ZC TO A<br>SOIL RECYCLING FACILITY-NONHAZ | ZCC<br>CUP | 6<br>1 | 189 | | | | | |

# Synagro - SKIC Composting Facility: 1-Mile Project List

| CaseID | Name | ProjectLocation | Request | CaseTypeCode | NUMBER | MAP | SECTION | Notes | TownshipRangeSection | APN | Acreage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9238 | BANDUCCI FARMING, LLC | DAIRY RD & ADOHR RD | DAIRIES (2) | CUP | | 159 | | | | | |
| 10216 | COSTAMAGNA, ERNIE/MACEDO ENG'G | S/S SO LAKE RD, 1/2 MI W/HILL RD | DAIRY (BUENA VIEW) | CUP | 5 | 159 | 17 | | 32/26-17 | 295-040-36 | 1,285.00 |
| 10217 | COSTAMAGNA, ERNIE/MACEDO ENG'G | S/S S LAKE RD, 2.5 MI E/GDNR FLD RD | DAIRY (GARDNER VIEW) | CUP | 4 | 158 | 29 | | 32/25-29 | 220-170-07 | 1,124.00 |
| 10218 | COSTAMAGNA, ERNIE/MACEDO ENG'G | N/S S LAKE ROAD, 2 MI W/SUNSET RR | DAIRY (SUNSET EXPRESS) | CUP | 3 | 158 | | | | | |
| 15254 | Maricopa Sun by Jeff Roberts | Maricopa Sun Solar Re-Activate | CUP | CUP | | 159 | 19 | | 19/32-26 | | , 0.00 |
| 14770 | Pensco Trust Company et. al. (see Attachment) | Santiago Road | CUP for Solar Power Generation Facility | CUP | | 158 | | | 32/25- | 220-110-61 | 118.459 |
| 13705 | QUAN PHU BY ROGER FRYMIRE (VIKON) | SOUTH LAKE ROAD | POUTRY PROCESSING PLANT | CUP | | 158 | | | 32/25-22 | 220-110-14 | ,120.00 |
| 13115 | R. WYATT SANDERS TRUST BY T-SQUARED | 23102 SOUTH LAKE RD. TAFT, CA 93268 | CUP & WILLIAMSON ACT LAND USE CANCELLATION TO ALLOW FOR THE DEVELOPMENT OF A 253 ACRE SOLAR FARM | CUP | | 158 | | | 32/25-20 | 220-120-09 | ,253.00 |
| 14957 | SKIC Development Company, LLC by Porter & Associat | South Lake Road & Santiago Road | CUP for solar pv facility | CUP | 8 | 158 | 24 | | 32/25- | 220-110-55 | |
| 13258<br>13259 | MARICOPA SUN LLC | LAKE ROAD AREA | 700 MW SOLAR PROJECT | GPA<br>CUP | 5<br>5 | 158 | 19 | | 32/25-19 | 220-110-08 | 6,046.00 |
| 13260<br>13261 | MARICOPA SUN LLC | COPUS RO AREA, W OF I-5 | 700 MW SOLAR PROJECT | GPA<br>CUP | 1<br>7 | 159 | | | 32/26-23 | 295-030-17 | 6,046.00 |

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Appendix C

# San Joaquin Valley Air Pollution Control District and South Coast Air Quality Management District Amicus Curie Brief

**CASE NO. S219783**

**IN THE SUPREME COURT OF CALIFORNIA**

---

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
*Plaintiffs and Appellants*

v.

COUNTY OF FRESNO,
*Defendant and Respondent*

FRIANT RANCH, L.P.,
*Real Party in Interest and Respondent*



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After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

---

# APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

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Annette.Ballatore-Williamson@valleyair.org

*Counsel for San Joaquin Valley Unified Air Pollution Control District*

**CASE NO. S219783**

**IN THE SUPREME COURT OF CALIFORNIA**

---

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
*Plaintiffs and Appellants*

v.

COUNTY OF FRESNO,
*Defendant and Respondent*

FRIANT RANCH, L.P.,
*Real Party in Interest and Respondent*

---

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

---

# APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

---

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Annette.Ballatore-Williamson@valleyair.org

*Counsel for San Joaquin Valley Unified Air Pollution Control District*

## APPLICATION

Pursuant to California Rules of Court 8.520(f)(1), proposed Amicus Curiae San Joaquin Valley Unified Air Pollution Control District hereby requests permission from the Chief Justice to file an amicus brief in support of Defendant and Respondent, County of Fresno, and Defendant and Real Parties in Interest Friant Ranch, L.P. Pursuant to Rule 8.520(f)(5) of the California Rules of Court, the proposed amicus curiae brief is combined with this Application. The brief addresses the following issue certified by this Court for review:

> Is an EIR adequate when it identifies the health impacts of air pollution and quantifies a project's expected emissions, or does CEQA further require the EIR to *correlate* a project's air quality emissions to specific health impacts?

As of the date of this filing, the deadline for the final reply brief on the merits was March 5, 2015. Accordingly, under Rule 8.520(f)(2), this application and brief are timely.

### 1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District

The San Joaquin Valley Unified Air Pollution Control District ("Air District") regulates air quality in the eight counties comprising the San Joaquin Valley ("Central Valley"): Kern, Tulare, Madera, Fresno, Merced, San Joaquin, Stanislaus, and Kings, and is primarily responsible for attaining air quality standards within its jurisdiction. After billions of dollars of investment by Central Valley businesses, pioneering air quality regulations, and consistent efforts by residents, the Central Valley air basin has made historic improvements in air quality.

The Central Valley's geographical, topographical and meteorological features create exceptionally challenging air quality

conditions. For example, it receives air pollution transported from the San Francisco Bay Area and northern Central Valley communities, and the southern portion of the Central Valley includes three mountain ranges (Sierra, Tehachapi, and Coastal) that, under some meteorological conditions, effectively trap air pollution. Central Valley air pollution is only a fraction of what the Bay Area and Los Angeles produce, but these natural conditions result in air quality conditions that are only marginally better than Los Angeles, even though about ten times more pollution is emitted in the Los Angeles region. Bay Area air quality is much better than the Central Valley's, even though the Bay Area produces about six times more pollution. The Central Valley also receives air pollution transported from the Bay Area and northern counties in the Central Valley, including Sacramento, and transboundary anthropogenic ozone from as far away as China.

Notwithstanding these challenges, the Central Valley has reduced emissions at the same or better rate than other areas in California and has achieved unparalleled milestones in protecting public health and the environment:

- In the last decade, the Central Valley became the first air basin classified by the federal government under the Clean Air Act as a "serious nonattainment" area to come into attainment of health-based National Ambient Air Quality Standard ("NAAQS") for coarse particulate matter (PM10), an achievement made even more notable given the Valley's extensive agricultural sector. Unhealthy levels of particulate matter can cause and exacerbate a range of chronic and acute illnesses.
- In 2013, the Central Valley became the first air basin in the country to improve from a federal designation of "extreme" nonattainment to

actually attain (and quality for an attainment designation) of the 1-hour ozone NAAQS; ozone creates "smog" and, like PM10, causes adverse health impacts.

- The Central Valley also is in full attainment of federal standards for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The Central Valley continues to make progress toward compliance with its last two attainment standards, with the number of exceedences for the 8-hour ozone NAAQS reduced by 74% (for the 1997 standard) and 38% (for the 2008 standard) since 1991, and for the small particulate matter (PM2.5) NAAQS reduced by 85% (for the 1997 standard) and 61% (for the 2006 standard).

Sustained improvement in Central Valley air quality requires a rigorous and comprehensive regulatory framework that includes prohibitions (e.g., on wood-burning fireplaces in new residences), mandates (e.g., requiring the installation of best available pollution reduction technologies on new and modified equipment and industrial operations), innovations (e.g., fees assessed against residential development to fund pollution reduction actions to "offset" vehicular emissions associated with new residences), incentive programs (e.g., funding replacements of older, more polluting heavy duty trucks and school buses)[1], ongoing planning for continued air quality improvements, and enforcement of Air District permits and regulations.

The Air District is also an expert air quality agency for the eight counties and cities in the San Joaquin Valley. In that capacity, the Air District has developed air quality emission guidelines for use by the Central

[1] San Joaquin's incentive program has been so successful that through 2012, it has awarded over $ 432 million in incentive funds and has achieved 93,349 tons of lifetime emissions reductions. *See* SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2012 PM2.5 PLAN, 6-6 (2012) *available at* http://www.valleyair.org/Workshops/postings/2012/12-20-12PM25/FinalVersion/06%20Chapter%206%20Incentives.pdf.

Valley counties and cities that implement the California Environment Quality Act (CEQA).[2] In its guidance, the Air District has distinguished between toxic air contaminants and criteria air pollutants.[3] Recognizing this distinction, the Air District's CEQA Guidance has adopted distinct thresholds of significance for *criteria* pollutants (i.e., ozone, PM2.5 and their respective precursor pollutants) based upon scientific and factual data which demonstrates the level that can be accommodated on a cumulative basis in the San Joaquin Valley without affecting the attainment of the applicable NAAQS.[4] For *toxic air* pollutants, the District has adopted different thresholds of significance which scientific and factual data demonstrates has the potential to expose sensitive receptors (i.e., children, the elderly) to levels which may result in localized health impacts.[5]

The Air District's CEQA Guidance was followed by the County of Fresno in its environment review of the Friant Ranch project, for which the Air District also served as a commenting agency. The Court of Appeal's holding, however, requiring correlation between the project's criteria

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[2] *See, e.g.*, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PLANNING DIVISION, GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2015), *available at* http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf ("CEQA Guidance").

[3] Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health, they are distinguishable from toxic air contaminants and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of toxic air contaminants occurs solely under section 112 of the Act. Compare 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 with 42 U.S.C. § 7411.

[4] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 64-66, 80.

[5] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 66, 99-101.

pollutants and local health impacts, departs from the Air District's Guidance and approved methodology for assessing criteria pollutants. A close reading of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants (for which a local health risk assessment is feasible and routinely performed) and criteria air pollutants (for which a local health risk assessment is not feasible and would result in speculative results).[6] The Air District has a direct interest in ensuring the lawfulness and consistent application of its CEQA Guidance, and will explain how the Court of Appeal departed from the Air District's long-standing CEQA Guidance in addressing criteria pollutants and toxic air contaminants in this amicus brief.

### 2. How the Proposed Amicus Curiae Brief Will Assist the Court

As counsel for the proposed amicus curiae, we have reviewed the briefs filed in this action. In addition to serving as a "commentary agency" for CEQA purposes over the Friant Ranch project, the Air District has a strong interest in assuring that CEQA is used for its intended purpose, and believes that this Court would benefit from additional briefing explaining the distinction between criteria pollutants and toxic air contaminants and the different methodologies employed by local air pollution control agencies such as the Air District to analyze these two categories of air pollutants under CEQA. The Air District will also explain how the Court of Appeal's opinion is based upon a fundamental misunderstanding of these two different approaches by requiring the County of Fresno to correlate the project's *criteria* pollution emissions with *local* health impacts. In doing

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[6] CEQA does not require speculation. *See, e.g., Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 6 Cal. 4th 1112, 1137 (1993) (upholding EIR that failed to evaluate cumulative toxic air emission increases given absence of any acceptable means for doing so).

so, the Air District will provide helpful analysis to support its position that at least insofar as criteria pollutants are concerned, CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible.

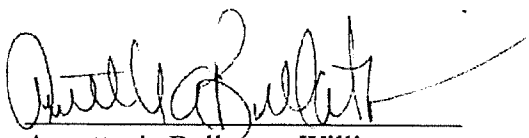
**Rule 8.520 Disclosure**

Pursuant to Cal. R. 8.520(f)(4), neither the Plaintiffs nor the Defendant or Real Party In Interest or their respective counsel authored this brief in whole or in part. Neither the Plaintiffs nor the Defendant or Real Party in Interest or their respective counsel made any monetary contribution towards or in support of the preparation of this brief.

**CONCLUSION**

On behalf of the San Joaquin Valley Unified Air Pollution Control District, we respectfully request that this Court accept the filing of the attached brief.

Dated: April 2, 2015



Annette A. Ballatore-Williamson
District Counsel
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL
DISTRICT

**CASE NO. S219783**

**IN THE SUPREME COURT OF CALIFORNIA**

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SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
*Plaintiffs and Appellants*

v.

COUNTY OF FRESNO,
*Defendant and Respondent*

FRIANT RANCH, L.P.,
*Real Party in Interest and Respondent*

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After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

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# AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

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## I. INTRODUCTION.

The San Joaquin Valley Unified Air Pollution Control District ("Air District") respectfully submits that the Court of Appeal erred when it held that the air quality analysis contained in the Environmental Impact Report ("EIR") for the Friant Ranch development project was inadequate under the California Environmental Quality Act ("CEQA") because it did not include an analysis of the correlation between the project's criteria air pollutants and the potential adverse human health impacts. A close reading of the portion of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants and criteria air pollutants.

Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants (hereinafter referred to as "TACs") regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health,

they are distinguishable from TACs and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of TACs occurs solely under section 112 of the Act. *Compare* 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 *with* 42 U.S.C. § 7411.

The most relevant difference between criteria pollutants and TACs for purposes of this case is the manner in which human health impacts are accounted for. While it is common practice to analyze the correlation between an individual facility's TAC emissions and the expected localized human health impacts, such is not the case for criteria pollutants. Instead, the human health impacts associated with criteria air pollutants are analyzed and taken into consideration when EPA sets the national ambient air quality standard ("NAAQS") for each criteria pollutant. 42 U.S.C. § 7409(b)(1). The health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility / health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.

It is clear from a reading of both the administrative record and the Court of Appeal's decision that the Court did not have the expertise to fully

appreciate the difference between TACs and criteria air pollutants. As a result, the Court has ordered the County of Fresno to conduct an analysis that is not practicable and not likely yield valid information. The Air District respectfully requests that this portion of the Court of Appeal's decision be reversed.

## II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.

Although the Air District does not take lightly the amount of air emissions at issue in this case, it submits that the Court of Appeal got it wrong when it required Fresno County to revise the Friant Ranch EIR to include an analysis correlating the criteria air pollutant emissions associated with the project with specific, localized health-impacts. The type of analysis the Court of Appeal has required will not yield reliable information because currently available modeling tools are not well suited for this task. Further, in reviewing this issue de novo, the Court of Appeal failed to appreciate that it lacked the scientific expertise to appreciate the significant differences between a health risk assessment commonly performed for toxic air contaminants and a similar type of analysis it felt should have been conducted for criteria air pollutants.

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### A. Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.

In order to appreciate the problematic nature of the Court of Appeals' decision requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated.

Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight.[1] Once formed, ozone can be transported long distances by wind.[2] Because of the complexity of ozone formation, a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NOx or VOCs can have high levels of ozone concentration simply due to wind transport.[3] Conversely, the San Francisco Bay Area has six times more NOx and VOC emissions per square mile than the San Joaquin Valley, but experiences lower

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[1] *See* United States Environmental Protection Agency, *Ground-level Ozone: Basic Information*, available at: http://www.epa.gov/airquality/ozonepollution/basic.html (visited March 10, 2015).
[2] *Id.*
[3] *Id.*

concentrations of ozone (and better air quality) simply because sea breezes disperse the emissions.[4]

Particulate matter ("PM") can be divided into two categories: directly emitted PM and secondary PM.[5] While directly emitted PM can have a localized impact, the tonnage emitted does not always equate to the local PM concentration because it can be transported long distances by wind.[6] Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SOx) and NOx.[7] Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the *tonnage* of precursor pollutants (NOx, SOx and VOCs) and the *concentration* of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Indeed, the national ambient air quality standards ("NAAQS"), which are statutorily required to be set by the United States Environmental Protection

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[4] *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, Executive Summary p. ES-6, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).

[5] United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at: http://www.epa.gov/airquality/particlepollution/basic.html (visited March 10, 2015).

[6] *Id.*

[7] *Id.*

Agency ("EPA") at levels that are "requisite to protect the public health," 42 U.S.C. § 7409(b)(1), are established as concentrations of ozone or particulate matter and not as tonnages of their precursor pollutants.[8]

Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period.[9] Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District's tools and plans for attaining the NAAQS are regional in nature.

For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley.[10] At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor

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[8] See, e.g., United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at: http://www.epa.gov/air/criteria.html#3 (visited March 10, 2015).

[9] *San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16, available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).

[10] *Id.* at Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM2.5 Plan*, Appendix F, pp. F-2 – F-5, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).

emissions Valley wide.[11] Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.

The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which *all* of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.[12]

Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the Valley can accommodate without affecting the attainment date for the NAAQS.[13] The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources permitted by the Air District must "offset" their emissions.[14] This "offset"

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[11] *Id.*

[12] Although the Air District does have a dispersion modeling tool used during its air permitting process that is used to predict whether a particular project's directly emitted PM will either cause an exceedance of the PM NAAQS or contribute to an existing exceedance, this model bases the prediction on a worst case scenario of emissions and meteorology and has no provision for predicting any associated human health impacts. Further, this analysis is only performed for stationary sources (factories, oil refineries, etc.) that are required to obtain a New Source Review permit from the Air District and not for development projects such as Friant Ranch over which the Air District has no preconstruction permitting authority. *See* San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at: http://www.valleyair.org/rules/currntrules/Rule2201041l.pdf (visited March 19, 2015).

[13] *San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22, available at: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf (visited March 30, 2015).

[14] *Id.* at pp. 22, 25.

level allows for growth while keeping the cumulative effects of all new sources at a level that will not impede attainment of the NAAQS.[15] In the Valley, these thresholds are 15 tons per year of PM, and 10 tons of NOx or VOC per year. *Sierra Club, supra*, 172 Cal.Rptr.3d at 303; AR 4554. Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, "cumulative impacts."

Accordingly, the significance thresholds applied in the Friant Ranch EIR (15 tons per year of PM and 10 tons of NOx or VOCs) are not intended to be indicative of any localized human health impact that the project may have. While the health effects of air pollution are of primary concern to the Air District (indeed, the NAAQS are established to protect human health), the Air District is simply not equipped to analyze whether and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area. This is true even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.

For instance, according to the EIR, the Friant Ranch project is estimated to emit 109.52 tons per year of ROG (VOC), 102.19 tons per year of NOx, and 117.38 tons per year of PM. Although these levels well

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[15] [15] *San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines* (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).

exceed the Air District's CEQA significance thresholds, this does not mean that one can easily determine the concentration of ozone or PM that will be created at or near the Friant Ranch site on a particular day or month of the year, or what specific health impacts will occur. Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single "point source," but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site.

In addition, it would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have. As discussed above, the currently available modeling tools are equipped to model the impact of *all* emission sources in the Valley on attainment. According to the most recent EPA-approved emission inventory, the NOx inventory for the Valley is for the year 2014 is 458.2 tons per day, or 167,243 tons per year and the VOC (or ROG) inventory is 361.7 tons per day, or 132,020.5 tons per year.[16] Running the photochemical grid model used for predicting ozone attainment with the

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[16] *San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan*, Appendix B pp. B-6, B-9,
available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).

emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved.

Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level.

For these reasons, it is not the norm for CEQA practitioners, including the Air District, to conduct an analysis of the localized health impacts associated with a project's criteria air pollutant emissions as part of the EIR process. When the accepted scientific method precludes a certain type of analysis, "the court cannot impose a legal standard to the contrary." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717 n. 8. However, that is exactly what the Court of Appeal has done in this case. Its decision upends the way CEQA air quality analysis of criteria pollutants occurs and should be reversed.

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### B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants.

The Court of Appeal's error in requiring the new health impact analysis for criteria air pollutants clearly stems from a misunderstanding of terms of art commonly used in the air pollution field. More specifically, the Court of Appeal (and Appellants Sierra Club et al.) appear to have confused the health risk analysis ("HRA") performed to determine the health impacts associated with a project's toxic air contaminants ("TACs"), with an analysis correlating a project's criteria air pollutants (ozone, PM and the like) with specific localized health impacts.

The first type of analysis, the HRA, is commonly performed during the Air District's stationary source permitting process for projects that emit TACs and is, thus, incorporated into the CEQA review process. An HRA is a comprehensive analysis to evaluate and predict the dispersion of TACs emitted by a project and the potential for exposure of human populations. It also assesses and quantifies both the individual and population-wide health risks associated with those levels of exposure. There is no similar analysis conducted for criteria air pollutants. Thus, the second type of analysis (required by the Court of Appeal), is not currently part of the Air District's process because, as outlined above, the health risks associated

with exposure to criteria pollutants are evaluated on a regional level based on the region's attainment of the NAAQS.

The root of this confusion between the types of analyses conducted for TACs versus criteria air pollutants appears to stem from a comment that was presented to Fresno County by the City of Fresno during the administrative process.

In its comments on the draft EIR, the City of Fresno (the only party to raise this issue) stated:

> [t]he EIR must disclose the human health related effects of the Project's air pollution impacts. (CEQA Guidelines section 15126.2(a).) The EIR fails completely in this area. The EIR should be revised to disclose and determine the significance of TAC impacts, and of human health risks due to exposure to Project-related air emissions.

(AR 4602.)

In determining that the issue regarding the correlation between the Friant Ranch project's criteria air pollutants and adverse health impacts was adequately exhausted at the administrative level, the Court of Appeal improperly read the first two sentences of the City of Fresno's comment in isolation rather than in the context of the entire comment. *See Sierra Club v. County of Fresno* (2014) 172 Cal.Rptr.3d 271, 306. Although the comment first speaks generally in terms of "human health related effects" and "air pollution," it requests only that the EIR be revised to disclose "the significance of TACs" and the "human health risks due to exposure."

The language of this request in the third sentence of the comment is significant because, to an air pollution practitioner, the language would only have indicated only that a HRA for TACs was requested, and not a separate analysis of the health impacts associated with the project's criteria air pollutants. Fresno County clearly read the comment as a request to perform an HRA for TACs and limited its response accordingly. (AR 4602.)[17] The Air District submits that it would have read the City's comment in the same manner as the County because the City's use of the terms "human health risks" and "TACs" signal that an HRA for TACs is being requested. Indeed, the Air District was also concerned that an HRA be conducted, but understood that it was not possible to conduct such an analysis until the project entered the phase where detailed site specific information, such as the types of emission sources and the proximity of the sources to sensitive receptors became available. (AR 4553.)[18] The City of Fresno was apparently satisfied with the County's discussion of human health risks, as it did not raise the issue again when it commented on the final EIR. (AR 8944 – 8960.)

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[17] Appellants do not challenge the manner in which the County addressed TACs in the EIR. (Appellants' Answer Brief p. 28 fn. 7.)

[18] Appellants rely on the testimony of Air District employee, Dan Barber, as support for their position that the County should have conducted an analysis correlating the project's criteria air pollutant emissions with localized health impacts. (Appellants Answer Brief pp. 10-11; 28.) However, Mr. Barber's testimony simply reinforces the Air District's concern that a risk assessment (HRA) be conducted once the actual details of the project become available. (AR 8863.) As to criteria air pollutants, Mr. Barber's comments are aimed at the Air District's concern about the amount of emissions and the fact that the emissions will make it "more difficult for Fresno County and the Valley to reach attainment which means that the health of Valley residents maybe [sic] adversely impacted." Mr. Barber says nothing about conducting a separate analysis of the localized health impacts the project's emissions may have.

The Court of Appeal's holding, which incorrectly extrapolates a request for an HRA for TACs into a new analysis of the localized health impacts of the project's criteria air pollutants, highlights two additional errors in the Court's decision.

First, the Court of Appeal's holding illustrates why the Court should have applied the deferential substantial evidence standard of review to the issue of whether the EIR's air quality analysis was sufficient. The regulation of air pollution is a technical and complex field and the Court of Appeal lacked the expertise to fully appreciate the difference between TACs and criteria air pollutants and tools available for analyzing each type of pollutant.

Second, it illustrates that the Court likely got it wrong when it held that the issue regarding the criteria pollutant / localized health impact analysis was properly exhausted during the administrative process. In order to preserve an issue for the court, '[t]he "exact issue" must have been presented to the administrative agency....' [Citation.] *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13. "'[T]he objections must be sufficiently specific so that the agency has the

opportunity to evaluate and respond to them.' [Citation.]" *Sierra Club v. City of Orange*,163 Cal.App.4th at 536.[19]

As discussed above, the City's comment, while specific enough to request a commonly performed HRA for TACs, provided the County with no notice that it should perform a new type of analysis correlating criteria pollutant tonnages to specific human health effects. Although the parties have not directly addressed the issue of failure to exhaust administrative remedies in their briefs, the Air District submits that the Court should consider how it affects the issues briefed by the parties since "[e]xhaustion of administrative remedies is a jurisdictional prerequisite to maintenance of a CEQA action." *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203.

## III. CONCLUSION

For all of the foregoing reasons, the Air District respectfully requests that the portion of the Court of Appeal's decision requiring an analysis correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

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[19] *Sierra Club v. City of Orange*, is illustrative here. In that case, the plaintiffs challenged an EIR approved for a large planned community on the basis that the EIR improperly broke up the various environmental impacts by separate project components or "piecemealed" the analysis in violation of CEQA. In evaluating the defense that the plaintiffs had failed to adequately raise the issue at the administrative level, the Court held that comments such as *"the use of a single document for both a project-level and a program-level EIR [is] 'confusing'."* and *"[t]he lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project,"* were too vague to fairly raise the argument of piecemealing before the agency. *Sierra Club v. City of Orange*, 163 Cal.App.4th at 537.

correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

Respectfully submitted,

Dated: April 2, 2015

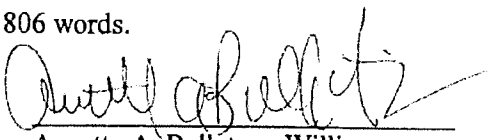
Catherine T. Redmond
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY
UNIFIED
AIR POLLUTION CONTROL
DISTRICT

## CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.204 of the California Rules of Court, I hereby certify that this document, based on the Word County feature of the Microsoft Word software program used to compose and print this document, contains, exclusive of caption, tables, certificate of word count, signature block and certificate of service, 3806 words.

Dated: April 2, 2015



Annette A. Ballatore-Williamson
District Counsel (SBN 192176)

*Sierra Club et al, v. County of Fresno, et al*
**Supreme Court of California Case No.: S219783**
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

## PROOF OF SERVICE

I am over the age of 18 years and not a p[arty to the above-captioned action; that my business address is San Joaquin Valley Unified Air Pollution Control District located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

On April 2, 2015, I served the document described below:

**APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO**

On all parties to this action at the following addresses and in the following manner:

**PLEASE SEE ATTACHED SERVICE LIST**

(XX) **(BY MAIL)** I caused a true copy of each document(s) to be laced in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United State Postal Service collection box for pick-up and delivery that same day.

( ) **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via electronic mail transfer system in place at the San Joaquin Valley Unified Air Pollution Control District ("District"), originating from the undersigned at 1990 E. Gettysburg Avenue, Fresno, CA, to the address(es) indicated below.

( ) **(BY OVERNIGHT MAIL)** I caused a true and correct copy to be delivered via Federal Express to the following person(s) or their representative at the address(es) listed below.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I executed this document on April 2, 2015, at Fresno, California.

Esthela Soto

## SERVICE LIST

***Sierra Club et al, v. County of Fresno, et al***
**Supreme Court of California Case No.: S219783**
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

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S219783

**IN THE SUPREME COURT OF C ALIFORNIA**

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SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.



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After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

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# APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

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**TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:**

## APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

## HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

## STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

## CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT
KURT R. WIESE, GENERAL COUNSEL
BARBARA BAIRD, CHIEF DEPUTY COUNSEL

By: Barbara Baird
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*Attorneys for [proposed] Amicus Curiae*
*SOUTH COAST AIR QUALITY*
*MANAGEMENT DISTICT*

## BRIEF OF AMICUS CURIAE

## SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

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[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq.*

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

## ARGUMENT

## I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

### A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health",

allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

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[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate ($PM_{10}$) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

## B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

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[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

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[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

## II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1*, *supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

*Bd. of Supervisors* (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides ($NO_x$) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) $NO_x$ and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing $NO_x$ by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by $NO_x$ or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of $NO_x$ and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day $NO_x$ (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6*)* at p. 4.1-35, Table 4.1-29.)

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[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6,* http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future $NO_x$ and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of $NO_x$ or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or $NO_x$ with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for $NO_x$ and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of $NO_x$ or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine

that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties. [9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

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[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

*E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011)*, http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

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[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

## III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

### A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

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technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

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[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

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[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document.*" (*Laurel Heights I, supra,* 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

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[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

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[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

### B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra,* at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

## IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

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[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

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districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra,* 91 Cal.App.4th 1344, 1369-1371.)

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guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

## CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT
KURT R. WIESE, GENERAL COUNSEL
BARBARA BAIRD, CHIEF DEPUTY COUNSEL

By: Barbara Baird
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*SOUTH COAST AIR QUALITY MANAGEMENT DISTICT*

## CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

## PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

**BY MAIL:** I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

Patricia Anderson

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# Appendix D
# **Biological Resources Technical Report**

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*Subject: Biological Resources Technical Report for the Synagro South Kern Compost Manufacturing Facility Project, Kern County, California*

Dear Mr. Nelson:

This biological resources technical report documents the existing biological conditions for the subject property located at the current Synagro South Kern Compost Manufacturing Facility in Kern County, California. The total project site is approximately 100-acres and consists of the approximately 44-acre existing compost facility, and the proposed 56-acre undeveloped area that will not be developed at this time. Development of this 56-acre area is already permitted under the existing Conditional Use Permit (CUP) and expansion of the composting facility may occur in the future. This report includes a discussion of the sensitive biological resources observed and with a potential to occur on the site, an analysis of potential impacts to biological resources because of project implementation, and recommendations to avoid or minimize impacts below a level of significance.

# 1 Project Location

The proposed project site is located on parcel 220-110-70 at 2653 Santiago Road in the western region of unincorporated Kern County, California. The existing parcel is occupied by the current compositing facility (44 acres) as well as undeveloped vacant land (56 acres). The project site is immediately accessed from Santiago Road, which is connected to Interstate 5 (I-5) approximately 7 miles to the west via South Lake Road and Millux Road. The site is also depicted on Section 24 of Township 32 South, Range 25 East, of the Millux, California 7.5-minute U.S. Geological Survey quadrangle map (Attachment A, Figure 1). For the purpose of this report, the area investigated included the approximately 100-acre project site and the study area focused on the 56-acre undeveloped area. The study area for the proposed project accounts for both on-site and off-site biological resources that may be impacted by the proposed project.

# 2 Project Description

The project proponent is requesting a modification of the existing CUP (proposed project) in response to recent changes in State of California Legislation, including AB 126 and SB 1383. The new State mandates that are contained in AB 1826 are regarding Mandatory Commercial Organics Recycling Collection, and mandate in SB 1383 are regarding Short-Lived Climate Pollutant Plan that requires diversion of 50% of all organics from landfills by 2020 and 75% by 2025. In addition, the CUP Amendment is in response to recent changes from The California Department of Resources Recycling and Recovery (CalRecycle) and the State Water Resources Control Board

regarding the definitions of 'food material,' which is now defined to include both pre-consumer and post-consumer waste streams.

The proposed project would enable the project proponent to receive and manage new types of organic waste for composting at the facility (Attachment A: Figure 2). To accomplish this, the proposed project also includes changes to the composting and curing parameters to meet the demands of the agricultural and horticultural markets that purchase the finished compost. Currently, the composting facility is permitted to receive and process up to 670,000 wet tons of material per year (wtpy). The material is comprised of up to 400,000 wtpy of biosolids and pre-consumer food waste and up to 270,000 wtpy of wood chips and agricultural waste products (i.e., pistachio and almond hulls, cotton gin waste, stable bedding, and screened green waste).

Implementation of the proposed project would allow for the continued operation of the existing composting facility on the proposed project site. The CUP modification would not change the total volumes of processed material listed above, nor would it change the footprint of the proposed project site or the size of the existing 44-acre composting facility.

# 3 Methods

## 3.1 Literature Review

Prior to conducting fieldwork, literature and database searches were conducted to assess the potential for special-status biological resources to occur within the project site. The following sources were reviewed: (1) the most recent versions of the California Natural Diversity Database (CNDDB) for special-status wildlife species, special-status plant species, and sensitive vegetation communities (CDFW 2019a); (2) a list of potentially occurring federally listed species generated from a review of the U.S. Fish and Wildlife Service's (USFWS's) IPaC Trust Resources Report (USFWS 2018a); (3) a list of potentially occurring special-status plants generated by a four-quad search of the California Native Plant Society (CNPS) *Inventory or Rare and Endangered Plants* (CNPS 2019); and (4) the USFWS's National Wetlands Inventory (USFWS 2019b).

## 3.2 Biological Reconnaissance

Dudek biologists, Russell Sweet and Pedro Garcia, conducted a habitat assessment survey within the project site on May 14, 2019, between the hours of 8:15 a.m. and 11:10 a.m. Weather conditions were favorable, with temperatures ranging from 72° Fahrenheit (F) to 79°F and wind ranging from 2 to 3 miles per hour. Cloud cover was 5% throughout the entire survey period. The study area was methodically surveyed via a pedestrian survey providing 100% visual coverage, where accessible. All biological resources and potential biological constraints were identified and inventoried. Potential special-status biological resources identified during the survey were mapped using ESRI Collector Mapping System for inclusion in the report figures. All plant and wildlife species observed during the site visit were recorded. Plants were detected and identified through direct sight. Wildlife species were detected by sight, calls, tracks, scat, or other sign. The potential for special-status plant and wildlife species to occur was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distribution in the area. Attachment B provides a list of plant species and Attachment C provides a list of wildlife species observed during the project site visit.

Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS *Inventory of Rare and Endangered Plants* (CNPS 2019). For plant species without a CRPR, Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2018) and common names follow the United States Department of Agriculture's Natural Resources Conservation Service Plants Database (USDA 2019b). Latin and common names of animals follow Crother (2008) for reptiles and amphibians, American Ornithologists' Union for birds (AOU 2018), and Wilson and Reeder (2005) for mammals.

Dudek also conducted an assessment for the presence of waters or wetlands potentially subject to regulatory agency jurisdiction, including searching for the presence of drainage features and topographic features and soils that could support standing water. However, a formal wetland delineation was not conducted as part of the biological reconnaissance.

# 4 Results

## 4.1 Study Area Description

The study area is currently undeveloped and had been recently disked. There is little to no vegetation present throughout the study area with the exception of the southern portion where evidence of previous vegetation from the presence of a protected CDFW burrowing owl artificial burrow locations, an old dirt spoil pile and a small depression on site where stormwater collects. The sight is flat with no significant topographic features occurring on the study area. The study area slopes from approximately 313 feet above mean sea level (AMSL) in the northeastern corner of the site to approximately 323 feet AMSL along the southwestern project boundary. Representative photographs of the study area are included in Attachment D.

Land uses immediately surrounding the project site include solar installations to the west, south and east. North of the study area is the current operating Synagro plant. A petroleum oil refinery with three tanks and petroleum piping is located to the north across Santiago Road. The solar installation encompasses approximately 216 acres, and the petroleum oil refinery occupies a total site footprint of approximately 80 acres. Northwest of the project site, along South Lake Road is a railroad spur that ends approximately 1 mile southwest of the project. The railroad extends to the north where is serves a second petroleum facility approximately one mile to the north. Other uses surrounding the project site include, Hughes Rocket Booster Testing Facility, Baker Petrolite Chemical Plant, a car cleaning facility, and Boswell Cotton Gin also sit approximately 1 mile to the north of the project site just outside the SKICSP. Northwest of the study area is currently undeveloped and had also been recently disked. This area is currently owned by Synagro and is part of the continued disking annually to biannually for vegetation and weed control. In addition, to the north of this area also contains a stormwater runoff pond, directly west of the Synagro plant and immediately south of Santiago Road.

## 4.2 Vegetation Communities and Land Covers

Surveys were conducted for natural vegetative communities and land covers which may occur on the study area. The project site consists of a combination of ruderal vegetative community, and barren/disked land covers, and a low lying depression that accumulates water during storm events, but is considered barren when dry. The ruderal habitat is approximately 0.5 acres and located near the southwest edge of the study area. This small area has been

maintained due to two artificial burrowing owl burrows installed by CDFW in the past. Barren/Disked land dominates approximately 55.50 acres and characterizes the majority of the study area (Attachment A, Figure 3). Table 1 summarizes the extent of each vegetation community or land cover within the study area.

There are no sensitive vegetation communities within the study area.

**Table 1. Vegetation Communities and Land Covers within the Study Area***

| Vegetation Community or Land Cover | Map Code | Study Area (acres) | Study Area (% acres) |
|---|---|---|---|
| Non-Natural and Unvegetated Land Covers | | | |
| Barren/Disked | BAR/DEV | 55.50 | 99.11 |
| Ruderal | RUD | 0.5 | 0.89 |
| | **Total** | **56.0** | **100** |

*The 44 acre existing compost site was not included in the study area

### 4.2.1 Vegetation Communities

**Ruderal**. Ruderal areas are characterized as being dominated by weedy, non-native, and often invasive species and limited native vegetation, resulting in area with low ecological value. Many such areas occur as a result of historical human disturbances in previously undisturbed natural habitats and that now provide little habitat or foraging potential for wildlife due to the lack of significant cover and food value as compared with areas of native vegetation.

Ruderal habitat is not described in MCV2 or NCL because it is not naturally occurring in California; it is not considered sensitive. Areas mapped as ruderal typically include roads and roadside areas where vegetation, if present at all, is usually sparse and dominated by weedy herbaceous species.

**Barren/Disked Fields**. At the time of the field survey, one principal biotic habitat was present on site. The entire site, excluding farm service roadways and the area surrounding an existing metal storage shed and silo structure, appeared to be actively farmed and was completely disked. It was evident that this area had been recently disked and at the time of the survey, the Project site supported essentially no standing vegetation.

## 4.3 Floral Diversity

A total of 13 species of vascular plants were recorded within the study area, consisting of 3 native (23%) and 10 non-native (77%) species. The dominant plant species detected within the study area included California sage brush, California buckwheat, and black sage; however, the native scrub community on the study area contains a high species diversity. Plant species observed within the study area are listed in Attachment B.

## 4.4 Wildlife

Wildlife use was limited during the reconnaissance. A total of seven wildlife taxa were observed and recorded on the study area. As noted above, the study area largely consisted of a barren/disked field. Common species detected or observed during the survey are noted below.

Six bird species were detected visually and/or aurally and include but are not limited to Anna's hummingbird (*Calypte anna*), Brewer's blackbird (*Euphagus cyanocephalus*), killdeer (*Charadrius vociferous*), California quail (*Callipepla californica*), Eurasian collared dove (*Streptopelia decaocto*), and black-necked stilt (*Himantopus mexicanus*). No active bird nests were observed during the field visit; however, the study area could support nesting migratory birds. In addition, the stormwater sump located along Santiago Road could support nesting birds given the protection of the surrounding fence and vegetation growth inside; however, continued weed management prevents vegetation from overgrowing, and no cattails were observed in the sump area.

Disked fields can be utilized to a limited extent by mammalian predators such as coyote (*Canis latrans*) and foxes (*Vulpes* ssp.). However, the value is dependent on the availability of suitable prey species. Because the study area had been disked, and is continually disked twice a year, the site provides little habitat for small mammal species such as house mice, deer mice, voles, and harvest mouse, pretty for mammalian predators, to occur. No mammal species or their sign (i.e., track, scat, dens/burrows, prey remains) were observed during the survey.

Vegetation characteristics contribute to the possible diversity of reptiles in an area. Most reptiles prefer a variety of habitats in which to forage; they live in small burrows, which they also use as a refuge from differing ambient temperatures and predator avoidance. The disking practices on the study area provides low suitable habitat for reptile species. One reptile, common side-blotched lizard (*Uta stansburiana*) was observed during the field survey.

Amphibians require standing or flowing water for part or all of their life cycle. Ponds, seasonal pools, and drainages provide suitable habitat for common amphibian species. The ponded water located in the west edge of the study area is presumed to only contain water during the winter rainy season. No amphibian species were observed during the field survey.

The complete list of wildlife species observed within the study area are included in Attachment C. Details regarding the potential for special-status species to occur within the study area are discussed further below.

## 4.5 Special-Status Plant Species

Special-status plants include those listed, or candidates for listing, as threatened or endangered by USFWS or CDFW, or species identified as rare by CNPS (particularly California Rare Plant Rank (CRPR) 1A – Presumed extinct in California; CRPR 1B – Rare, threatened, or endangered throughout its range; and CRPR 2 – Rare or Endangered in California, more common elsewhere). A total of 11 special-status plant species were reported in the CNDDB, USFWS, and CNPS databases as occurring in the vicinity of the study area. For each species evaluated, a determination was made regarding the potential for the species to occur on site based on information gathered during the field reconnaissance, including the location of the site, habitats present, current site conditions, and past and present land use, see Table 2, below.

Table 2 Special-Status Plant Species with Potential to Occur within the Study Area

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur |
|---|---|---|---|---|
| *Atriplex cordulata var. cordulata* | heartscale | None/None/1B.2 | Chenopod scrub, Meadows and seeps, Valley and foothill grassland (sandy); saline or alkaline/annual herb/Apr–Oct/0–1835 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Atriplex coronata var. coronata* | crownscale | None/None/4.2 | Chenopod scrub, Valley and foothill grassland, Vernal pools; alkaline, often clay/annual herb/Mar–Oct/0–1935 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Calochortus striatus* | alkali mariposa lily | None/None/1B.2 | Chaparral, Chenopod scrub, Mojavean desert scrub, Meadows and seeps; alkaline, mesic/perennial bulbiferous herb/Apr–June/225–5235 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Caulanthus californicus* | California jewelflower | FE/SE/1B.1 | Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland; sandy/annual herb/Feb–May/200–3280 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Delphinium recurvatum* | recurved larkspur | None/None/1B.2 | Chenopod scrub, Cismontane woodland, Valley and foothill grassland; alkaline/perennial herb/Mar–June/5–2590 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Eremalche parryi ssp. kernensis* | Kern mallow | FE/None/1B.2 | Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland; On dry, open sandy to clay soils; often at edge of balds/annual herb/Jan,Mar,Apr,May(Feb)/225–4230 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Eriastrum hooveri* | Hoover's eriastrum | None/None/4.2 | Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland; Sometimes gravelly/annual herb/(Feb)Mar–July/160–3000 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Eriogonum gossypinum* | cottony buckwheat | None/None/4.2 | Chenopod scrub, Valley and foothill grassland; clay/annual herb/Mar–Sep/325–1805 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Lasthenia glabrata ssp. coulteri* | Coulter's goldfields | None/None/1B.1 | Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/0–4005 | Not expected to occur. The study area is disked for week control annually to biannually. |
| *Opuntia basilaris var. treleasei* | Bakersfield cactus | FE/SE/1B.1 | Chenopod scrub, Cismontane woodland, Valley and foothill grassland; sandy or gravelly/perennial stem succulent/Apr–May/390–4755 | Not expected to occur. The study area is disked for week control annually to biannually. |

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| *Stylocline citroleum* | oil neststraw | None/None/1B.1 | Chenopod scrub, Coastal scrub, Valley and foothill grassland; clay/annual herb/Mar–Apr/160–1310 | Not expected to occur. The study area is disked for week control annually to biannually. |

**Federal Status**
FE: Federally listed as endangered
**State Status**
ST: State listed as threatened
**CNPS Status (California Native Plant Society)**
***California Rare Plant Rank (CRPR)***
1B: Plants rare, threatened, or endangered in California and elsewhere
4: Plants of limited distribution – a watch list
***Threat Ranks:***
.1 Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 Moderately threatened in California (20% to 80% of occurrences threatened/moderate degree and immediacy of threat)

Of the 11 special-status plant species listed in the CNDDB, CNPS, and USFWS databases as occurring in the vicinity of the study area, none were determined to have potential to occur within the study area based on an evaluation of species ranges/elevation and known habitat preferences. No special-status plants were observed on the Project site during the survey in May 2019, although the survey was not conducted within the blooming or phenological period for several special-status plant species. Due to the high level of disturbance from disking and crop rotations and lack of native species, it was concluded that the Project site does not contain suitable habitat for special-status plant species.

## 4.6 Special-Status Wildlife Species

Special-status wildlife include those listed, or candidates for listing, as threatened or endangered by USFWS or CDFW, or designated as a Species of Special Concern by CDFW. A total of 23 special-status wildlife species were reported in the CNDDB and USFWS databases as occurring in the vicinity of the study area. Table 3 summarizes the special-status wildlife species that were included in these databases and evaluated as part of this assessment. For each species evaluated, a determination was made regarding the potential use of the site based on information gathered during the field reconnaissance, known habitat preferences, and knowledge of their relative distributions in the area.

Table 3 lists those special-status wildlife species known to occur or with the potential to occur based upon soils, vegetation, and elevation that are recorded within the nine USGS quadrangles searched in the CNDDB query. Table 3 lists the sensitivity status, habitat preference, and potential to occur for each of the species. Categories for potential to occur include "observed" (known to occur), "high potential to occur," "moderate potential to occur," low potential to occur," and "not expected" to occur, based on habitat preferences, range, and habitat observed onsite. But note that the species list was built for this analysis from a CNDDB query that included the USGS quadrangle where the Project site occurs, plus the three surrounding USGS quadrangles. Therefore, the species lists includes species in CNDDB that have been recorded within a distance of greater than 10.0 miles. Species observed on the site or having some potential to occur are discussed further below. Those species that have no potential to occur due to various factors such as lack of suitable habitat, known elevation, geographic range, or extirpation from the region, are not discussed further in this report.

No wildlife species listed or proposed for listing as rare, threatened, or endangered by either CDFW or USFWS were observed or detected within the study area during the site reconnaissance and focused species surveys.

Table 3 Special-Status Wildlife Species with Potential to Occur within the Study Area

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur |
|---|---|---|---|---|
| ***Reptiles*** | | | | |
| *Arizona elegans occidentalis* | California glossy snake | None/SSC | Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas. | Not expected to occur. No suitable habitat present in the study area |
| *Gambelia sila* | blunt-nosed leopard lizard | FE/FP, SE | Sparsely vegetated alkali and desert scrubs, including semi-arid grasslands, alkali flats, and washes | Not expected to occur. No suitable habitat present in the study area |
| *Thamnophis gigas* | giant garter snake | FT/ST | Freshwater marsh habitat and low-gradient streams; also uses canals and irrigation ditches | Not expected to occur. No suitable habitat present in the study area |
| ***Birds*** | | | | |
| *Agelaius tricolor (nesting colony)* | tricolored blackbird | BCC/SSC, ST | Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture | Not expected to occur. No suitable nesting habitat present in the study area. The stormwater sump in the northwest does not contain any nesting habitat and appears to be managed for weed control. |
| *Athene cunicularia (burrow sites & some wintering sites)* | burrowing owl | BCC/SSC | Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows | Medium potential to occur. The study area has a small area where two artificial burrowing owl burrows were constructed in the past. |
| *Buteo swainsoni (nesting)* | Swainson's hawk | BCC/ST | Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture | Not expected to occur. No nesting or foraging habitat present on the study area. The study area is approximately 3.9 miles east of a known historical record of a SWHA nest. However, the Project site does not have any nesting trees within ½ mile of the site. Due to higher quality of nesting and foraging within the region, SWHA have low potential to occur within the study area. |
| *Charadrius alexandrinus nivosus (nesting)* | western snowy plover | FT, BCC/SSC | On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated | Not expected to occur. No suitable nesting habitat present in the study area. |

| | | | | |
|---|---|---|---|---|
| | | | flats near saline or alkaline lakes, reservoirs, and ponds | |
| *Coccyzus americanus occidentalis (nesting)* | western yellow-billed cuckoo | FT, BCC/SE | Nests in dense, wide riparian woodlands and forest with well-developed understories | Not expected to occur. No suitable nesting habitat present in the study area. |
| *Dendrocygna bicolor (nesting)* | fulvous whistling-duck | None/SSC | Nests in freshwater wetlands, especially shallow impoundments managed for rice production and temporarily flooded grasslands; also nests in pastures, haylands, and small grain fields adjacent to rice fields | Not expected to occur. No suitable nesting habitat present in the study area. |
| *Plegadis chihi (nesting colony)* | white-faced ibis | None/WL | Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries | Not expected to occur. No suitable nesting habitat present in the study area. |
| *Toxostoma lecontei* | LeConte's thrasher | BCC/SSC | Nests and forages in desert wash, desert scrub, alkali desert scrub, desert succulent, and Joshua tree habitats; nests in spiny shrubs or cactus | Not expected to occur. No suitable nesting habitat present in the study area. |
| *Vireo bellii pusillus (nesting)* | least Bell's vireo | FE/SE | Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season | Not expected to occur. No suitable nesting habitat present in the study area. |
| *Xanthocephalus xanthocephalus (nesting)* | yellow-headed blackbird | None/SSC | Nests in marshes with tall emergent vegetation, often along borders of lakes and ponds; forages in emergent wetlands, open areas, croplands, and muddy shores of lacustrine habitat | Not expected to occur. No suitable nesting habitat present in the study area. |
| ***Mammals*** | | | | |
| *Ammospermophilus nelsoni* | Nelson's antelope squirrel | None/ST | Arid annual grassland and shrubland with saltbushes (Atriplex spp.), California jointfir (Ephedra californica), bladderpod (Physaria spp.), goldenbushes (Astereae), snakeweed (Gutierrezia spp.) | Not expected to occur. No suitable habitat present on the Project site. The soils as well as the regular tilling of the Project site make this unsuitable habitat. |
| *Dipodomys ingens* | giant kangaroo rat | FE/SE | On fine sandy loam soils with sparse forb vegetation and low-density alkali desert scrub | Not expected to occur. No suitable habitat present in the study area. |

| | | | | |
|---|---|---|---|---|
| *Dipodomys nitratoides brevinasus* | short-nosed kangaroo rat | None/SSC | Friable soils on flat or gently rolling terrain in grassland and desert-shrub vegetation | Not expected to occur. The study area is outside the known range for this species. |
| *Dipodomys nitratoides nitratoides* | Tipton kangaroo rat | FE/SE | Alluvial fan and floodplain soils; habitat with one or two species of sparsely scattered shrubs and a ground cover of introduced and native annual grasses and forbs | Not expected to occur. No suitable habitat present in the study area. |
| *Eumops perotis californicus* | western mastiff bat | None/SSC | Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels | Not expected to occur. No suitable habitat present in the study area. |
| *Onychomys torridus tularensis* | Tulare grasshopper mouse | None/SSC | Low, open scrub, and semi-scrub habitats in arid Lower Sonoran associations | Not expected to occur. No suitable habitat present in the study area. The clay loam soils as well as the regular tilling of the Project site make this unsuitable habitat. |
| *Sorex ornatus relictus* | Buena Vista Lake ornate shrew | FE/SSC | Marshes, wetlands, streams, and sloughs along lake basins in southern San Joaquin Valley; historical occurrences include Buena Vista, Tulare, and Kern Lakes; distribution poorly known | Not expected to occur. No suitable habitat present in the study area. |
| *Taxidea taxus* | American badger | None/SSC | Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils | Not expected to occur. Although badgers will utilize a variety of habitats, the study area is regularly tilled, which makes the site unsuitable. No suitable burrows for badger were observed during the survey effort. |
| *Vulpes macrotis mutica* | San Joaquin kit fox | FE/ST | Grasslands and scrublands, including those that have been modified; oak woodland, alkali sink scrubland, vernal pool, and alkali meadow | Medium potential to occur. The study area provides marginally suitable habitat for this species to forage or burrow. Marginally suitable denning habitat is present. Although no sign of presence of SJKF was observed during surveys of the site, this species occurs within the region and could pass through the study area or potentially den there in the future. |

**Federal Status**
FE = Federally Endangered.

FT = Federally Threatened.
FP = State Fully Protected.
FDL=Federally Delisted.
**State Status**
SE = State Endangered.
ST = State Threatened.
SSC = California Species of Concern.
BCC=Bird of Conservation Concern
WL = CDFG Watch List.

### 4.6.1 Birds

The database queries resulted in ten special-status bird species identified as occurring in the site vicinity, including nine that are either listed as endangered or threatened under ESA, CESA or designated as SSC. Of these species, none were observed on, or flying over, the site during biological survey in 2019. However, one species, burrowing owl, has some potential to occur on the site. This species are discussed further below. In addition, Swainson's hawk is not expected to occur within the study area; however, because this species has been recorded nesting within 4 miles of the study area, a rationale is discussed below

#### 4.6.1.1 Burrowing Owl

Burrowing owl is a USFWS bird of conservation concern and a California Species of Special Concern (SSC). With a relatively wide-ranging distribution throughout the west, burrowing owls are considered to be habitat generalists (Lantz et al. 2004). In California, burrowing owls are yearlong residents of open, dry grassland and desert habitats, and grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990a). Preferred habitat is generally typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils (Haug et al. 1993).

In California, burrowing owls most commonly live in burrows created by California ground squirrels (*Spermophilus beecheyi*). Burrowing owls may occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open and sparse); useable burrows are available; and foraging habitat occurs in close proximity (Gervais et al. 2008). Debris piles, rip rap, culverts, and pipes can also be used for nesting and roosting. The CNDDB includes two occurrences of burrowing owl between 2.0 and 3.0 miles northeast of the Project site.

Protocol-level burrowing owl surveys were not conducted during the survey effort; however, the site was surveyed and analyzed for suitable habitat for burrowing owl presence. Two suitable size burrow at least 3-inches in diameter were observed, one on the edge of the Project site near the fence line to the existing plant perimeter and the second was along the bank of a sump within the Synagro plant in the north. No observations of burrowing owl sign (pellets and white wash) was observed at either location and were not considered currently active with burrowing owl. A small area or vegetation located in the southern portion of the study area has been left untouched by the client over recent years because CDFW had installed two artificial burrowing owl burrows within the area in the past. The two artificial burrows were found and inspected for potential use by burrowing owl. One artificial opening was completely blocked with dirt that had accumulated and was subsequently compacted and hard blocking the burrow from use. The second artificial burrow was open at the surface but became narrow inside due to accumulation of dirt. No burrowing owl sign was observed at either artificial burrow location. The study area supports limited

potential nesting for this species within the CDFW protected area. The study also provides marginally suitable foraging habitat for this species.

#### 4.6.1.2 Swainson's Hawk

The Swainson's hawk (Buteo swainsoni) is listed as threatened under CESA (ST). It nests in California in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in riparian areas, stands of trees in agricultural environments, oak savannah, and juniper-sage flats. In the San Joaquin Valley, it nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of Swainson's hawk in the Central Valley, but the species also forages in undisturbed grasslands, fallow agricultural fields, and some row crops. However, the entire study area was barren and disked over, and is continuously disked either annually or biannually, it is not considered suitable foraging habitat for Swainson's hawk.

Dudek conducted a reconnaissance-level survey for potential Swainson's hawk nests within ½-mile of the project site and included a visit to the historic record of SWHA nesting within the vicinity, where accessible, during the May 2019 survey. Dudek did not have access to surrounding properties, with the exception of viewing from public roads in the vicinity. During the survey, suitable nesting habitat was not present within the study area. No Swainson's hawk nests were observed within ½ mile of the study area during the survey conducted. The historic nest site was observed from the road and no nest or nesting SWHA was observed within the vicinity.

No additional suitable Swainson's hawk nesting habitat was observed within 4 miles of the project site. Because of the lack of suitable nesting habitat within 1.0 mile of the study area and no Swainson's hawk nesting was recorded anywhere else during the survey.

### 4.6.2 Mammals

As explained in Table 3, one special-status mammal species, San Joaquin kit fox, has potential to occur within the study area. The San Joaquin kit fox is federally listed as endangered and state listed as threatened. This species is discussed below.

#### 4.6.2.1 San Joaquin Kit Fox

The San Joaquin kit fox is a year-round resident of arid and semi-arid regions of the San Joaquin Valley and surrounding valleys, and lower elevations of the Sierra Nevada foothills and Coast Ranges from northern Santa Barbara and Ventura Counties north to Contra Costa and San Joaquin Counties (USFWS 1998). The San Joaquin kit fox is the smallest canid species in North America (USFWS 2011).

San Joaquin kit foxes are mostly associated with annual grassland and valley oak woodland (USFWS 1999). Where kit foxes are found in annual grassland, such as in valleys within the Coast Ranges to the west, they are generally associated with brome grasses (*Bromus* spp.), fescue (*Festuca* spp.), wild oats (*Avena fatua*), barley (*Hordeum* spp.), and filaree (*Erodium* spp.).

The site is considered to be within the range of San Joaquin kit fox, and the four-quadrangle CNDDB query yielded occurrences of this species within 5.0 miles of the study area. The surveys for San Joaquin kit fox dens in the study

area were conducted in May 2019. During the survey, one burrow appearing to meet the minimum size criterion (four inches) for San Joaquin kit fox was identified in the northern area of the plant within the study area. Access was limited and could not be observed up close to verify. The burrow was observed using binoculars and could not see the depth of the burrow. No San Joaquin kit fox sign was observed. San Joaquin kit fox is considered to have low potential to occur, given the relative scarcity of suitable prey on this managed property. The entire study area was barren and disked over, and is continuously disked either annually or biannually; therefore, an extremely low or non-existent prey base occurs within the study area. The use of rodenticides to control small mammals in the adjacent photovoltaic property would further limit the prey base for kit foxes and, their presence within the study area. In addition, based on the isolation of the Project site within the confines of the existing plant to the north and the photovoltaic array to the east, west and south, San Joaquin kit fox likely use the roads and more open spaces around these areas as movement between higher quality foraging and denning habitat within the region.

## 4.7 Jurisdictional Waters and Wetlands

The National Wetlands Inventory assessment for potential jurisdictional waters on the study area determined there are no waterways or drainages within or immediately adjacent to the study area that would be subject to regulatory agency jurisdiction. A review of the NWI dataset revealed that no wetland types are mapped within the study area (USFWS 2019b). A freshwater emergent wetland feature is mapped approximately 0.36 miles to the east, and a freshwater pond feature mapped approximately 0.21 miles to the south within offsite areas. Both features are separated from the Project site by an existing solar array farm. However, one small low-lying depression area was observed in the middle southwest area where storm water appears to drain after a rain event. This is a topographical depression that has no connection to any other waters, and may pond for a short duration only. The depression is normally barren during the dry season and is disked over annually or biannually as is the rest of the survey area. At the time of the survey, the area had a weedy species, fivehook bassia (*Bassia hyssopifolia*), a non-native upland plant species, growing around the perimeter of the topographic depression. No hydrophytic vegetation was present. The depression had not been disked at the time of the survey due to the water and to not risk getting equipment stuck in the mud.

Historic Google Earth images of the survey area were reviewed to determine the historical context of the depression. Images from May 1994 show the site in its natural habitat; however, these images did not show a depression or ponding. In September 1994, it appears the site was disked over and used for agricultural purposes by the absence of natural vegetation and the presence of equilateral striations running north/south indicating the site had been disked. It is assumed the disking may have been for vegetation control due to images thereafter showing what potentially is scattered fallow vegetative growth encroaching on the site and not consistent with agricultural practices. However, more recent historical images show the site has been continually disked over time from April 2009 through October 2016. Subsequent images show this area untouched since the initial disking from April 2009 to October 2016, however, it is unclear if the depression was present during the entire time thereafter due to an access road leading out to this point and could potentially have been a turnaround point for the road. Therefore, although the depression holds water for some duration following storm events, due to the lack of hydrophytic vegetation, and lack of connection to any other waters, this feature does not meet the definition of waters of the United States or state and is not considered jurisdictional to the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or CDFW.

## 4.8 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

Although formal wildlife movement studies were not conducted on the project, and based on the fact that the surrounding areas adjacent to the project site are similar and intensively farmed, it is not considered likely that any portion of the project site serves as an important linkage between habitats. In addition, there are no regional migratory wildlife corridors that have been identified by the County or state resources agencies.

## 4.9 Local Policies and Ordinances

The Kern County General Plan identifies the Federal, State and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan states the element provides for a variety of land uses for future growth while ensuring conservation of resource attributes. The General Plan, Section 1.10.5, Chapter 1. Land Use, Open Space, and Conservation Element. General Goal 1, provides goals, policies, and implementation measures that apply to all types of projects within the County's discretion while maintaining the preservation of threatened and endangered species (County of Kern, 2009).

# 5 Impacts and Avoidance Measures

This section addresses the anticipated impacts (direct, indirect, and cumulative) to biological resources that could result from the future implementation of the proposed project within the undeveloped 56-acre study area. However, at this time no impacts to biological resources will occur because no expansion of the composting facility is proposed at this time. Therefore, potential impacts and recommendations to reduce impacts are provided herein in the event future impacts occur. The significance determinations for proposed or potential impacts follow the thresholds provided in the California Environmental Quality Act Guidelines Section 15064(b) and Appendix G Environmental Checklist. The evaluation of the Project's impacts using the thresholds of significance presented is organized by the resource potentially affected: special-status species, riparian and sensitive vegetation communities, jurisdictional wetlands and waters, and wildlife movement. However, this section does not include a full CEQA-level analysis of impacts and required mitigation to reduce impacts to a less than significant level.

## 5.1 Impacts to Special-Status Plant Species

There is no potential for direct and indirect impacts to special-status plant species within the study area. As described above, the study area is dominated by barren/disked land and is periodically disked for weed control. No special-status plant species have potential to occur on the study area and will not be discussed further.

## 5.2 Impacts to Special-Status Wildlife Species

This section discusses potential project constraints from special-status wildlife that are known to occur, or potentially occur, on the project site. Species discussed below include those that have potential to occur based on existing site conditions, and species observed during surveys. Species detected on site, but that have no potential to occur during the portion of their life cycles for which they are granted special status, and those species known to occur in the region but that are not expected to occur on site, are not discussed.

### 5.2.1 Burrowing Owl

Although two potentially suitable burrows and two artificial burrows of suitable size were observed during the survey conducted in spring 2019, none of these burrows showed sign of burrowing owl use, and no burrowing owls were observed at these burrows. However, burrowing owls have used the study area in the past due to the presence of the installed artificial burrowing owl burrows within the CDFW remnant vegetated area in the southwest; therefore, there is potential for burrowing owl to be present during construction. Marginal suitable foraging habitat for this species occurs throughout the study area, and nesting could occur within available burrows in areas not regularly disturbed during land management practices. Depending on the timing of construction-related activities, however unlikely, the proposed project could result in the direct loss of an active nest or nests (if present), the abandonment of an active nest(s) by adult birds during that year's nesting season, or the direct loss of individual burrowing owls occurring within burrows. The potential loss of individual burrowing owls and/or active nests could be considered significant under CEQA and a violation of the California Fish and Game Code.

#### 5.2.1.1 Burrowing Owl Recommendations

In order to confirm whether or not any active burrows occur within the study area at the time of project construction, the Applicant should retain a qualified biologist to conduct a pre-construction take avoidance survey on the project site prior to ground-disturbing activities. The survey should be conducted no more than 30 days prior to commencement of ground-disturbing construction activities. If present, occupied burrows should not be disturbed during the breeding season (February 1 through August 31). Buffers up to 500 meters (approximately 1,640 feet) could be implemented, unless a qualified biologist verifies through non-invasive methods that: (1) the birds have not begun egg-laying and incubation; (2) that young from the occupied burrows are foraging independently and are capable of independent survival; or (3) the burrow has otherwise been abandoned or the nest has failed. If burrowing owls are observed using burrows during the surveys, non-nesting owls can be excluded from burrows through the use of exclusion devices placed in occupied burrows, in accordance with CDFW protocols (Trulio 1995). Exclusion devices should not be placed during the nesting season until the young have fledged and are no longer dependent upon the burrow, or the nesting attempt has failed and the owls have not begun to re-nest, as determined by a qualified biologist. For nesting burrowing owls that cannot be excluded, buffer distances should be determined by the qualified biologist based on CDFW guidelines (CDFG 2012).

Because two artificial burrowing owl burrows have been installed within the study area in the past, it is recommended that the applicant consult with CDFW regarding this area.

### 5.2.2 Swainson's Hawk

A reconnaissance-level nest survey conducted resulted in no observations of Swainson's hawk nests on the study area or within 0.5 mile of the site. In addition, CNDDB includes one occurrence of a nesting Swainson's hawk within 4.0 miles of the site. The study area was nearly devoid of vegetation due to continuous disking and land management at the time of the survey. The project site contains no suitable nesting or foraging habitat for SWHA.

Due to the study area providing nesting and foraging habitat for this species, and the abundant foraging and nesting habitat elsewhere in the region, it is not anticipated the project would have any impact on Swainson's hawk. Therefore, no additional measures are recommended for this species.

### 5.2.3 Protected Bird Species

Active bird nests of all native bird species, including incubating birds and nests with eggs or young, are protected under the California Fish and Game Code. If ground-disturbing activities cannot be completed outside the nesting bird season (February 1 through August 31), the following measures should be implemented:

#### 5.2.3.1 Protected Bird Species Recommendations

Surveys should be conducted within 500 feet of the project site, within 10 days prior to the commencement of disturbance. Surveys should be phased to match initiation of ground-disturbing activities across the site such that no more than 10 days will have elapsed between the survey and ground-disturbance activities.

If active nests are found, clearing and construction should be postponed or halted within a buffer area, established by a qualified biologist, that is appropriate to the species and location of the nest, until the nest is vacated and juveniles have fledged, as determined by the biologist. The construction avoidance area should be clearly demarcated in the field with highly visible construction fencing or flagging, and construction personnel should be instructed on the sensitivity of the nest avoidance areas.

### 5.2.4 San Joaquin Kit Fox

The project provides marginally suitable denning and foraging habitat for San Joaquin kit fox. However, what appeared to be one suitable size burrow was observed during the survey effort. Suitable dens, or refugia, are considered important for kit fox to provide protection from possible predation by coyote that are known to occur in the area. No evidence of known kit fox dens or kit fox sign (e.g., tracks, or scat, prey remains, etc.) were observed on the project site. The California Natural Diversity Database also does indicate San Joaquin kit fox has historically occurred within the project region. It is unlikely that kit fox are currently resident on the project site, and the site itself appears to be highly limited for foraging due to extensive land management. San Joaquin kit fox has low potential to occur given the relative scarcity of suitable prey on this managed property, and because much higher quality habitats are available elsewhere in the region. Although no sign of kit fox was observed during the survey in 2019, and the species is unlikely to occur on a regular basis, a small potential exists that the species could use the site on rare occasions. This includes the potential for movement or dispersal through the project. However unlikely,

project activities which could result in harm or injury to individual kit foxes, if present prior to or during construction may be considered significant under CEQA and constitute take under FESA and CESA.

#### 5.2.4.1 San Joaquin Kit Fox Recommendations

A qualified biologist should conduct a pre-construction survey for San Joaquin kit fox no more than 30 days prior to initial construction and decommissioning ground disturbance. Surveys will be conducted on the project site and within a 500-foot buffer zone within areas where legal access is available in order to evaluate and determine if kit fox are using the project site. If an active kit fox den is observed within the work area, the Project should implement USFWS's *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFW 2011).If no kit fox activity is detected, work should be initiated as planned and a brief memo should be submitted to the county after the completion of the pre-construction survey.

## 5.3 Impacts to Vegetation Communities

Development of the project will require disturbance of nearly the entire site. As stated above, the remnant ruderal vegetative and barren/disked lands are not considered sensitive vegetative communities. Therefore, there will be no impacts to sensitive vegetation communities or land cover types on the Project and these resources will not be discussed further.

## 5.4 Impacts to Jurisdictional Wetlands and Waters

No potentially jurisdictional wetlands or waters occur within the study area. The proposed project will not result in any alteration to the land that could impact any jurisdictional features in the vicinity of the study area. As previously stated, a low lying topographical depression occurs in the study area; however, this feature has no connection to any other waters, may pond for short duration after a storm event, and does not support hydrophytic vegetation. Therefore, this feature is not considered jurisdictional to the USACE, RWQCB, or CDFW.

## 5.5 Impacts to Wildlife Corridors and Migratory Routes

As previously discussed, there are no wildlife corridors within the p roject area, and it is not likely that any portion of the project site serves as an important linkage between wildlife habitats, although some wildlife species may pass through the project site during local or regional movements. No significant direct permanent impacts would occur on wildlife movement or use of native wildlife nursery sites associated with project activities. Surrounding biotic habitats are similar, with intensively managed land further diminishing the possibility that the site is important for terrestrial wildlife movement; therefore, project activities would not result in impacts to wildlife movement due to construction. Additionally, opportunities for wildlife movement would remain intact to the north of the study area within existing roadways. Therefore, construction of the proposed project will not result in any significant impacts to wildlife corridors and migratory routes.

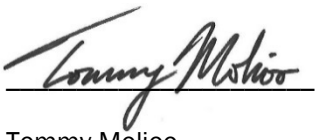
## 5.6 Impacts to Local Policies, Ordinances, or Regional Resource Planning Context

The Land Use, Open Space, and Conservation Element of the Kern County General Plan outlines goals and policies to protect fish and wildlife habitat. Because the Project will occur on intensive disturbed land, overall habitat quality for

special-status species is considered low, although some species have potential to occur. Through implementation of appropriate natural resource recommendations above, the proposed Project will not conflict with any adopted local plan such as the *Kern County General Plan* and Project implementation will not have an impact on regional resource planning. In addition, the Project does not fall within any HCP or NCCP.

If you have any comments or questions regarding the contents of this report, please feel free to call me at 949.373.8321 or email at tmolioo@dudek.com.

Sincerely,



Tommy Molioo
Sr. Biologist

*Att.:* *A – Figures*
*1, Project Location Map*
*2. Study Area; Vegetation Communities*
*B – Plant Compendium*
*C – Wildlife Compendium*
*D – Site Photographs*

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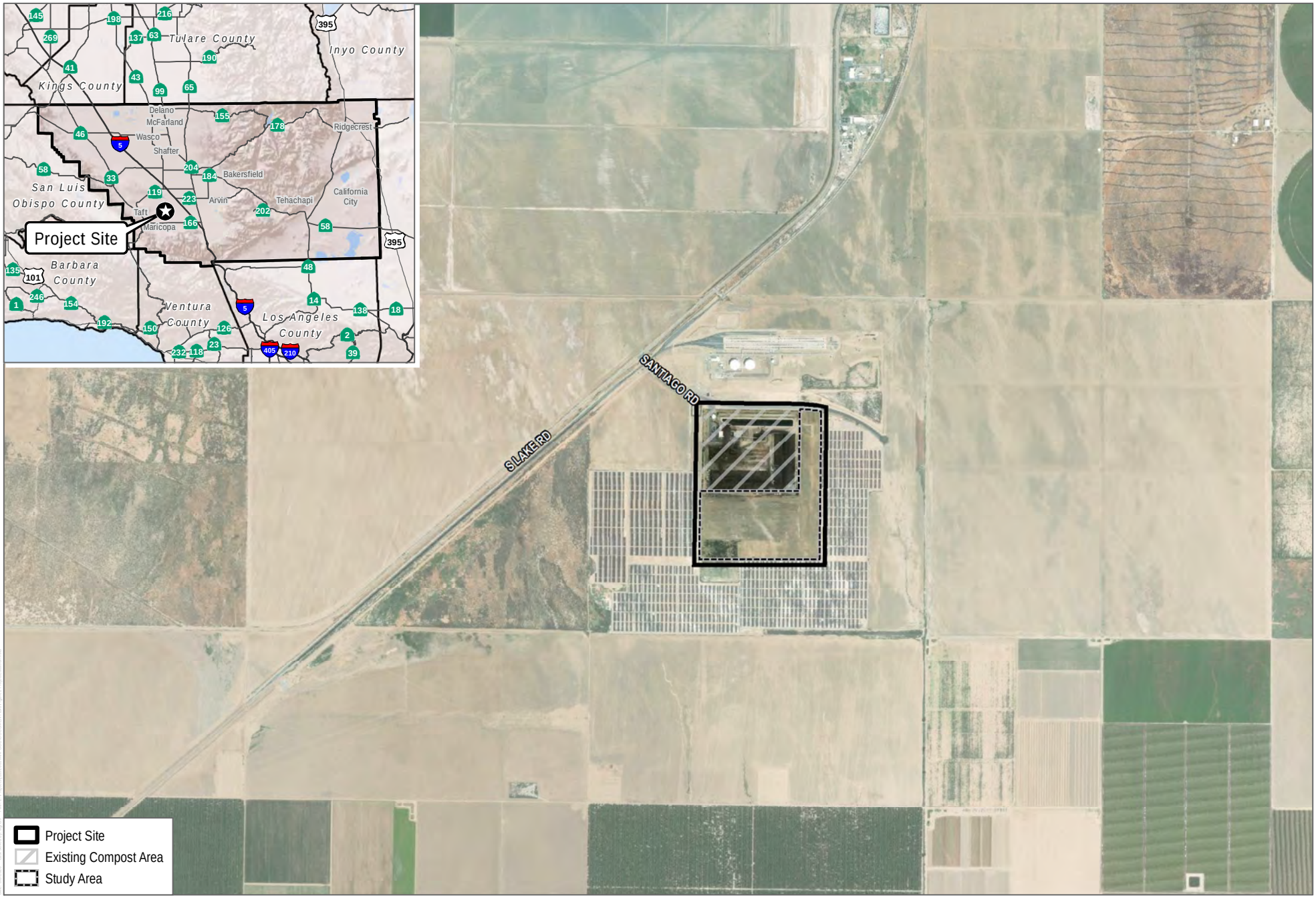
# Attachment A

Figures 1-3




SOURCE: Kern County 2019; Bing Maps

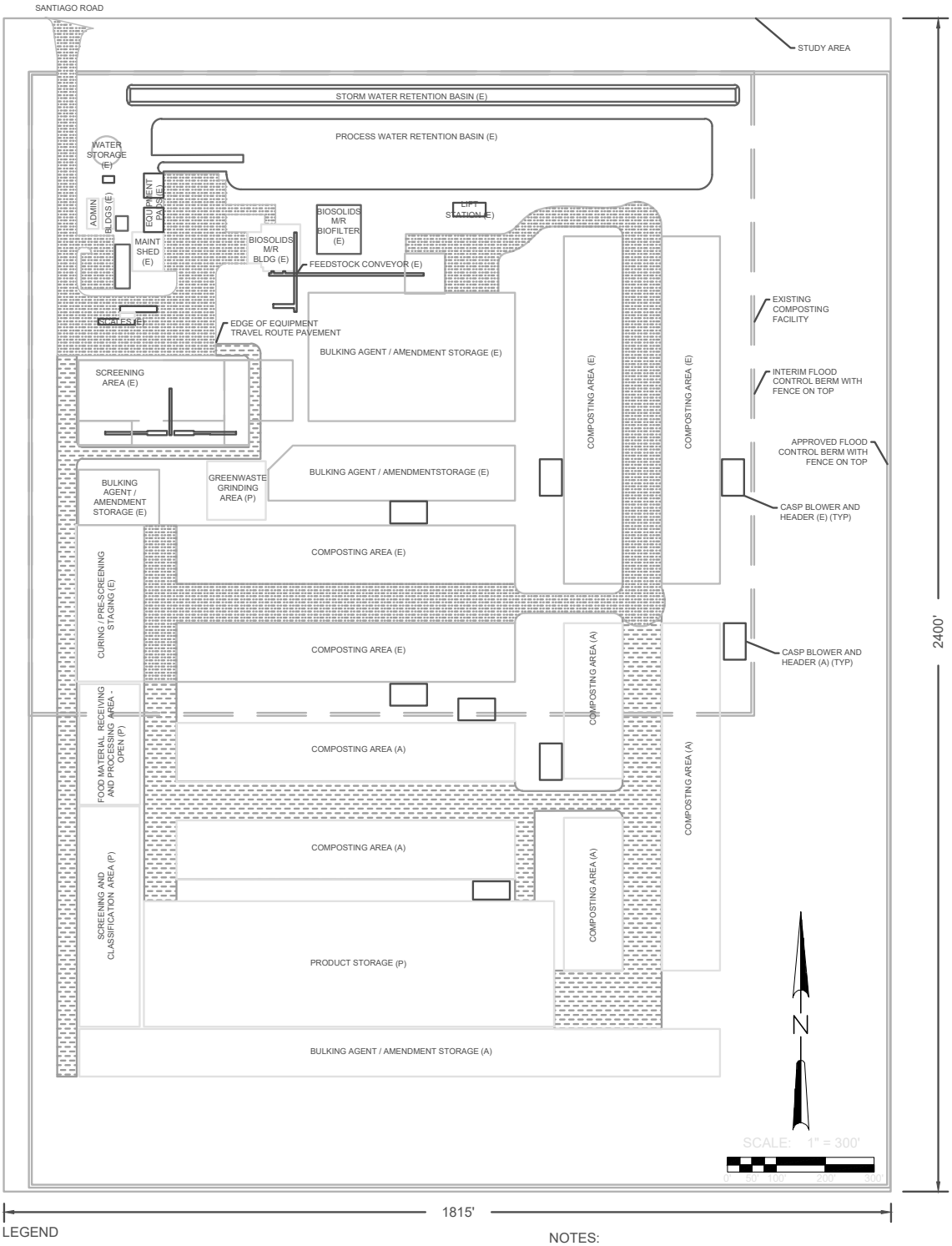
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

South Kern Industrial Center




LEGEND

EXISTING EQUIPMENT TRAVEL ROUTES

CONCEPTUAL FUTURE EQUIPMENT TRAVEL ROUTES

- APPROVED CUP BOUNDARY - 100 ACRES
- FACILITY AREA (DEVELOPED) - 44 ACRES
- APPROVED FUTURE FACILITY AREA - 56 ACRES
- (E) - EXISTING
- (A) - APPROVED, NOT YET CONSTRUCTED
- (P) - PROPOSED

NOTES:

1. PROPOSED CUP AMENDMENT DOES NOT EXPAND PRIOR APPROVED 100 ACRE SITE
2. FUTURE COMPOSTING AREA IS FOR PRESENTATION PURPOSES - NOT FOR CONSTRUCTION
3. FUTURE EQUIPMENT TRAVEL ROUTES SHOWN IN EXISTING COMPOSTING AREA FOR PRESENTATION PURPOSES - NOT FOR CONSTRUCTION

FIGURE 2

Site Plan

South Kern Industrial Center

DUDEK


SOURCE: Kern County 2020; Bing Maps

DUDEK

0 250 500 Feet

FIGURE 3

Survey Area

South Kern Industrial Center

# Attachment B

## Plant Compendium

# Attachment B: Plant Compendium

**EUDICOTS**

**VASCULAR SPECIES**

ASTERACEAE—Sunflower Family

Lactuca serriola—prickly lettuce*

Sonchus asper—spiny sowthistle*

BRASSICACEAE—Mustard Family

Sisymbrium irio—London rocket*

CHENOPODIACEAE—Goosefoot Family

Atriplex rosea—tumbling saltweed*

Atriplex polycarpa—allscale

Bassia hyssopifolia—fivehorn smotherweed*

Salsola tragus—prickly Russian thistle*

GERANIACEAE—Geranium Family

Erodium cicutarium—redstem stork's bill*

MALVACEAE—Mallow Family

Malva parviflora—cheeseweed mallow*

**GYMNOSPERMS AND GNETOPHYTES**

**VASCULAR SPECIES**

PINACEAE—Pine Family

Pinus Sp.—Pine (ornamental)

**MONOCOTS**

**VASCULAR SPECIES**

POACEAE—Grass Family

Bromus diandrus—ripgut brome*

Polypogon monspeliensis—annual rabbitsfoot grass*

TYPHACEAE—Cattail Family

Typha latifolia—broadleaf cattail

# Attachment C

## Wildlife Compendium

# Attachment C: Wildlife Compendium

**BIRD**

- **BLACKBIRDS, ORIOLES & ALLIES**
  - ICTERIDAE—BLACKBIRDS
    - Euphagus cyanocephalus—Brewer's blackbird
- **HUMMINGBIRDS**
  - TROCHILIDAE—HUMMINGBIRDS
    - Calypte anna—Anna's hummingbird
- **NEW WORLD QUAIL**
  - ODONTOPHORIDAE—NEW WORLD QUAIL
    - Callipepla californica—California quail
- **PIGEONS & DOVES**
  - COLUMBIDAE—PIGEONS & DOVES
    - Streptopelia decaocto—Eurasian collared-dove*
- **SHOREBIRDS**
  - RECURVIROSTRIDAE—STILTS & AVOCETS
    - Himantopus mexicanus—black-necked stilt
  - CHARADRIIDAE—LAPWINGS & PLOVERS
    - Charadrius vociferus—killdeer

**REPTILE**

- **LIZARDS**
  - PHRYNOSOMATIDAE—IGUANID LIZARDS
    - Uta stansburiana—common side-blotched lizard

# Attachment D

## Site Photographs

# Attachment D
# Photo Log May 2019

Photo 1. Looking north from southeast corner of plant.

Photo 2. Looking east along south side of plant.

Photo 3. Looking southwest from southeast corner of plant.

Photo 4. Looking south from the north; east of plant from Santiago Rd.

# Attachment D
# Photo Log May 2019

Photo 5. Looking northwest at the plant form the southeast corner of survey area.

Photo 6. Looking west along south side of survey area from southeast corner.

Photo 7. Looking east from the southwest corner of the plant.

Photo 8. Looking southeast from the southwest corner of the plant.

# Attachment D
# Photo Log May 2019

Photo 9. Looking south from the southwest corner of the plant.

Photo 10. Dirt spoil pile in the middle-west of survey area.

Photo 11. Ponded area in the middle-west edge of the survey area.


Photo 12. CDFW notification sign.

# Attachment D
# Photo Log May 2019

Photo 13. Looking west at the CDFW burrowing owl artificial burrow area.

Photo 14. East artificial burrowing owl burrow.

Photo 15. West artificial burrowing owl burrow.

Photo 16. Stormwater sump south, along Santiago Rd., west of SynAgro plant, and northwest of study area.

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# Appendix E
# Vehicle Miles Traveled Analysis and Traffic Impact Analysis

RUETTGERS & SCHULER
CIVIL ENGINEERS

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July 29, 2020

589-02
Electronic Mail

Mr. Brian Cataldo
Senior Project Engineer
Synago
435 Williams Court, Suite 100
Baltimore, MD 21220

REF: Addendum to the Traffic Study for South Kern Compost Manufacturing Facility at South Kern County Industrial Complex

Dear Mr. Cataldo:

By way of background, a traffic study for an amendment to the existing Conditional Use Permit (CUP) for the South Kern Compost Manufacturing Facility was prepared by our office, dated March 2019. Subsequent to the preparation of the study, the County has requested an analysis of vehicle miles traveled (VMT) for the project in compliance with a change in metrics for evaluation of traffic impacts in CEQA associated with SB 743.

The traffic study indicates there are currently 130 vehicle trips per day at the site, comprised of 98 heavy-duty trucks and 32 passenger vehicles. The total number of trips that would be allowed at the CUP tonnage limits would be 356 trips per day, comprised of 261 heavy-duty truck trips and 96 passenger vehicle trips.

The Governor's Office of Planning and Research has adopted and published guidelines for implementation of SB 743 requirements in the "Technical Advisory on Evaluating Transportation Impacts in CEQA". Following are excerpts from the advisory regarding the types of vehicles for which VMT analysis are to be considered, and the volume of traffic below which the VMT impact would be considered less-than-significant:

> ***Vehicle Types.*** *Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks.*

***Screening Threshold for Small Projects***

*Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer that 110 trips per day generally may be assume to cause a less-than-significant transportation impact.*

Based upon the State's VMT guidelines, the truck trips associated with the South Kern Compost Manufacturing Facility would be excluded from the VMT analysis and the passenger vehicle VMT would be considered less-than-significant, because it is below (96 trips) the 110 trip per day screening threshold. Therefore, no further analysis is required.

Please contact me should you have any questions.

Very truly yours,

John D. Schuler
RCE #51825

JDS/

Project No: 589-02

# TRAFFIC STUDY

## SOUTH KERN COMPOST MANUFACTURING FACILITY
## SOUTH KERN COUNTY INDUSTRIAL COMPLEX (SKIC)
## SOUTHWEST OF BAKERSFIELD, CA

**Prepared for:**

**Synagro**

**March 2019**

**Prepared by:**


RUETTGERS & SCHULER
CIVIL ENGINEERS

**1800 30TH STREET, SUITE 260**
**BAKERSFIELD, CA 93301**



John D. Schuler, RCE 51825

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## INTRODUCTION

This traffic study has been prepared for a requested change in the Conditional Use Permit (CUP) for the South Kern Compost Manufacturing Facility, located within the South Kern Industrial Center (SKIC) Specific Plan. In order to accommodate a heavy industrial center and establish a framework for the implementation of programs and policies under the Kern County General Plan, the South Kern Industrial Center (SKIC) Specific Plan was prepared in 1992. The 744-acre SKIC Specific Plan area is located approximately 18 miles southwest of Bakersfield and 12 miles east of Taft in an unincorporated area of Kern County, see attached figure.

Synagro, a national biosolids and residuals solutions services provider, was approved by Kern County to establish a 100-acre composting facility at the South Kern Industrial Center under Conditional Use Permit (CUP) 2, Map 158 in 2002. Upon completion of the composting facility, Synagro began operations in 2006, and under its CUP, was permitted to receive and process up to 670,000 wet tons of material per year (WTPY). The material may be comprised of up to 400,000 wtpy of biosolids and pre-consumer food waste and up to 270,000 wtpy of wood chips and agricultural waste products, such as pistachio and almond hulls, cotton gin waste, stable bedding, and screened green waste.

Traffic impact studies were prepared for both the overall SKIC Specific Plan and the composting facility CUP in 1992 and 2001, respectively. In addition to the tonnage limits stated above, the 2001 traffic study established traffic volumes for the composting facility, with an average daily traffic of 254 trucks and 100 passenger vehicles, totaling 354 average trips in and out of the facility per day. The 2001 traffic study confirmed that the traffic associated with the composting facility was well within the limits anticipated and approved for the Specific Plan in 1992.

In order to allow the acceptance of a broader range of organic waste products, including post-consumer food waste, for which a 75% diversion from landfills has recently been mandated by the State of California, Synagro is requesting to amend its CUP. Based on equipment ratings and 100% utilization, up to 386,000 wtpy of food waste could be processed as feedstock by this facility. While the CUP amendment seeks to allow the acceptance of additional types of organic waste, the size of the facility, and the total wet tons per year capacity permitted by the CUP will remain unchanged.

## CURRENT OPERATIONS

Synagro currently has active operations occurring on 44 acres of their approved 100-acre site. Operational data provided by Synagro shows that the facility currently takes in approximately 530 tons of biosolids, 290 tons of green material and ships out 340 tons of finished product per day. Annually, this is approximately 193,000 tons of biosolids, 105,000 tons of green material and 124,000 tons of finished product, which is 48% of the biosolids and 39% of the green material feedstock that it is allowed to under the CUP, see Table 1 below.

Feedstock and finished product arrive and depart from the facility on trucks throughout the day. While trucks may be loaded in a single direction at times, and arrive or depart empty, they are often loaded with finished product for the outbound trip, and reloaded with feedstock for the inbound trip back to the composting facility. Depending on the type of material being hauled, the trucks can typically carry 20 to 25 tons of feedstock or compost. Based on the operational data provided, the number of loaded trucks arriving and departing the facility per day varies widely from 2 to 95. Depending upon how many of the trucks are received or depart empty, the total truck trips (trucks multiplied by two if empty in one direction) could range from 4 to 190 per day. Based on the total loaded trips, a conservatively high estimate of the average number of truck trips per day resulted in approximately 98 trips (one-way), 21 loaded inbound for biosolids, 13 loaded inbound for bulk agents (green material) and 15 loaded outbound for finished product, see Table 1 below. While the facility on average is generating 98 truck trips per day, it is permitted up to 354 trips per day (of which 254 are generally designated for trucks) under its CUP.

**Table 1**
**Current Average Daily & Yearly Operations**

| Truck Type | Average Trips/Day | Average Tonnage/Day | Average Tonnage/Year |
|---|---|---|---|
| All Trucks (Loaded & Unloaded) | 98 | 1,220 | 422,000 |
| Inbound (Loaded) Trucks Biosolids | 21 | 590 | 193,000 |
| Inbound (Loaded) Trucks Bulk Agents | 13 | 290 | 105,000 |
| Outbound (Loaded) Trucks Product | 15 | 340 | 124,000 |

*Truck loads range from 20-25 tons per trip.

**254 Truck trips permitted per year under SKCMF CUP.

The composting facility operates 24 hours per day, 7 days per week, with a total on-site staff of 14 employees split into three shifts, and an additional 2 management and administrative employees in the first of the three shifts. Facilities and activities at the site include truck maintenance and washing, administration offices, areas for receiving and mixing materials, compost additive storage, and an area for finished product. Five employees work a morning shift, and four employees work an afternoon shift and a night shift. It is assumed that feedstock is received during all three shifts, and product is typically shipped out during the morning and afternoon shifts.

Based on the above information, estimates for the ADT, AM and PM peak hour traffic generated by the composting facility are shown in Table 2 below.

**Table 2**
**Trip Generation for Current Operations**

| Trip Type | ADT | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|
| | | In | Out | In | Out |
| Trucks | 98 | 2 | 2 | 2 | 2 |
| Employees | 32 | 7 | 4 | 5 | 7 |
| Total | 130 | 9 | 6 | 7 | 9 |

Notes:
1. It was assumed that feedstock trucks arrive and depart uniformily throughout the day, and product trucks arrive and depart uniformly during the morning and afternnon shifts.
2. For the most conservative scenario, it is assumed that both the morning and afternoon shift changes occur during the AM and PM peak hours, respectively.

## PROJECT TRAFFIC ROUTING

The composting facility's employees primarily originate from the communities and unincorporated areas surrounding the project site, while the feedstock and finished product are collected and distributed from and to Kern County as well as the surrounding counties and northern and southern California. Per conditions established in the South Kern Industrial Center CUP 2, all project generated traffic is limited to Millux Road, Hill Road, South Lake Road (east of the project site), and then accesses the project by way of Santiago Road where the site is located. This route connects the project to Interstate 5 as well as the surrounding communities, such as Bakersfield (by way of Old River Road), Lamont, Arvin, and other unincorporated areas of Kern County, see attached figure.

## EXISTING TRAFFIC VOLUMES

As is to be expected, the existing traffic volumes on the roadways used by the project have increased since the SKIC Specific Plan was prepared in 1992, however, the current ADT volumes are still low. With the exception of Old River Road, the roadway volumes are below 2,000 ADT, as determined from the Kern County Transportation Data Management System. This reflects the absence of any major new developments in the area. Roadway ADT volumes and capacities for the primary roadways utilized by project traffic are shown in Table 3 below, as well as the attached figure.

**Table 3**
**Existing Roadway ADT Volumes**

| Roadway | ADT | | Capacity[1] |
|---|---|---|---|
| | 1992 | 2017/2018 | |
| Old River Road | - | 4,427[2] | 15,000 |
| S Lake Road | 350 | 1,003[2] | 15,000 |
| Millux Road | 670 | 1,559[2] | 15,000 |
| Hill Road | 530 | 1,559[2] | 15,000 |
| Interstate 5 SB Off Ramp | - | 590[3] | 9,000 |
| Interstate 5 SB On Ramp | - | 620[3] | 9,000 |
| Interstate 5 NB Off Ramp | - | 660[3] | 9,000 |
| Interstate 5 NB On Ramp | - | 600[3] | 9,000 |

[1] Highway Capacity Manual

[2] Kern County Transportation Data Management System (via KernCOG).

[3] Caltrans Division of Traffic Operations Traffic Census Program.

## PROPOSED PROJECT

The proposed project seeks an amendment to the current CUP in order to receive and compost a broader range of organic waste at the facility. While the proposed CUP amendment primarily includes changes to the feedstock and curing parameters, a change in truck trips may occur as the facility shifts from biosolids to food waste. The estimated tonnage of food waste which may become available could exceed the capacity of the facility, at which time a complete shift from biosolids to food waste is anticipated. At the CUP tonnage limit of 670,000 wtpy of combined feedstock (food waste and bulking agents), an average of 85 feedstock trucks and 46 product trucks will operate per day. These truck estimates take into account a shift from biosolids to food waste, which requires more bulking agents to compost then the biosolids currently being used. It is anticipated that the use of the food waste will decrease the number of biosolid truck trips and increase the number of green material (bulking agents) truck trips. The trip generation for the project operating at maximum capacity is shown in Table 4 below.

**Table 4**
**Project Trip Generation At CUP Tonnage Limit**

| Trip Type | ADT | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|
| | | In | Out | In | Out |
| Trucks | 261[1] | 6 | 6 | 6 | 6 |
| Employees | 96[2] | 18 | 15 | 15 | 18 |
| Total | 357 | 24 | 21 | 21 | 24 |

[1] Based on the 670,000 wtpy of approved combined feedstock and product truck loads at 20-25 tons per truck, depending on the type of load.

[2] Carpool factor of 1.25 employees per vehicle applied.

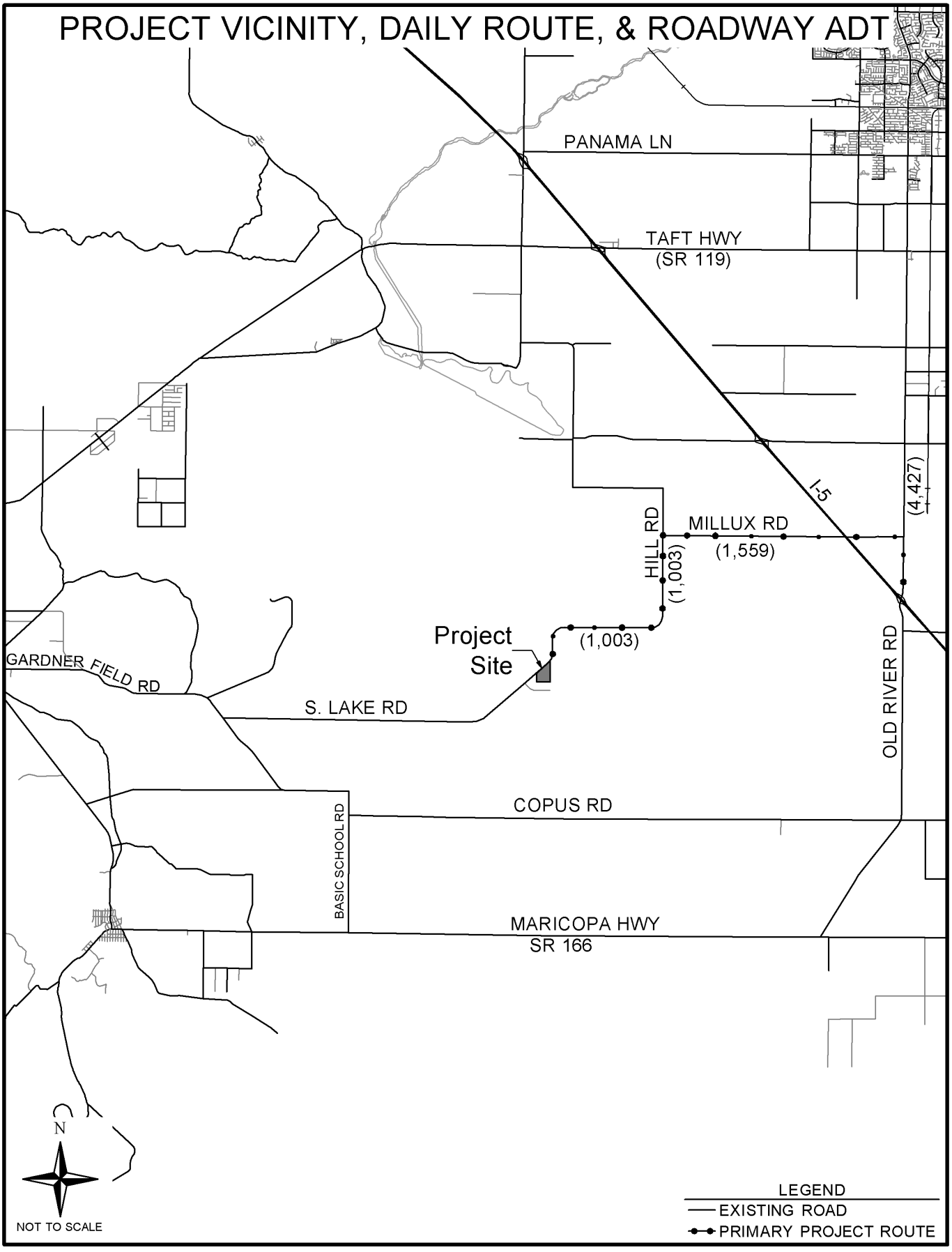
With respect to the origin of the feedstock, data indicates that approximately 75% of the bulking agents come from sources within Kern County, with the remaining 25% coming from the Los Angeles area. With the shift to food waste, and therefore the increase in bulking agents required to mix with the food waste, it is anticipated that there is a potential for less trips to the southern California area and more bulking agent truck trips dispersed throughout Kern County.

As shown in Table 4, the daily increase in traffic, as compared to current operations and available roadway capacity, is minimal when distributed over a 24-hour period, and does not meet thresholds required for additional analysis, as the threshold established by Kern County is 50 peak hour trips. The traffic generated by the project, as well as the amount of wet-tons-per-year of food waste that is anticipated, is consistent with what is approved under the CUP, and is less than the total permitted wet tons per year of composting material.

## SUMMARY & CONCLUSION

As previously stated, the CUP approved in 2002, allowed for up to 354 trips per day and permitted the facility to receive and process 670,000 wtpy of composting material, comprised of 400,000 wtpy of biosolids and pre-consumer food waste, and 270,000 wtpy of green material. The facility currently generates up to approximately 190 truck trips per day and receives approximately 192,000 wtpy of biosolids and 104,500 wtpy of green material. At the CUP tonnage limit capacity, the facility is anticipated to generate 261 truck trips per day, which is less than the total permitted.

The original transportation report provided in the project's Final Environmental Impact Report (FEIR) prepared in 1992, as well as the review conducted by Crenshaw Traffic Engineering in 2001 both indicated that neither the composting facility's operations, nor the roadway traffic volumes at that time, would result in any significant impacts. Because truck trips currently generated by the composting facility are only 53% of the traffic allowed under the CUP; the biosolids and green material are only 48% and 39%, respectively, of what is permitted under the CUP; the existing roadway traffic volumes are still very low (indicating an acceptable level of service); and the project traffic that may be associated with the broader waste stream will not exceed permitted levels, nor add a significant increase to existing traffic volumes; the CUP amendment being requested is consistent with prior approvals and will not result in any new significant impacts.


PROJECT VICINITY, DAILY ROUTE, & ROADWAY ADT
PANAMA LN
TAFT HWY
(SR 119)
I-5
(4,427)
HILL RD
MILLUX RD
(1,559)
(1,003)
Project
Site
(1,003)
GARDNER FIELD RD
S. LAKE RD
OLD RIVER RD
COPUS RD
BASIC SCHOOL RD
MARICOPA HWY
SR 166
N
NOT TO SCALE
LEGEND
EXISTING ROAD
PRIMARY PROJECT ROUTE